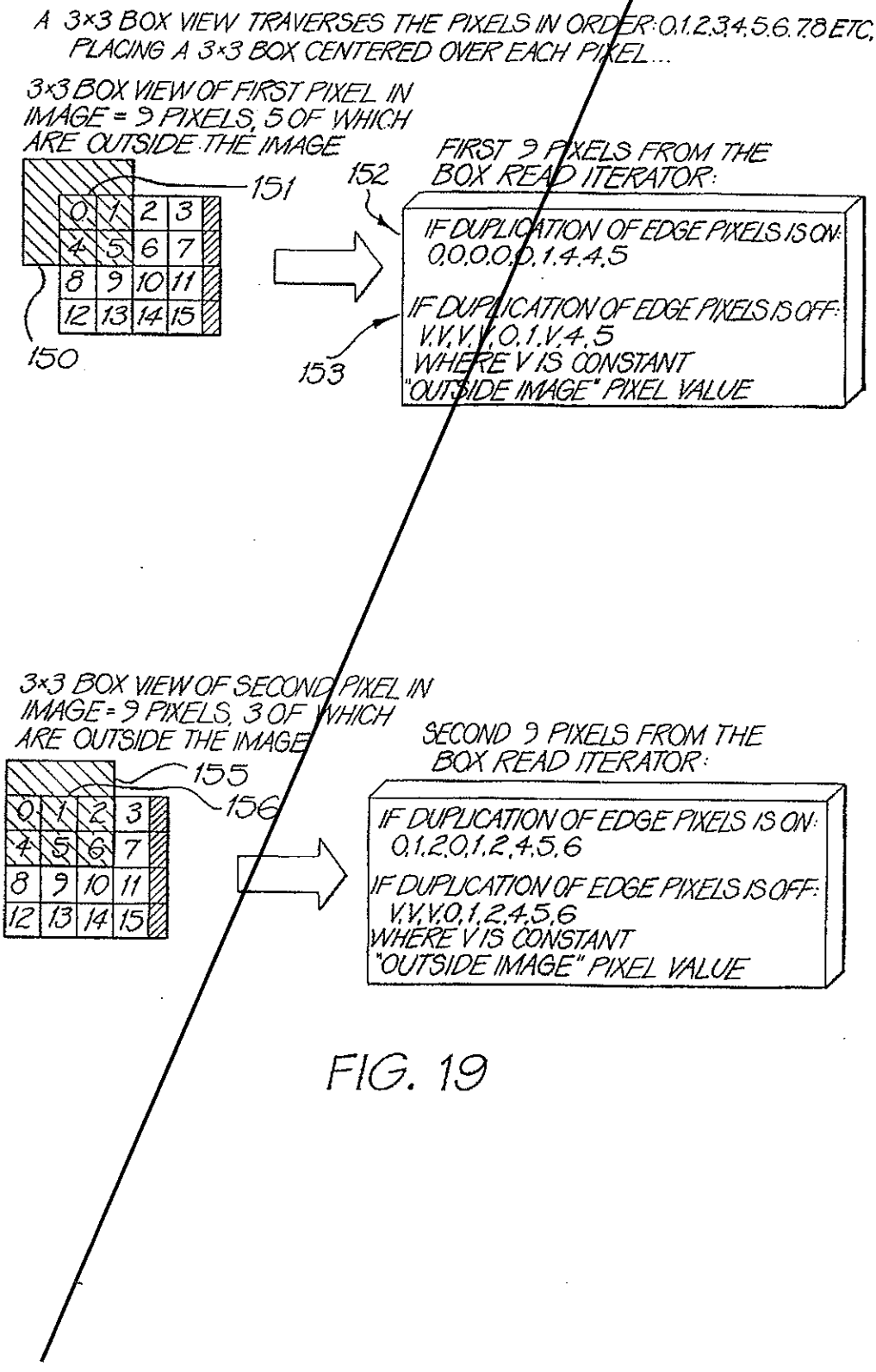

A 3×3 BOX VIEW TRAVERSES THE PIXELS IN ORDER: 0,1,2,3,4,5,6,7,8 ETC, PLACING A 3×3 BOX CENTERED OVER EACH PIXEL...
3×3 BOX VIEW OF FIRST PIXEL IN IMAGE = 9 PIXELS, 5 OF WHICH ARE OUTSIDE THE IMAGE
151
152
FIRST 9 PIXELS FROM THE BOX READ ITERATOR:
0 1 2 3
4 5 6 7
8 9 10 11
12 13 14 15
150
IF DUPLICATION OF EDGE PIXELS IS ON: 0,0,0,0,0,1,4,4,5
IF DUPLICATION OF EDGE PIXELS IS OFF: V,V,V,V,0,1,V,4,5
WHERE V IS CONSTANT "OUTSIDE IMAGE" PIXEL VALUE
153
3×3 BOX VIEW OF SECOND PIXEL IN IMAGE = 9 PIXELS, 3 OF WHICH ARE OUTSIDE THE IMAGE
155
156
SECOND 9 PIXELS FROM THE BOX READ ITERATOR:
0 1 2 3
4 5 6 7
8 9 10 11
12 13 14 15
IF DUPLICATION OF EDGE PIXELS IS ON: 0,1,2,0,1,2,4,5,6
IF DUPLICATION OF EDGE PIXELS IS OFF: V,V,V,0,1,2,4,5,6
WHERE V IS CONSTANT "OUTSIDE IMAGE" PIXEL VALUE

FIG. 19

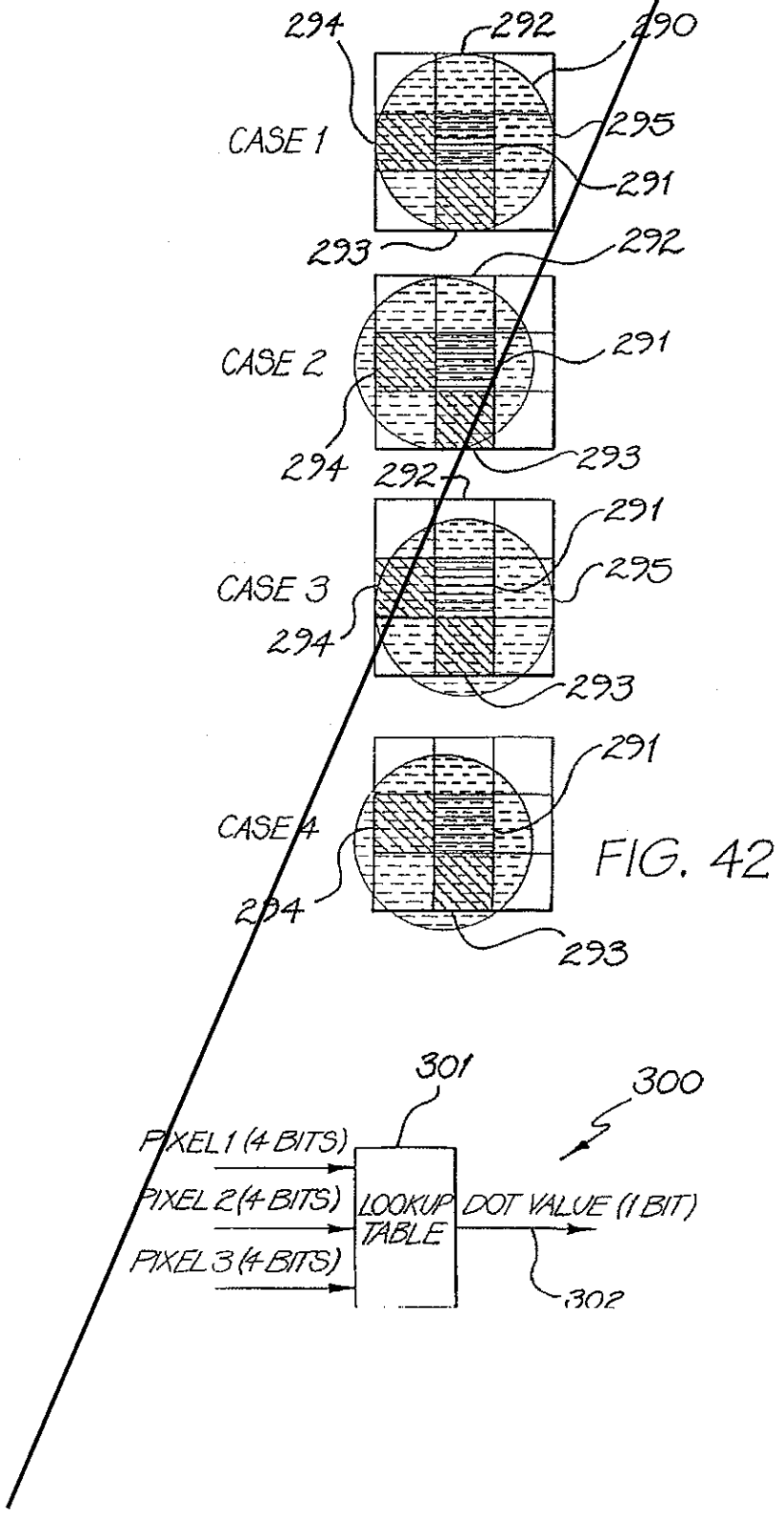

294
292
290
CASE 1
295
291
293
292
CASE 2
291
294
293
292
291
CASE 3
295
294
293
291
CASE 4
294
293
301
300
PIXEL 1 (4 BITS)
PIXEL 2 (4 BITS)
PIXEL 3 (4 BITS)
LOOKUP TABLE
DOT VALUE (1 BIT)
302

FIG. 42

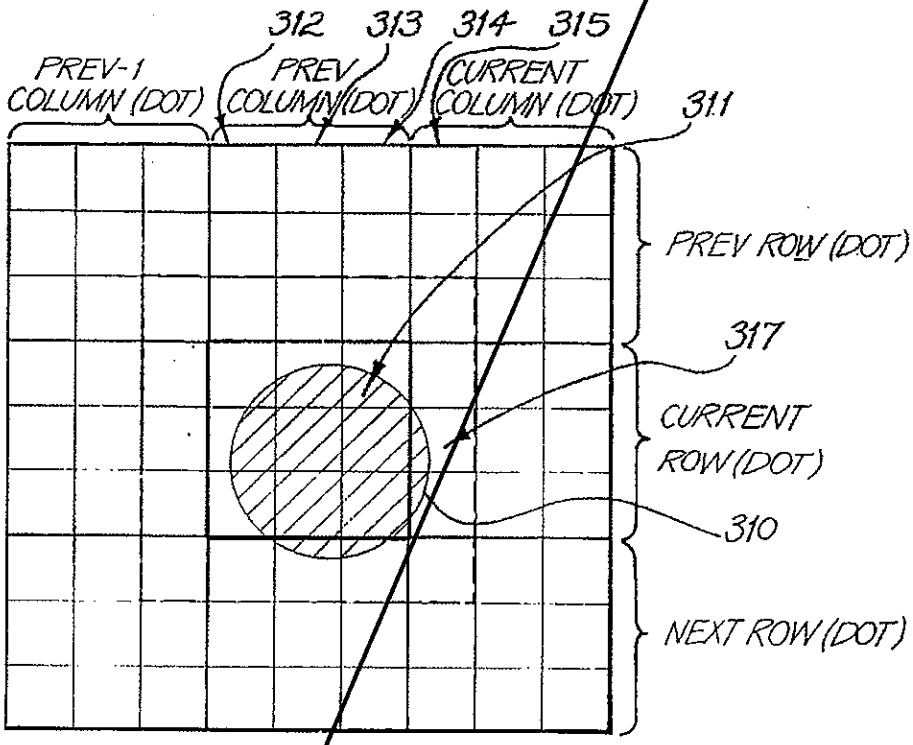
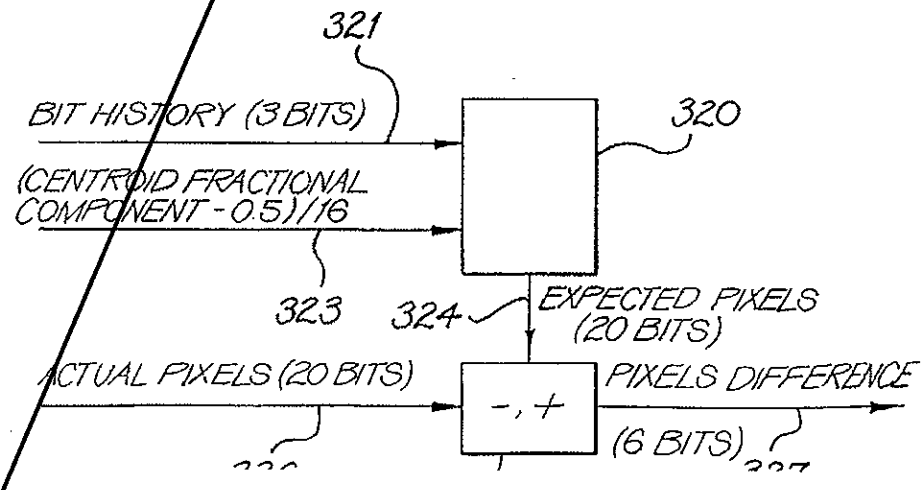

312
313
314
315
PREV-1 COLUMN (DOT)
PREV COLUMN (DOT)
CURRENT COLUMN (DOT)
311
PREV ROW (DOT)
317
CURRENT ROW (DOT)
310
NEXT ROW (DOT)

FIG. 44


321
BIT HISTORY (3 BITS)
(CENTROID FRACTIONAL COMPONENT - 0.5)/16
320
323
324
EXPECTED PIXELS (20 BITS)
ACTUAL PIXELS (20 BITS)
-, +
PIXELS DIFFERENCE (6 BITS)

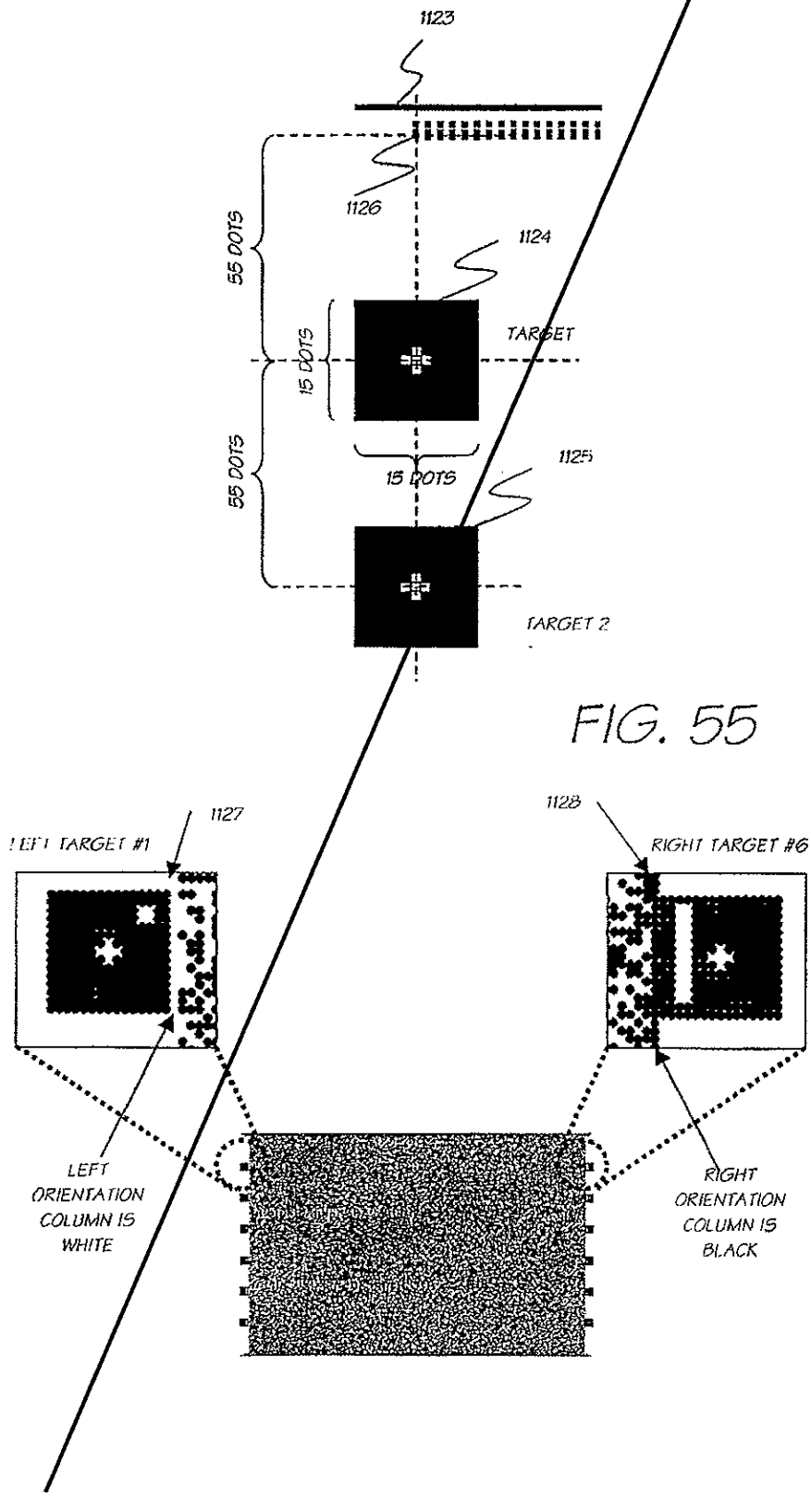

1123
1126
1124
55 DOTS
15 DOTS
TARGET
55 DOTS
15 DOTS
1125
TARGET 2
1127
LEFT TARGET #1
1128
RIGHT TARGET #6
LEFT ORIENTATION COLUMN IS WHITE
RIGHT ORIENTATION COLUMN IS BLACK

FIG. 55

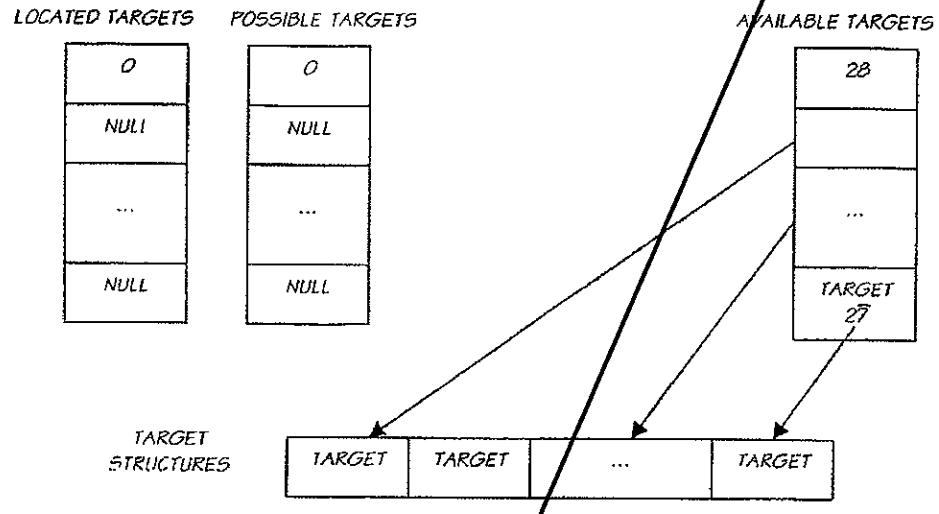


FIG. 75

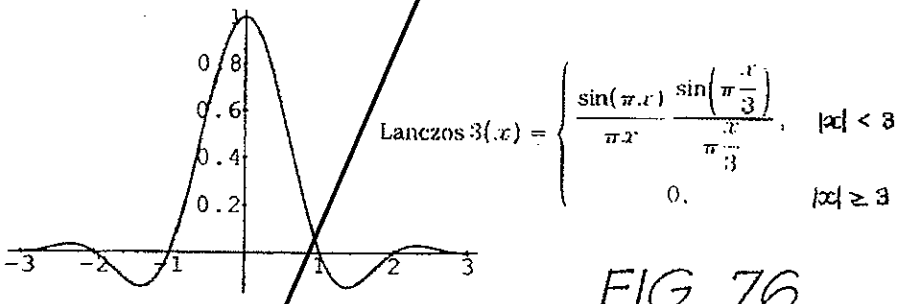


FIG. 76

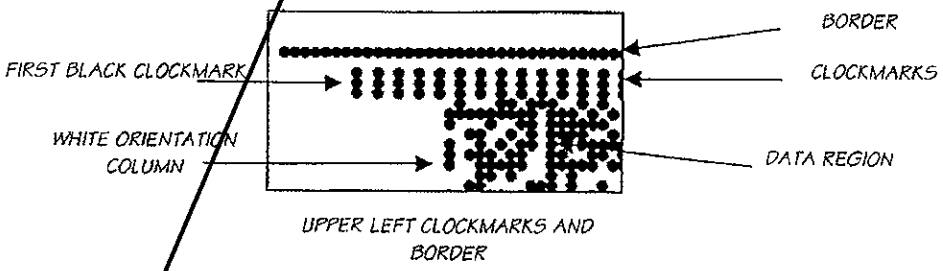


FIG. 77

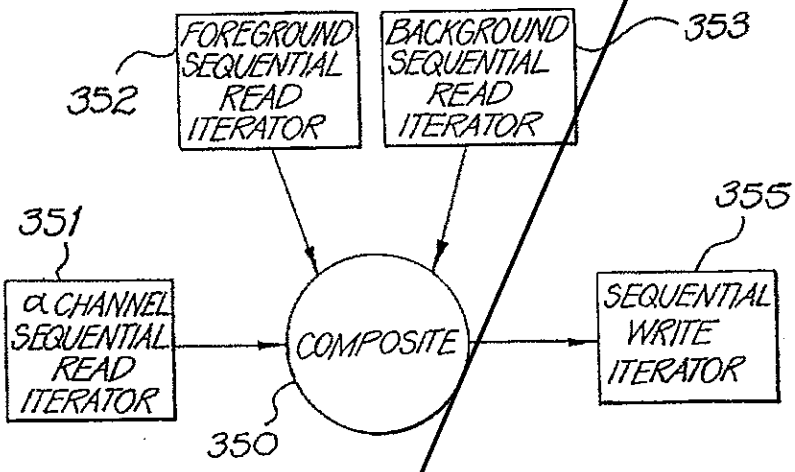
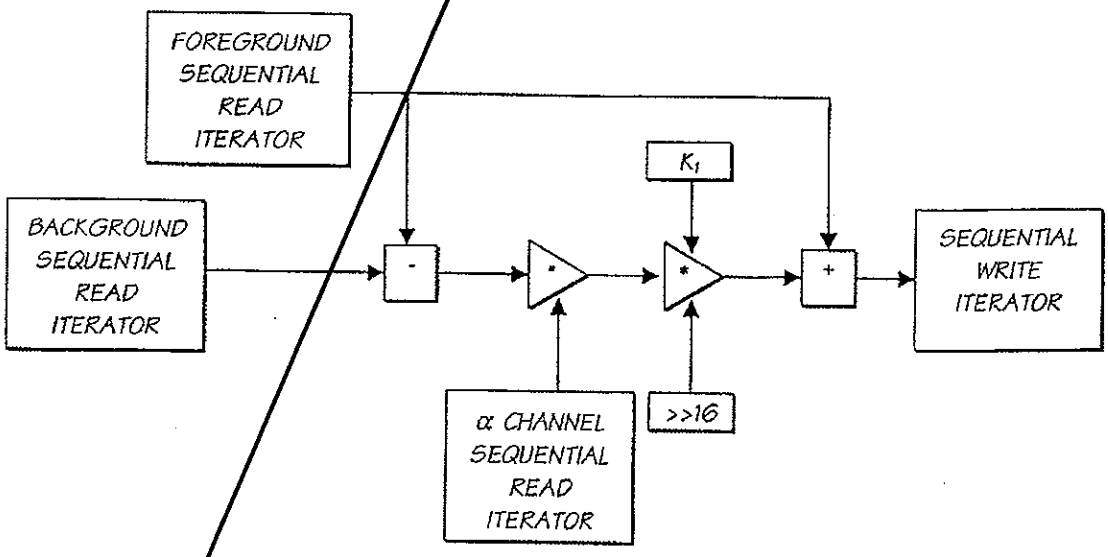
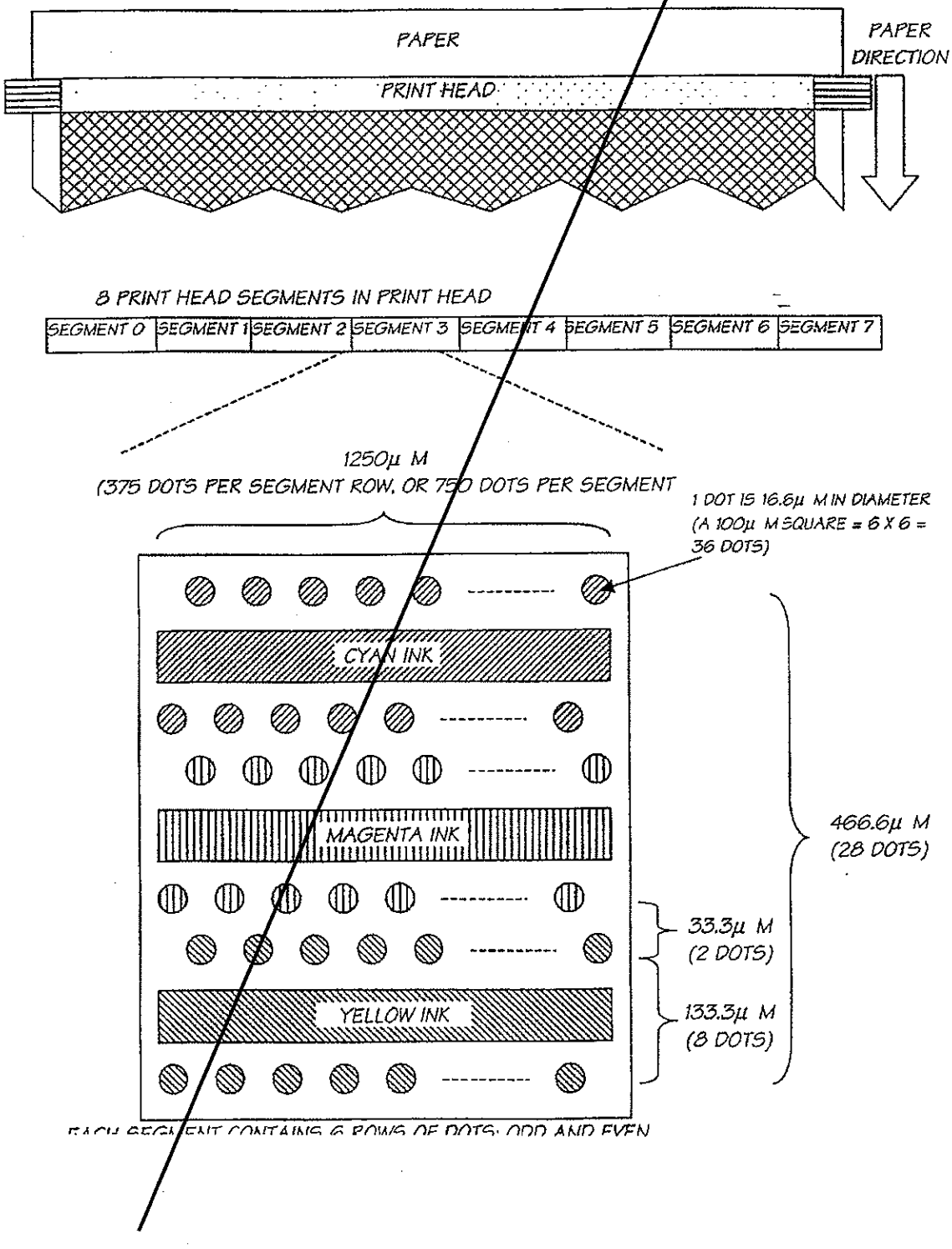

FOREGROUND SEQUENTIAL READ ITERATOR
BACKGROUND SEQUENTIAL READ ITERATOR
352
353
351
α CHANNEL SEQUENTIAL READ ITERATOR
COMPOSITE
355
SEQUENTIAL WRITE ITERATOR
350

FIG. 83


FOREGROUND SEQUENTIAL READ ITERATOR
BACKGROUND SEQUENTIAL READ ITERATOR
K1
-
*
*
+
SEQUENTIAL WRITE ITERATOR
α CHANNEL SEQUENTIAL READ ITERATOR
>>16


PAPER
PAPER DIRECTION
PRINT HEAD
8 PRINT HEAD SEGMENTS IN PRINT HEAD
SEGMENT 0
SEGMENT 1
SEGMENT 2
SEGMENT 3
SEGMENT 4
SEGMENT 5
SEGMENT 6
SEGMENT 7
1250μ M
(375 DOTS PER SEGMENT ROW, OR 750 DOTS PER SEGMENT
1 DOT IS 16.6μ M IN DIAMETER
(A 100μ M SQUARE = 6 X 6 = 36 DOTS)
CYAN INK
MAGENTA INK
YELLOW INK
466.6μ M
(28 DOTS)
33.3μ M
(2 DOTS)
133.3μ M
(8 DOTS)
EACH SEGMENT CONTAINS 6 ROWS OF DOTS, ODD AND EVEN

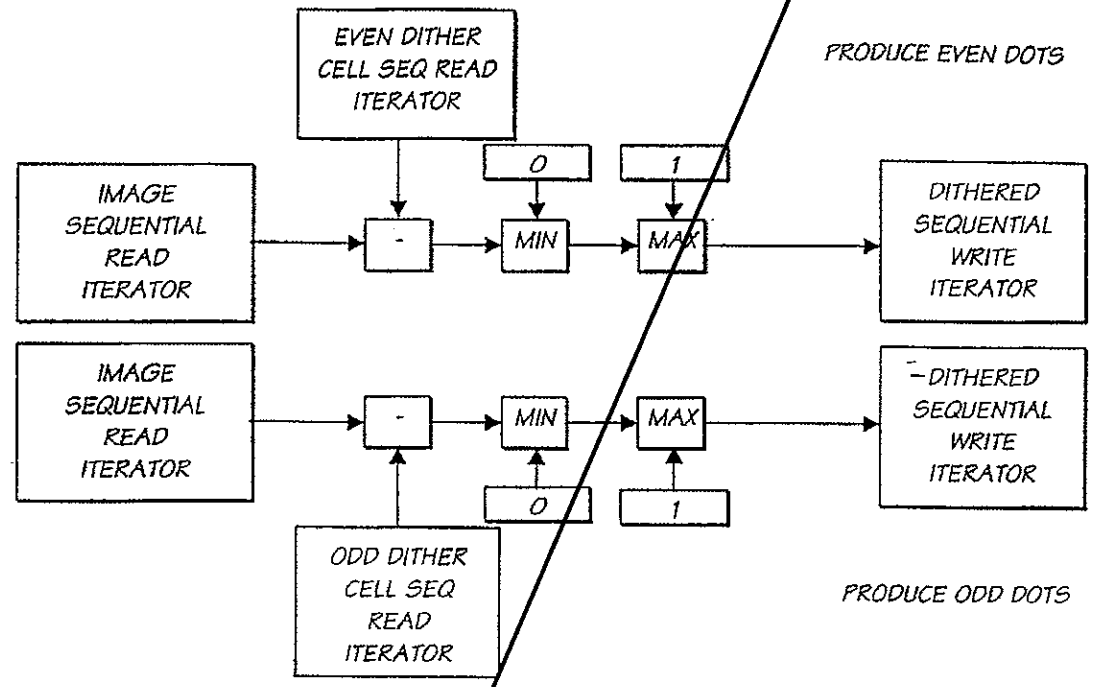
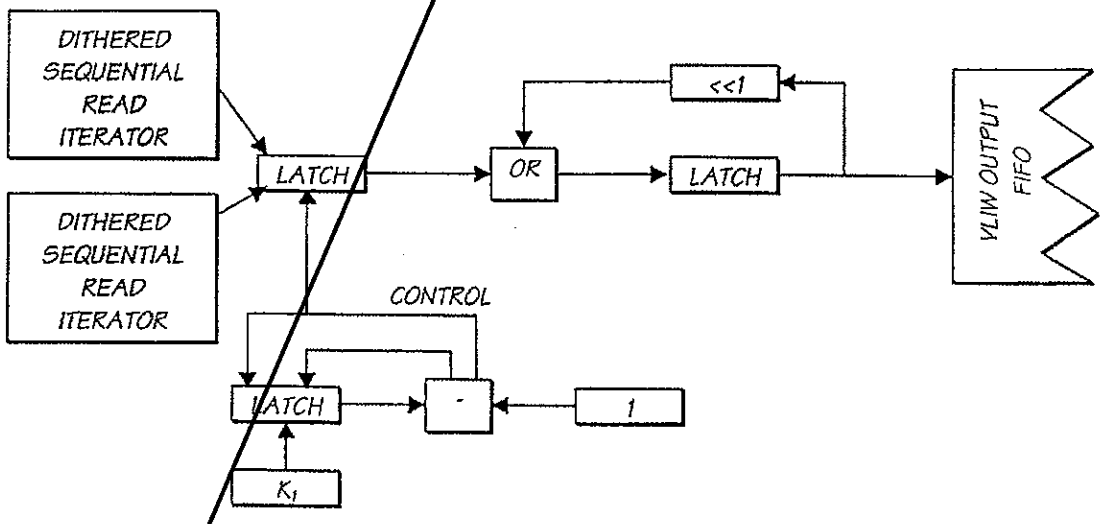

EVEN DITHER CELL SEQ READ ITERATOR
PRODUCE EVEN DOTS
0
1
IMAGE SEQUENTIAL READ ITERATOR
-
MIN
MAX
DITHERED SEQUENTIAL WRITE ITERATOR
IMAGE SEQUENTIAL READ ITERATOR
-
MIN
MAX
DITHERED SEQUENTIAL WRITE ITERATOR
0
1
ODD DITHER CELL SEQ READ ITERATOR
PRODUCE ODD DOTS

FIG. 157


DITHERED SEQUENTIAL READ ITERATOR
DITHERED SEQUENTIAL READ ITERATOR
LATCH
OR
<<1
LATCH
VLIW OUTPUT FIFO
CONTROL
LATCH
-
1
K1

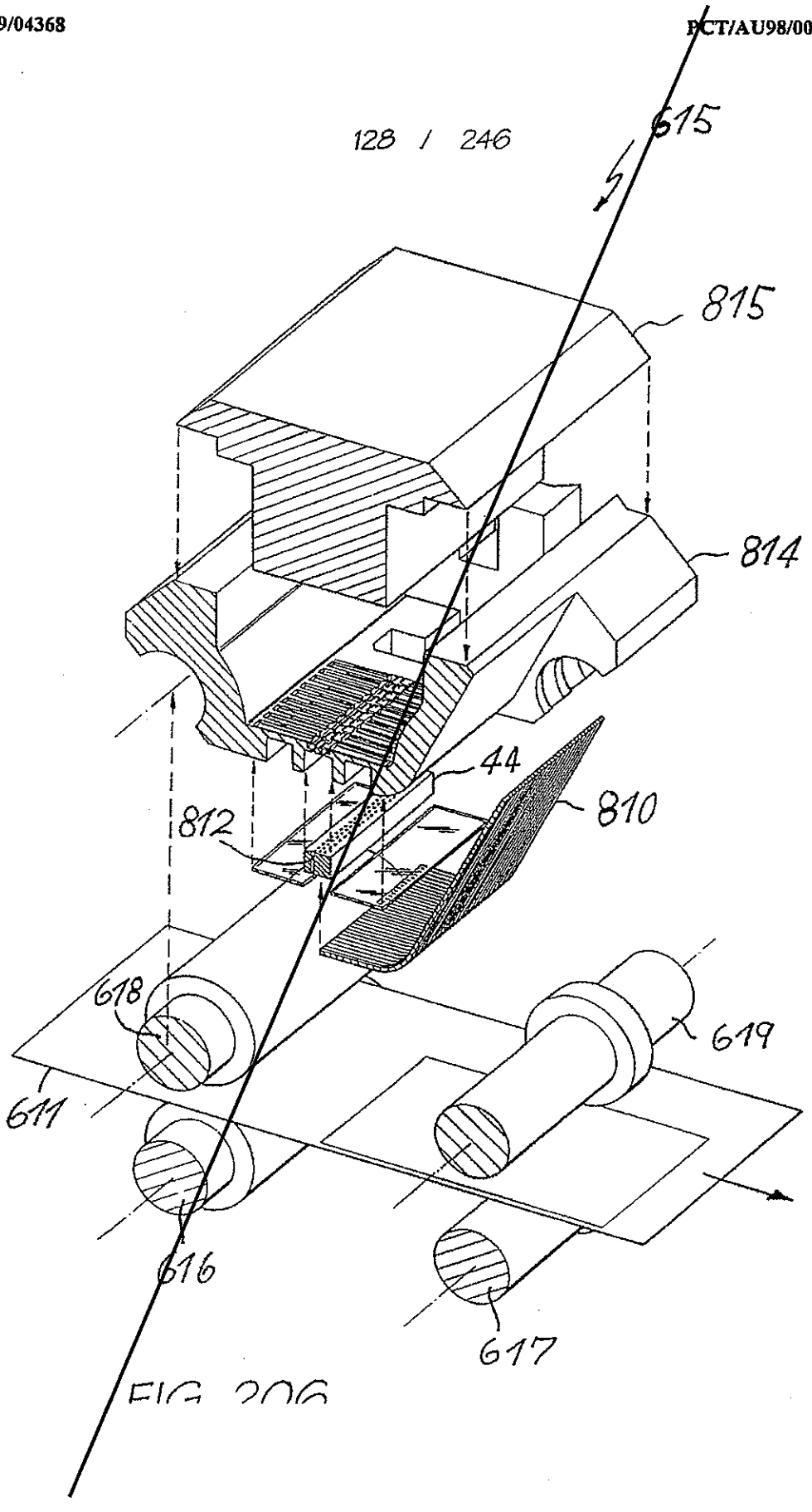
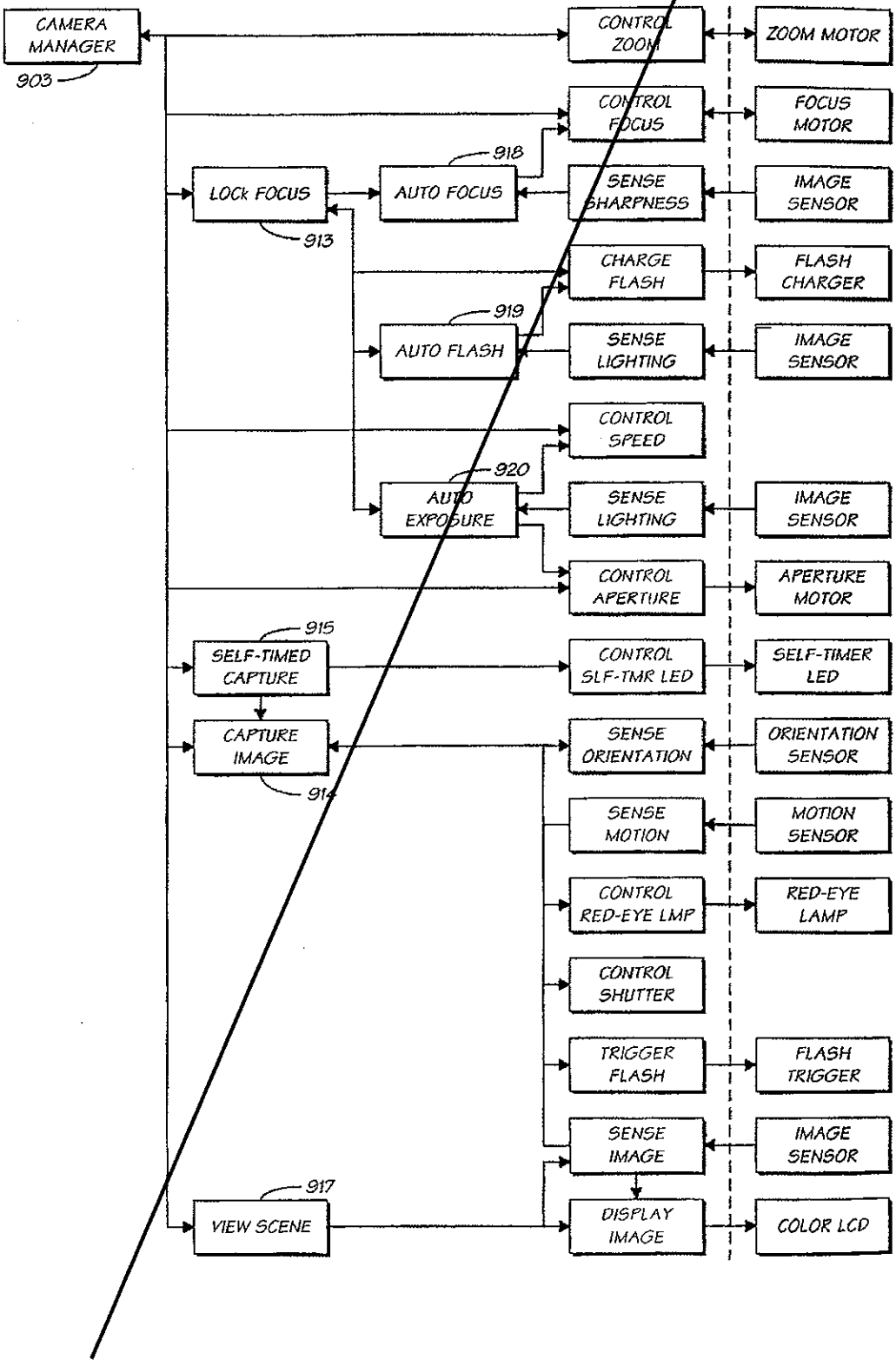


FIG 206


CAMERA MANAGER
903
CONTROL ZOOM
ZOOM MOTOR
CONTROL FOCUS
FOCUS MOTOR
LOCK FOCUS
913
AUTO FOCUS
918
SENSE SHARPNESS
IMAGE SENSOR
CHARGE FLASH
FLASH CHARGER
AUTO FLASH
919
SENSE LIGHTING
IMAGE SENSOR
CONTROL SPEED
AUTO EXPOSURE
920
SENSE LIGHTING
IMAGE SENSOR
CONTROL APERTURE
APERTURE MOTOR
SELF-TIMED CAPTURE
915
CONTROL SLF-TMR LED
SELF-TIMER LED
CAPTURE IMAGE
914
SENSE ORIENTATION
ORIENTATION SENSOR
SENSE MOTION
MOTION SENSOR
CONTROL RED-EYE LMP
RED-EYE LAMP
CONTROL SHUTTER
TRIGGER FLASH
FLASH TRIGGER
SENSE IMAGE
IMAGE SENSOR
VIEW SCENE
917
DISPLAY IMAGE
COLOR LCD

227 / 246

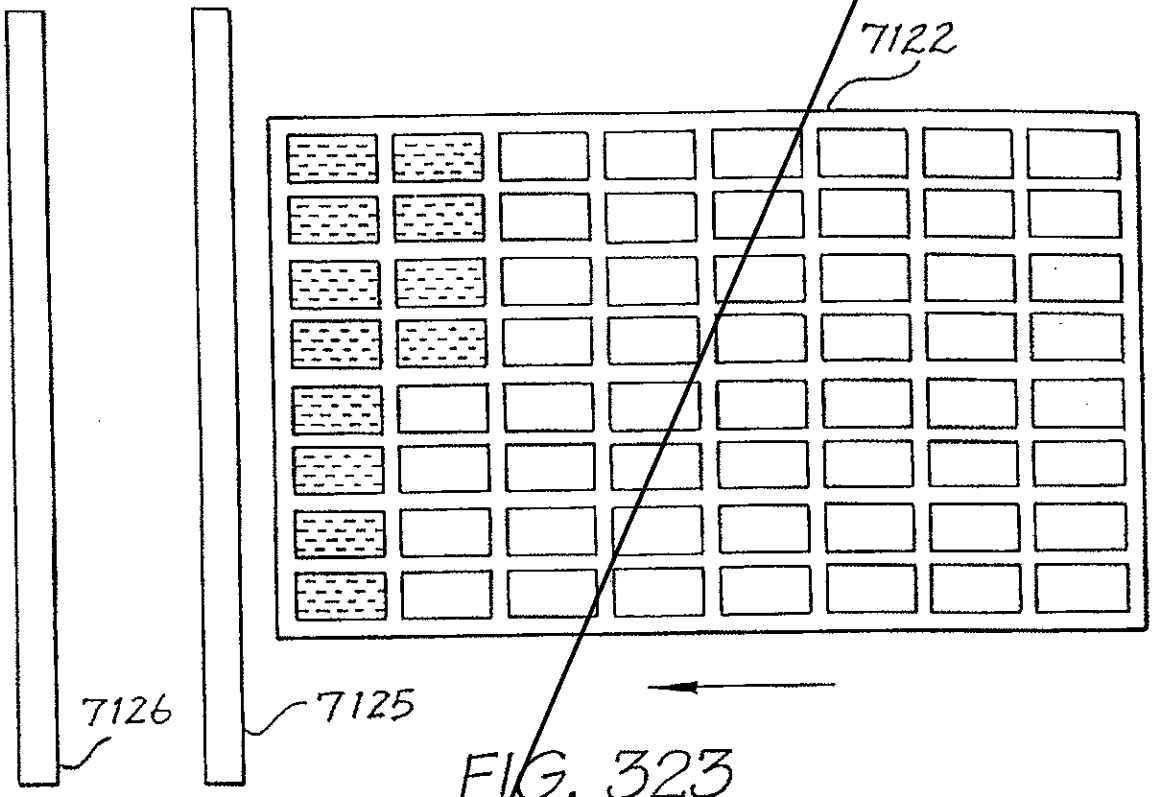


FIG. 323

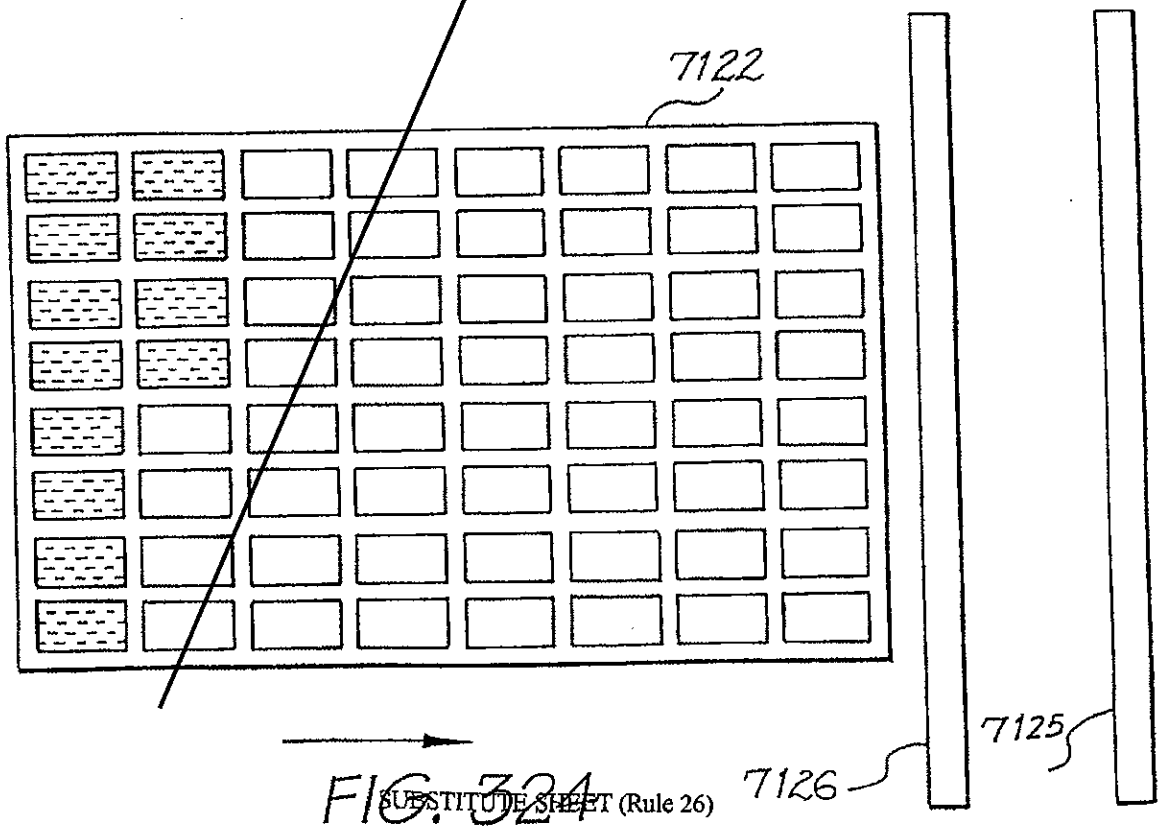


FIG. 324

WO 99/04368 PCT/AU98/00544

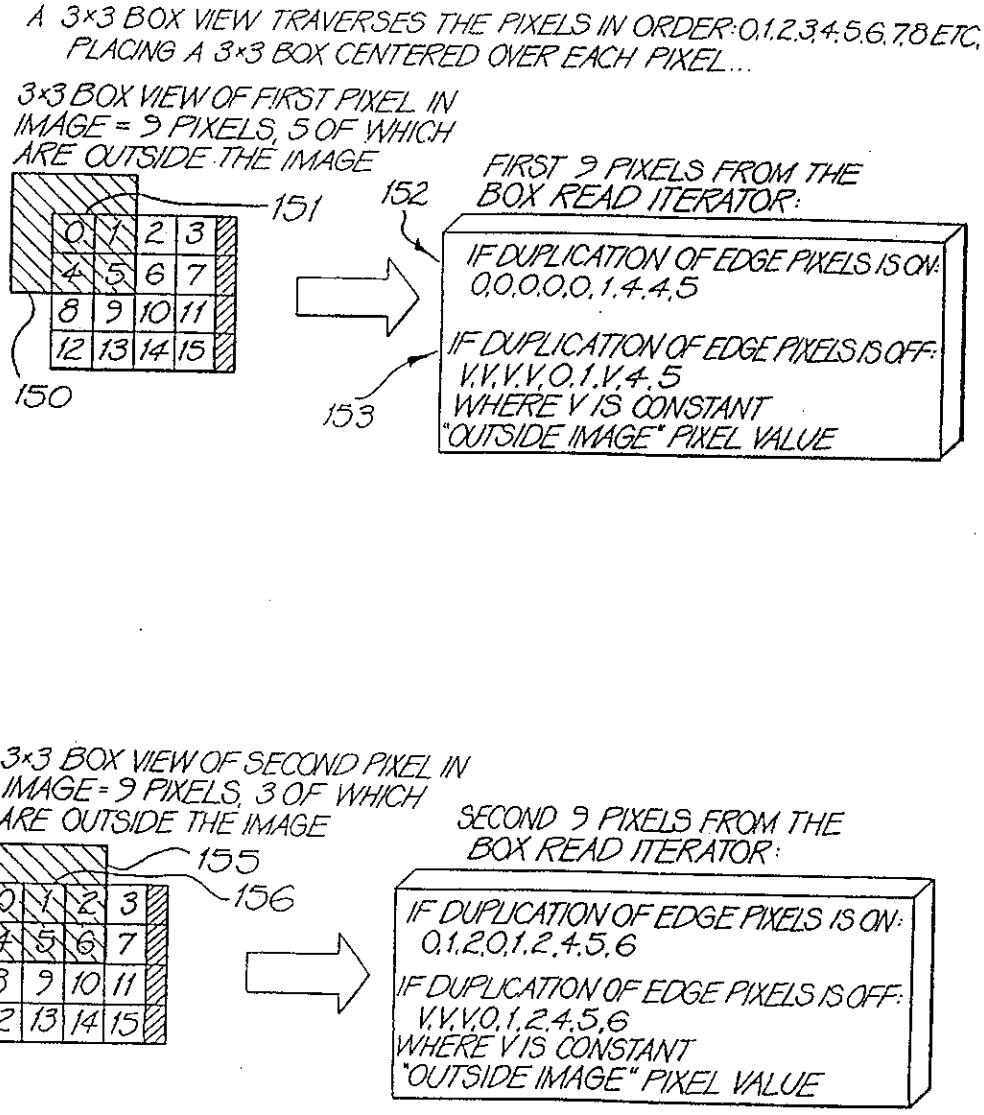


FIG. 19

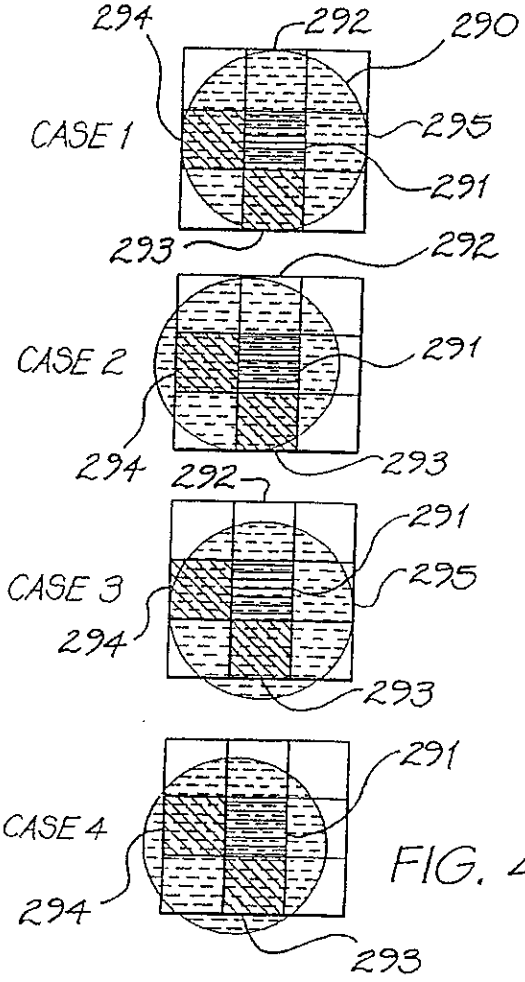

294
292
290
CASE 1
295
291
293
292
CASE 2
291
294
293
292
291
CASE 3
295
294
293
291
CASE 4
294
293

FIG. 42

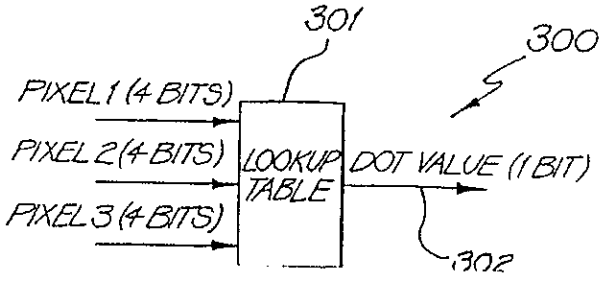

301
300
PIXEL 1 (4 BITS)
PIXEL 2 (4 BITS)
PIXEL 3 (4 BITS)
LOOKUP TABLE
DOT VALUE (1 BIT)
302

FIG. 43

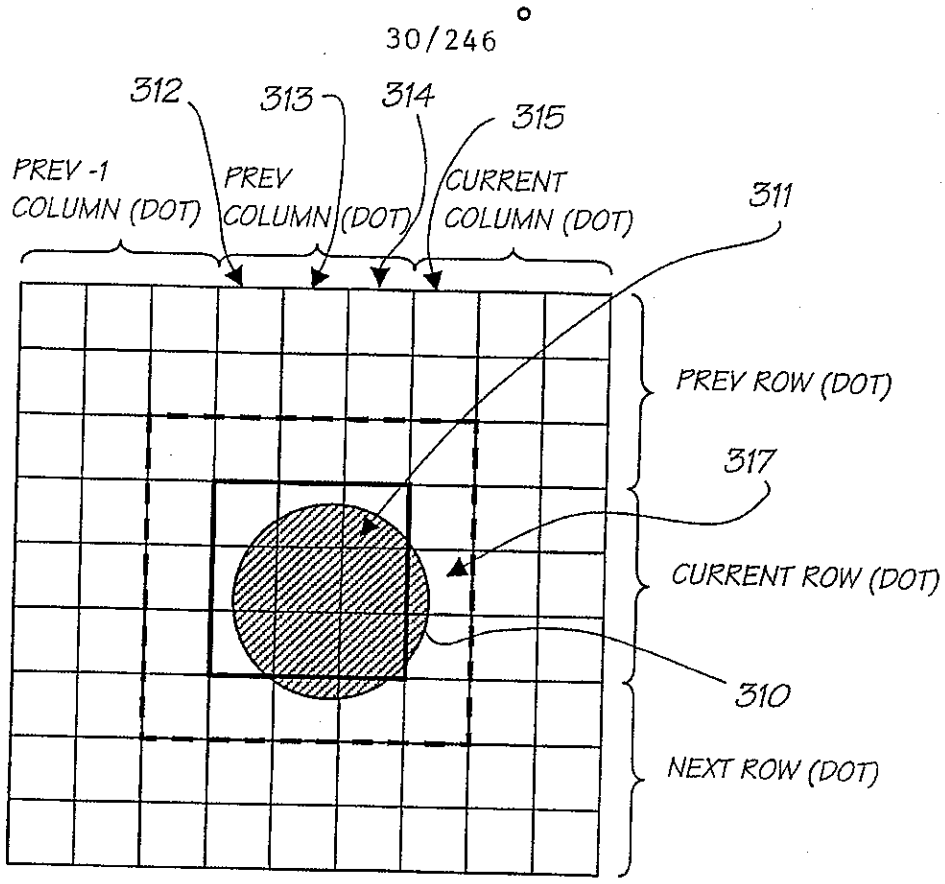

312
313
314
315
PREV -1 COLUMN (DOT)
PREV COLUMN (DOT)
CURRENT COLUMN (DOT)
311
PREV ROW (DOT)
317
CURRENT ROW (DOT)
310
NEXT ROW (DOT)

FIG. 44

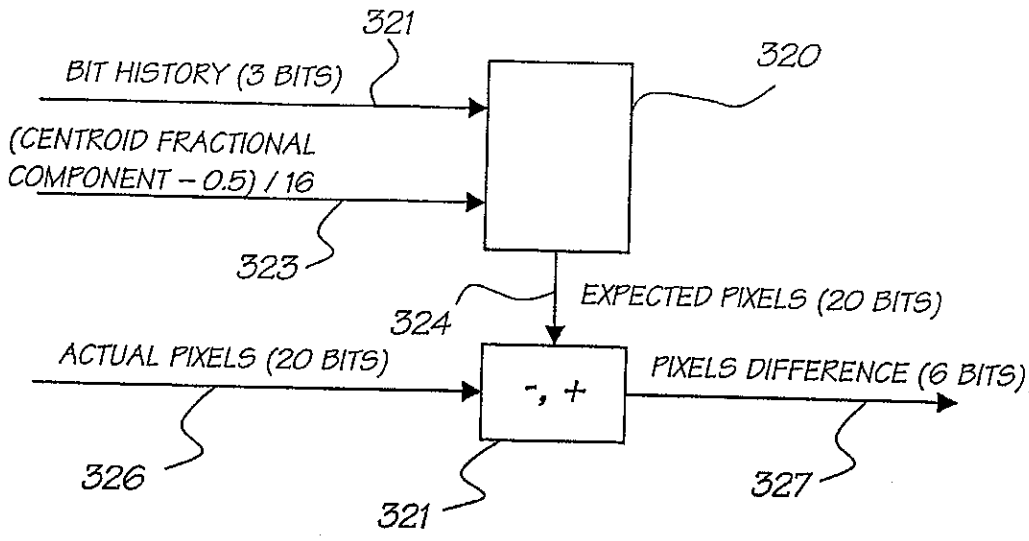

321
BIT HISTORY (3 BITS)
320
(CENTROID FRACTIONAL COMPONENT – 0.5) / 16
323
324
EXPECTED PIXELS (20 BITS)
ACTUAL PIXELS (20 BITS)
-, +
PIXELS DIFFERENCE (6 BITS)
326
321
327

FIG. 45

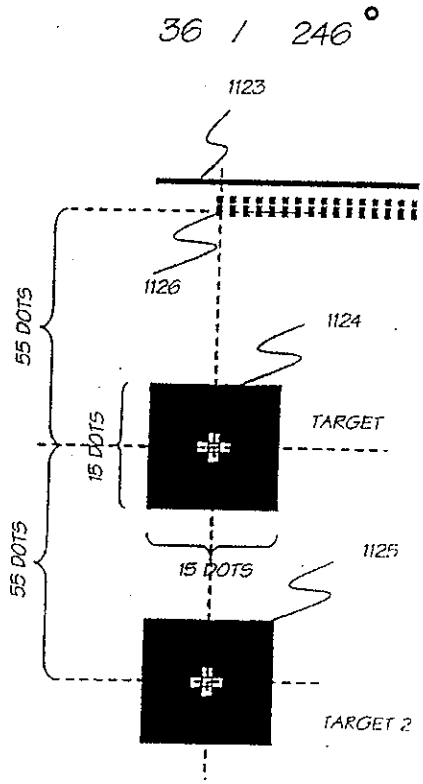

36 / 246
1123
1126
55 DOTS
1124
TARGET
15 DOTS
55 DOTS
15 DOTS
1125
TARGET 2

FIG. 55

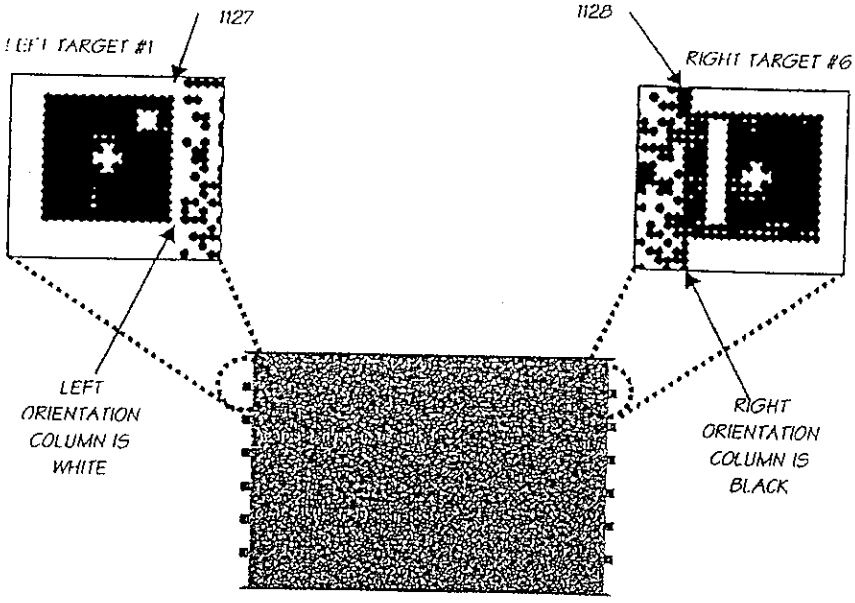

1127
LEFT TARGET #1
1128
RIGHT TARGET #6
LEFT ORIENTATION COLUMN IS WHITE
RIGHT ORIENTATION COLUMN IS BLACK

FIG. 56

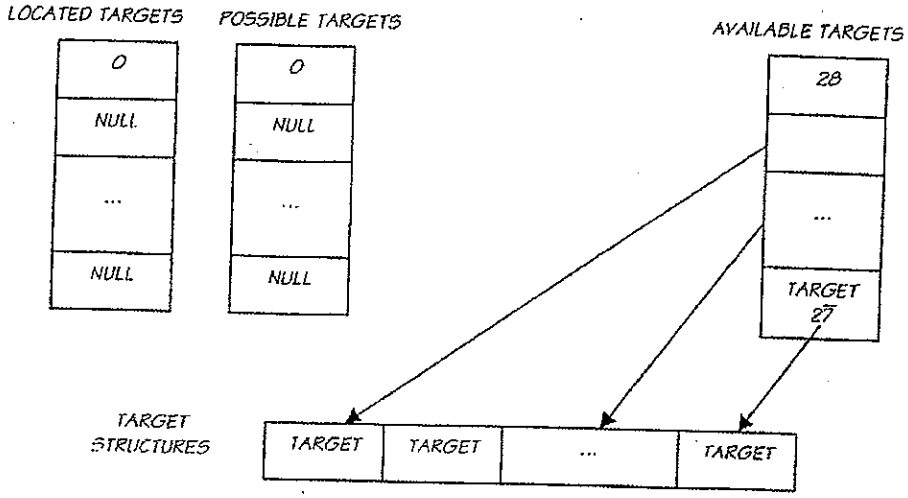


FIG. 75

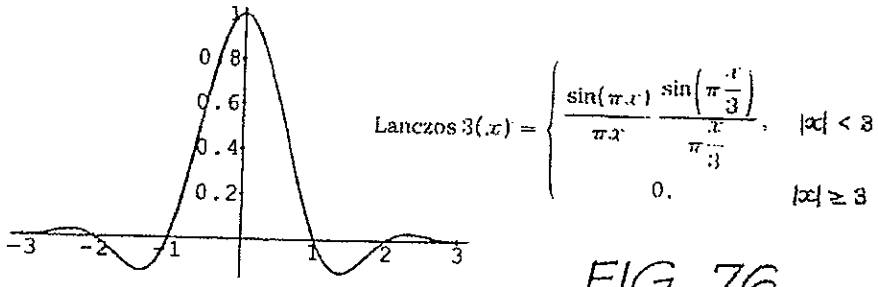


FIG. 76

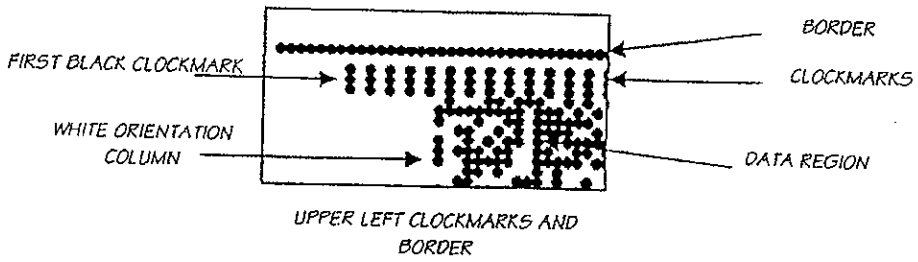


FIG. 77

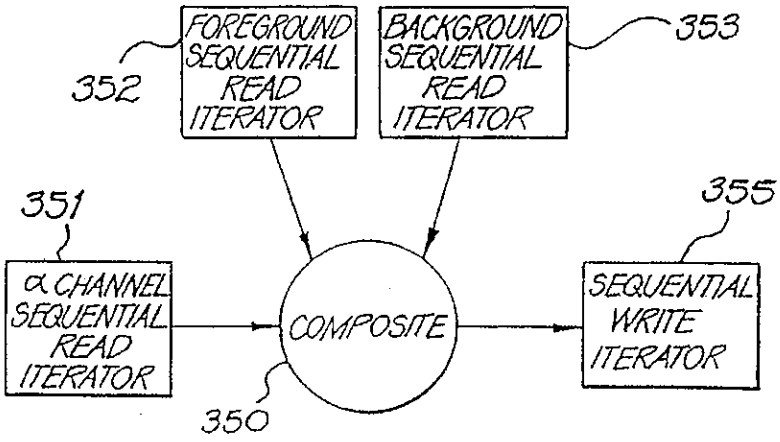

FOREGROUND SEQUENTIAL READ ITERATOR
BACKGROUND SEQUENTIAL READ ITERATOR
352
353
351
355
α CHANNEL SEQUENTIAL READ ITERATOR
COMPOSITE
SEQUENTIAL WRITE ITERATOR
350

FIG. 83

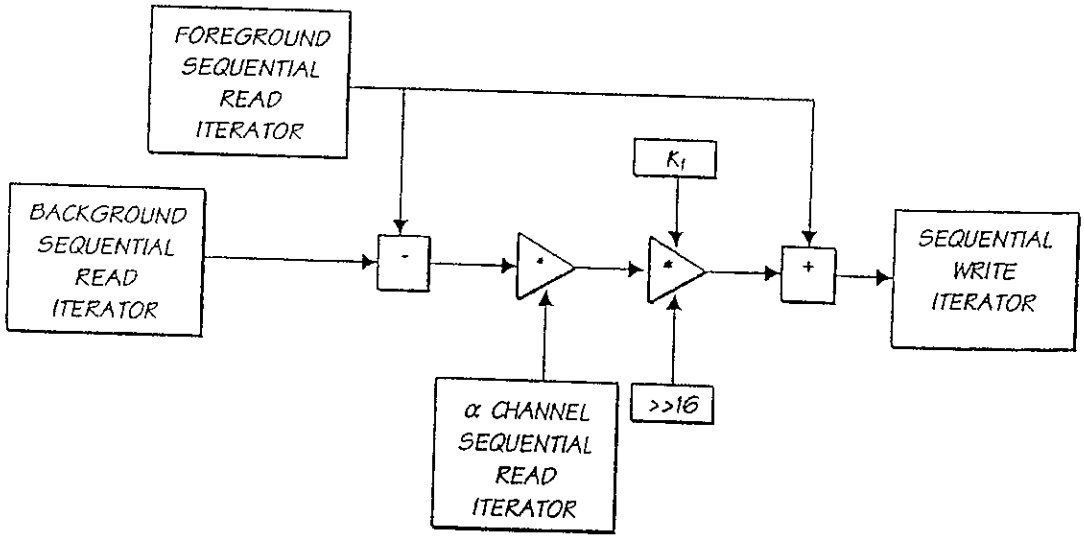
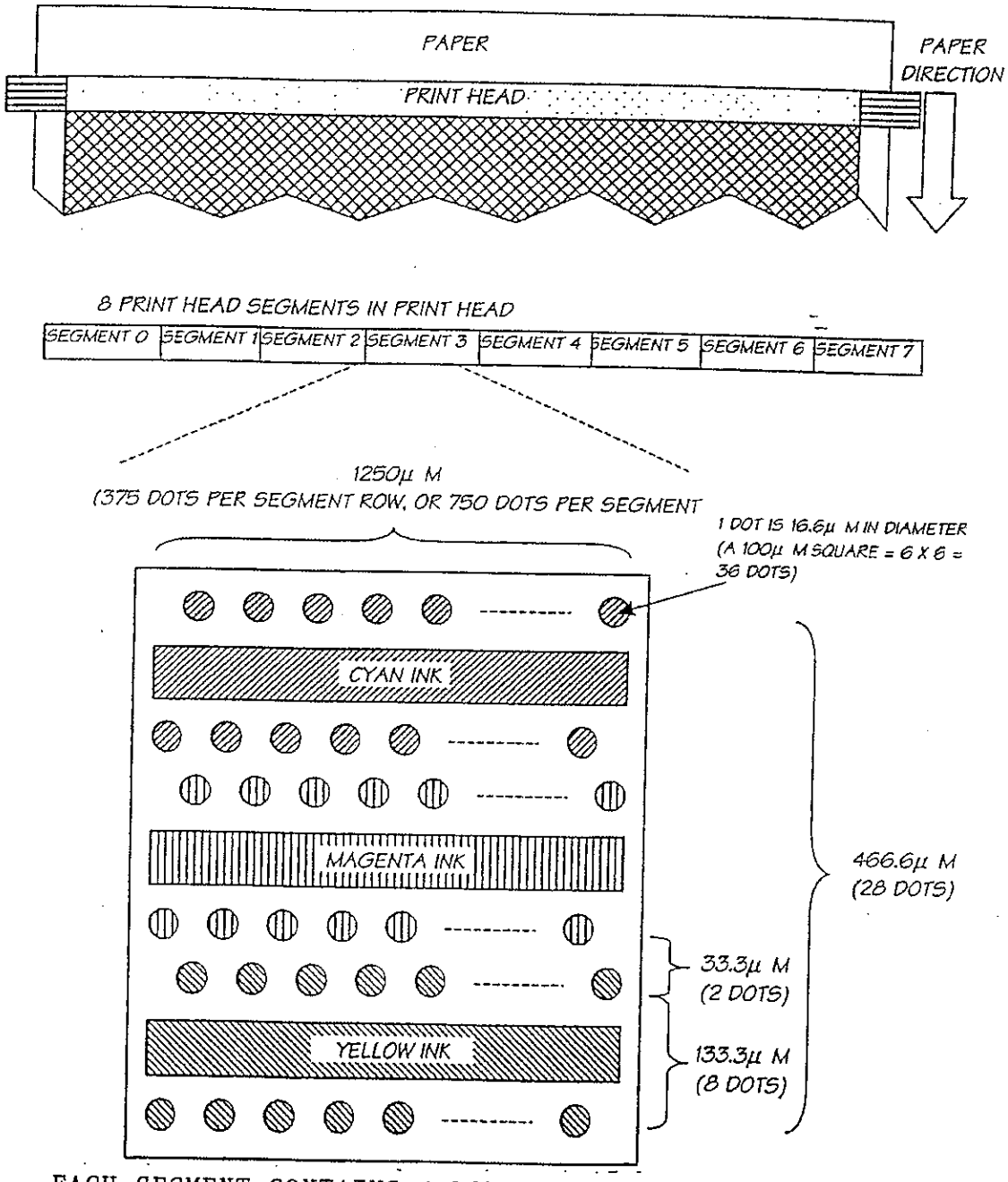

FOREGROUND SEQUENTIAL READ ITERATOR
BACKGROUND SEQUENTIAL READ ITERATOR
K1
-
*
*
+
SEQUENTIAL WRITE ITERATOR
α CHANNEL SEQUENTIAL READ ITERATOR
>>16

FIG. 84

WO 99/04368

PCT/AU98/00544

90 / 246°



EACH SEGMENT CONTAINS 6 ROWS OF DOTS. ODD AND EVEN

FIG. 153

93 / 246

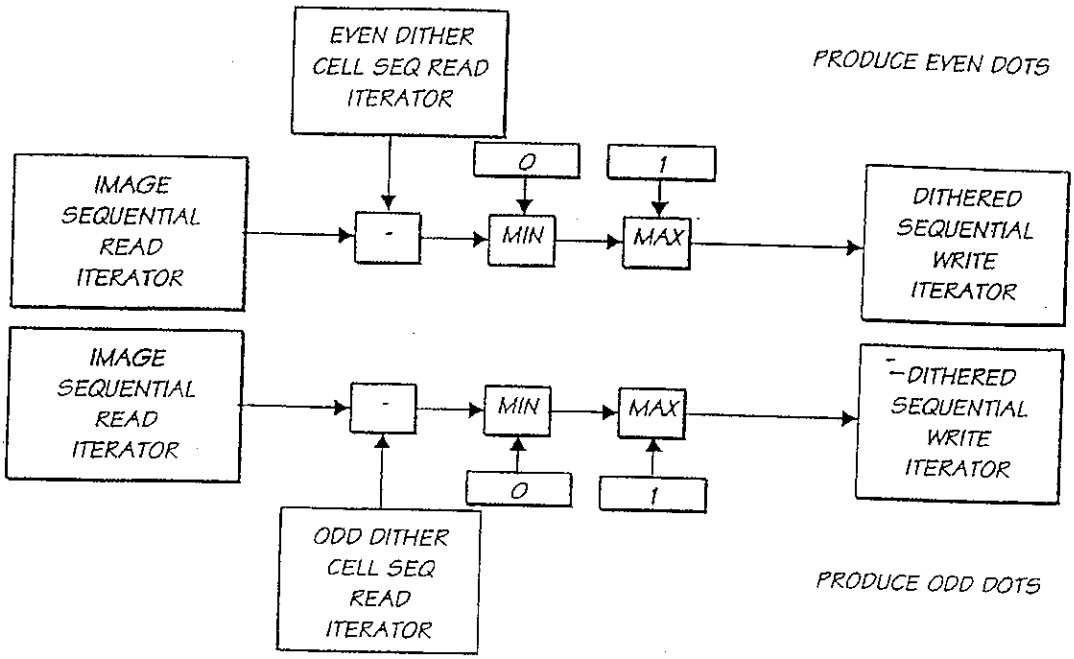


FIG. 157

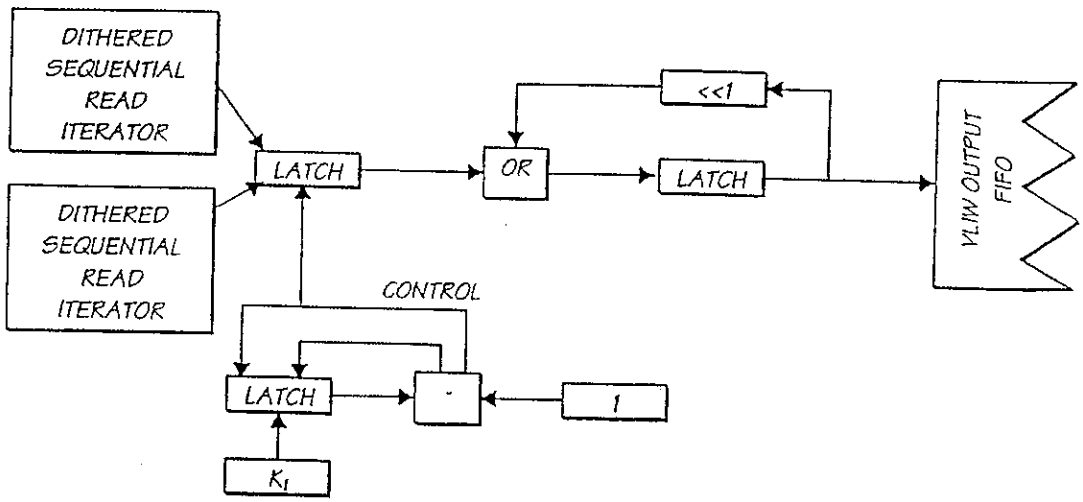


FIG. 158

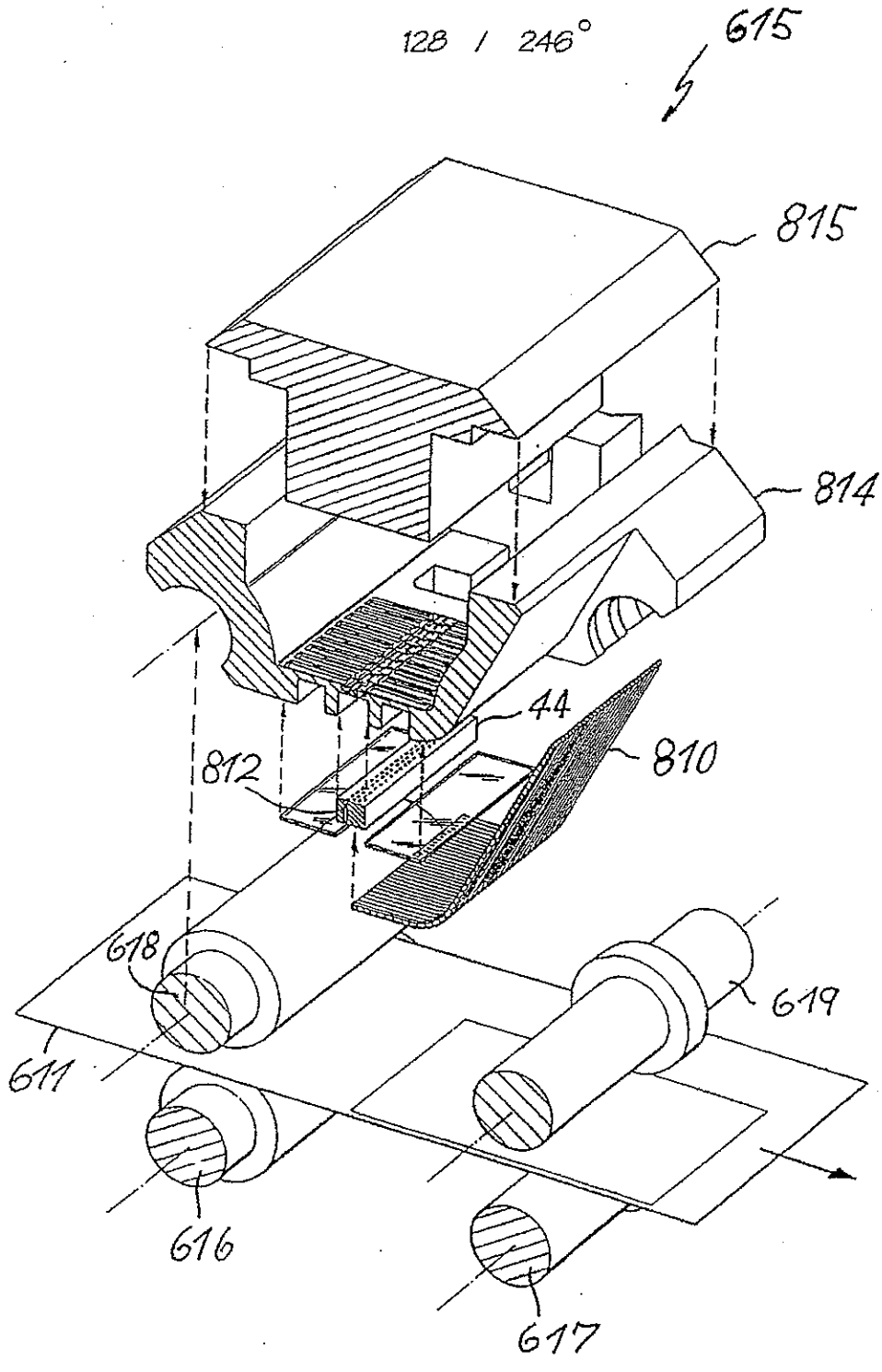


FIG. 206

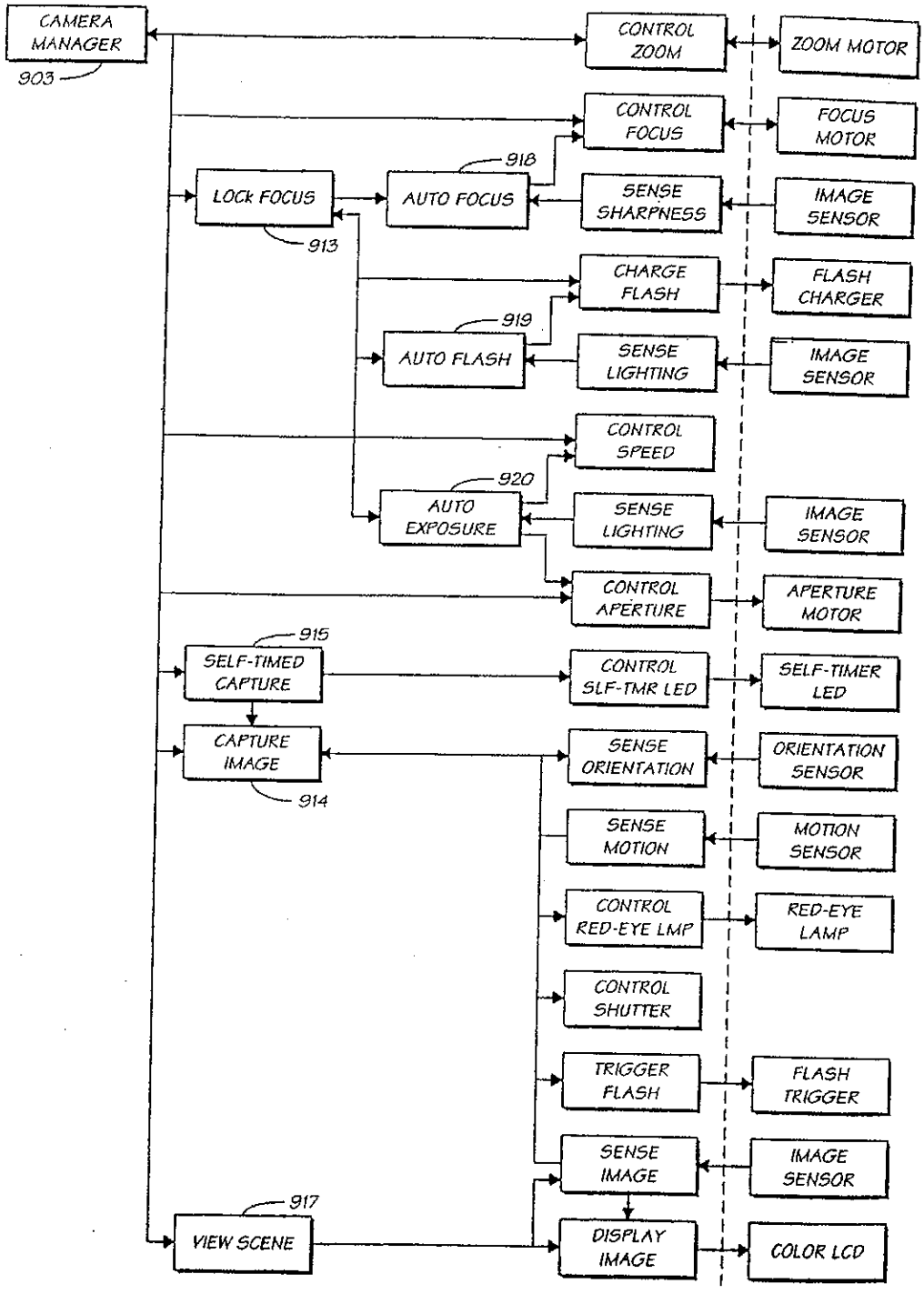

CAMERA MANAGER
903
CONTROL ZOOM
ZOOM MOTOR
CONTROL FOCUS
FOCUS MOTOR
LOCk FOCUS
913
AUTO FOCUS
918
SENSE SHARPNESS
IMAGE SENSOR
CHARGE FLASH
FLASH CHARGER
AUTO FLASH
919
SENSE LIGHTING
IMAGE SENSOR
CONTROL SPEED
AUTO EXPOSURE
920
SENSE LIGHTING
IMAGE SENSOR
CONTROL APERTURE
APERTURE MOTOR
SELF-TIMED CAPTURE
915
CONTROL SLF-TMR LED
SELF-TIMER LED
CAPTURE IMAGE
914
SENSE ORIENTATION
ORIENTATION SENSOR
SENSE MOTION
MOTION SENSOR
CONTROL RED-EYE LMP
RED-EYE LAMP
CONTROL SHUTTER
TRIGGER FLASH
FLASH TRIGGER
SENSE IMAGE
IMAGE SENSOR
VIEW SCENE
917
DISPLAY IMAGE
COLOR LCD

FIG. 222

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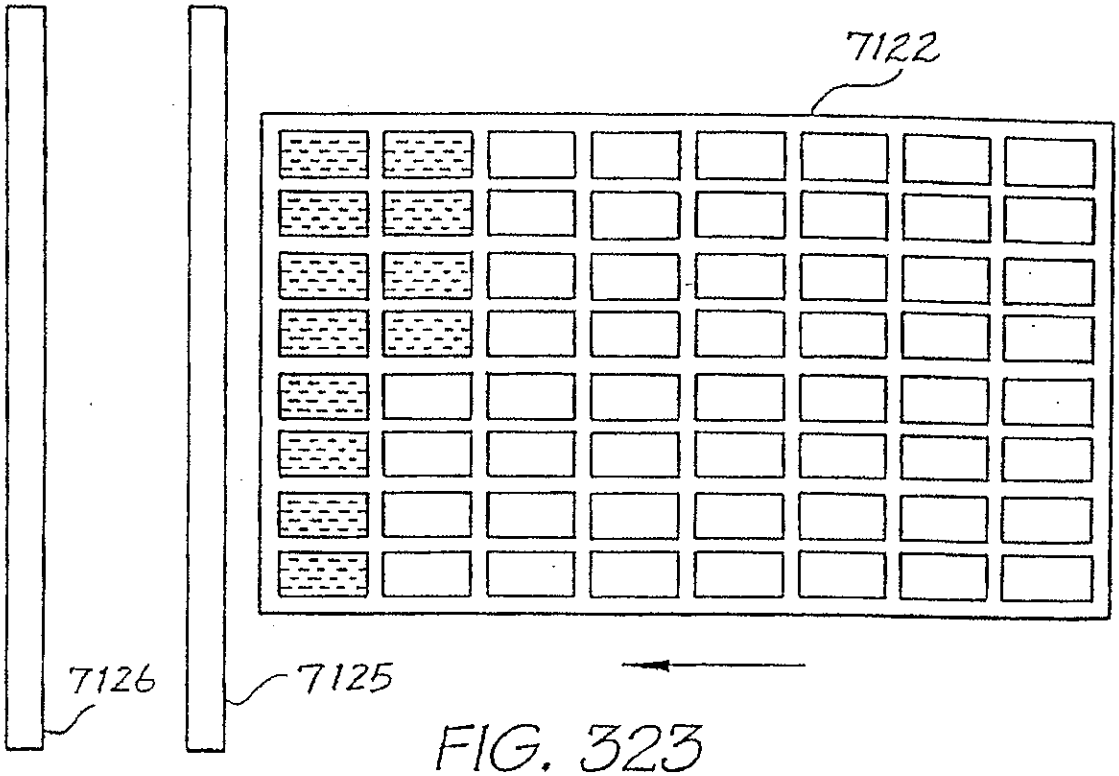

FIG. 323

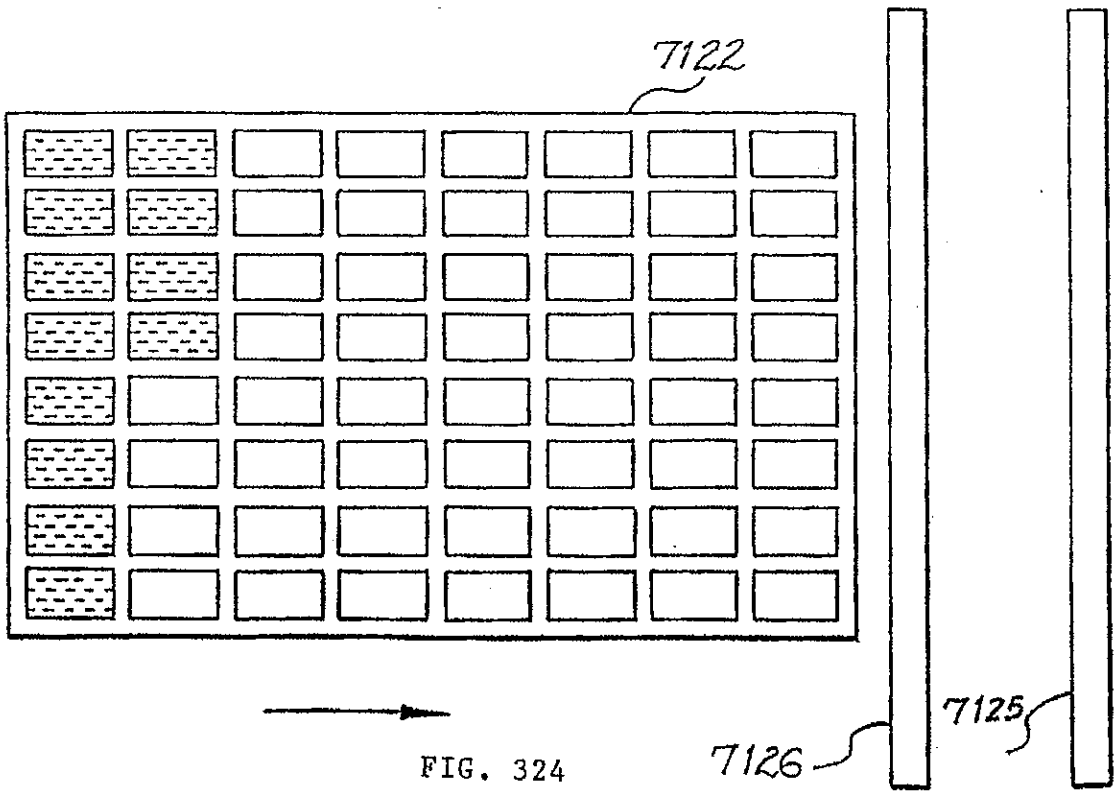

FIG. 324