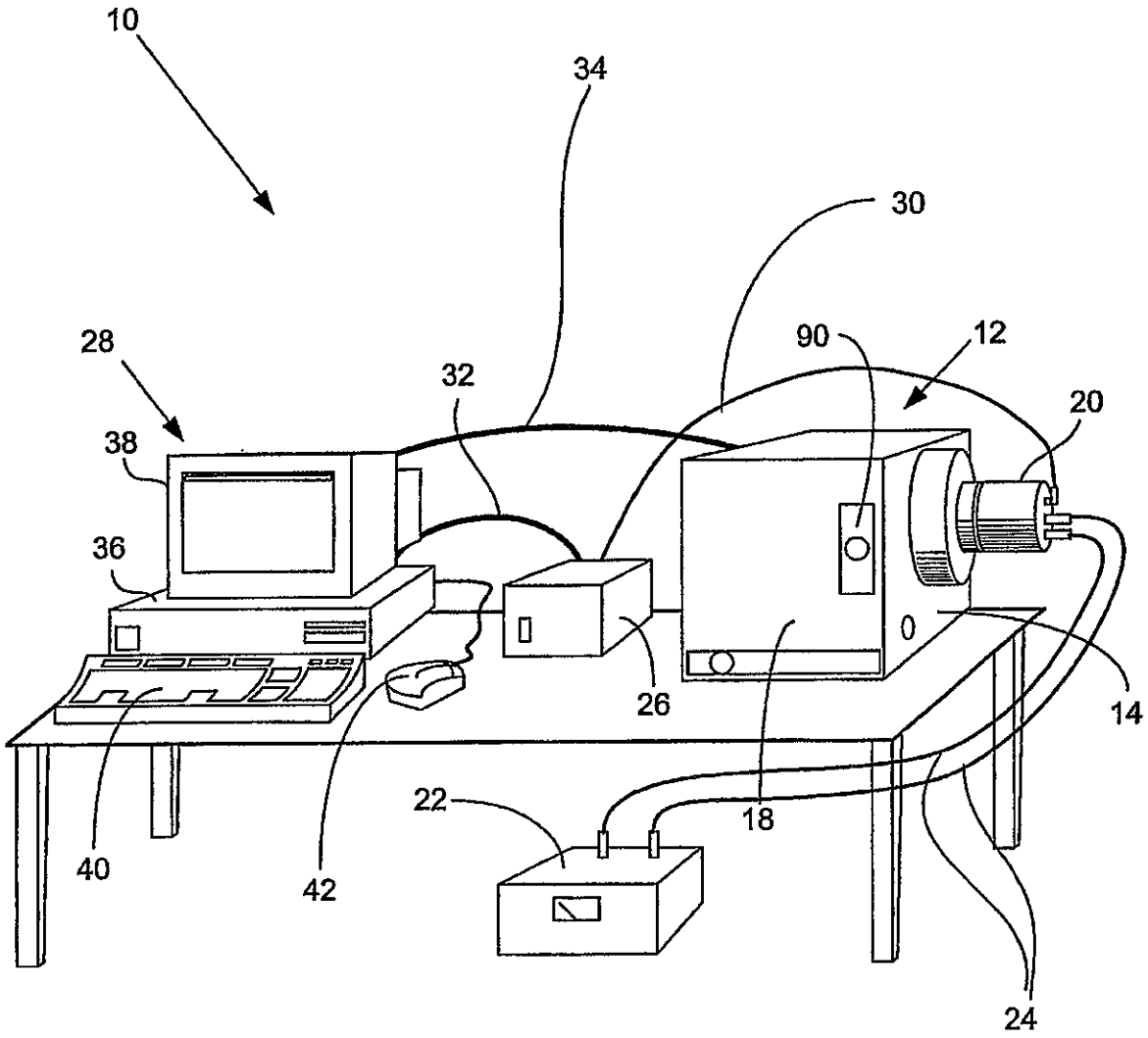


FIG. 1

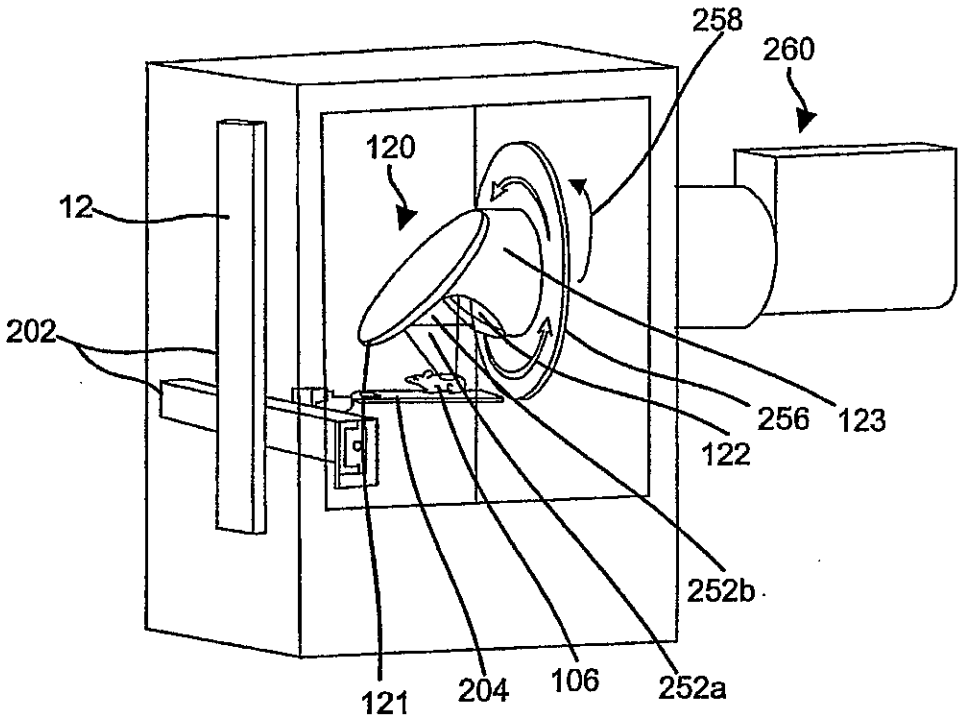

258
260
120
12
202
256
123
122
252b
121
204
106
252a

FIG. 2A

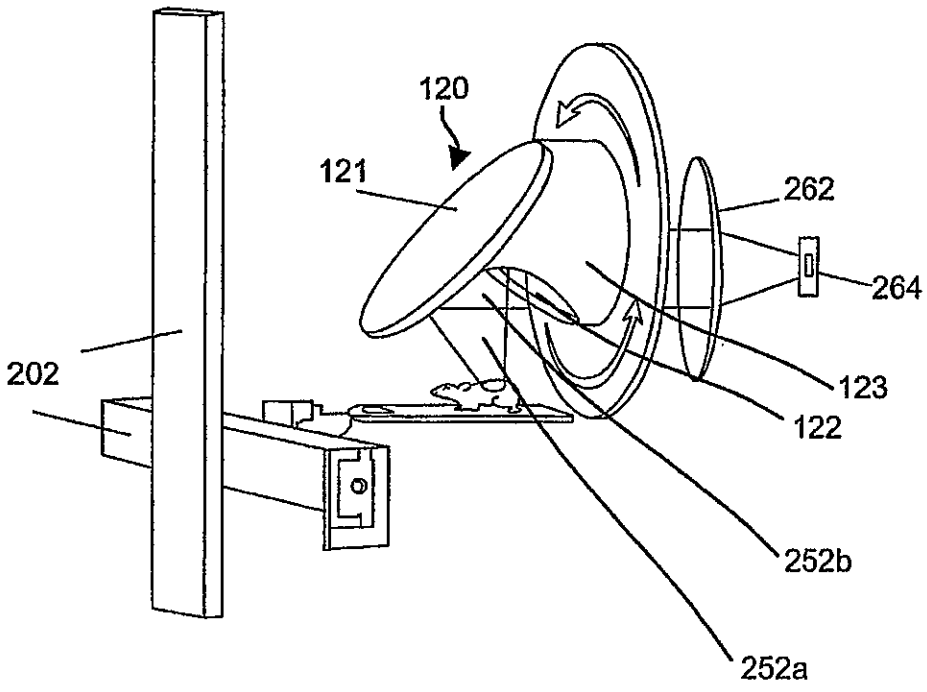

120
121
262
264
202
123
122
252b
252a

FIG. 2B

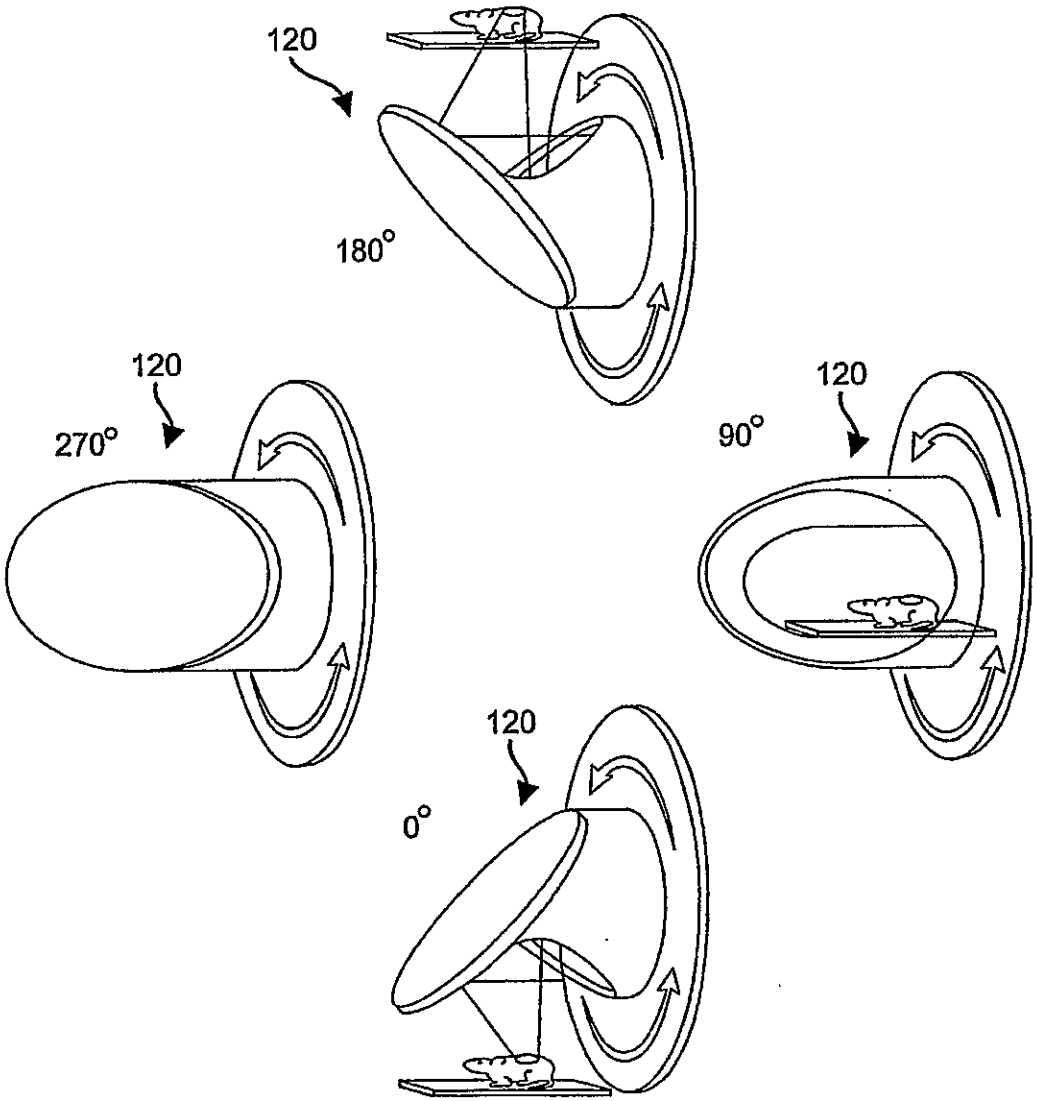


FIG. 2C

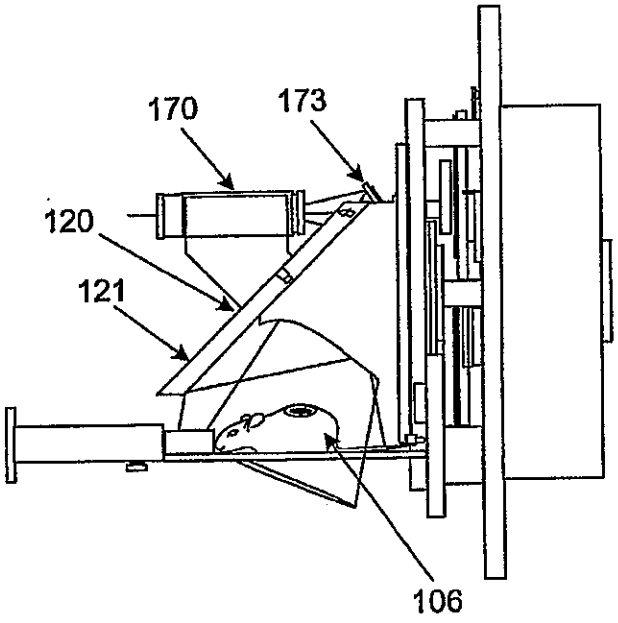


FIG. 2D

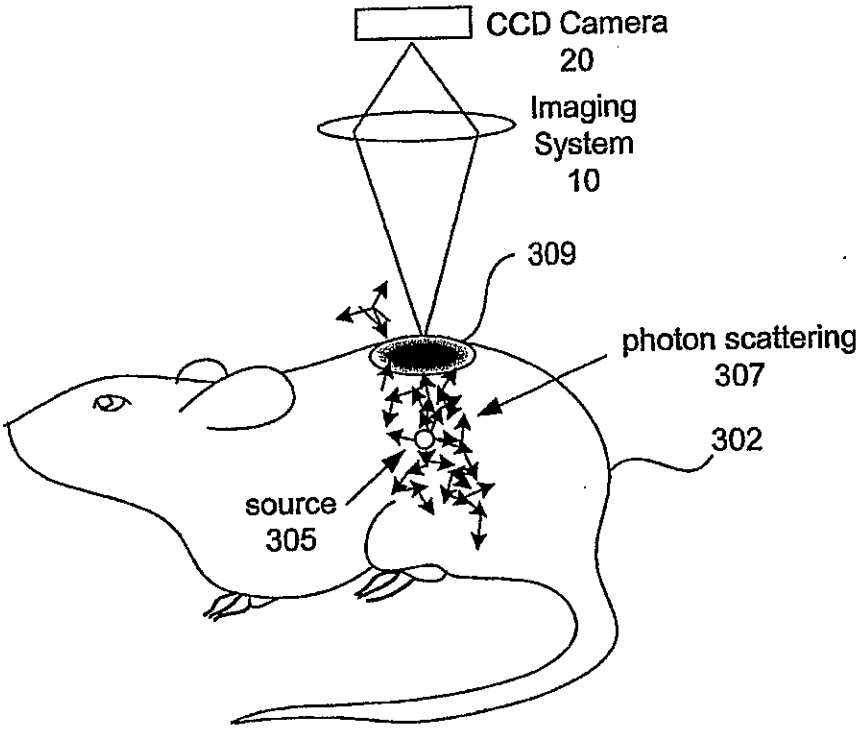

CCD Camera
20
Imaging
System
10
309
photon scattering
307
302
source
305

FIG. 3A

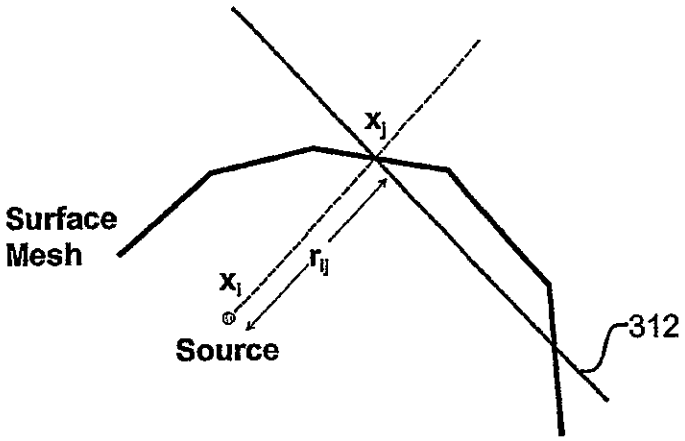


FIG. 3B

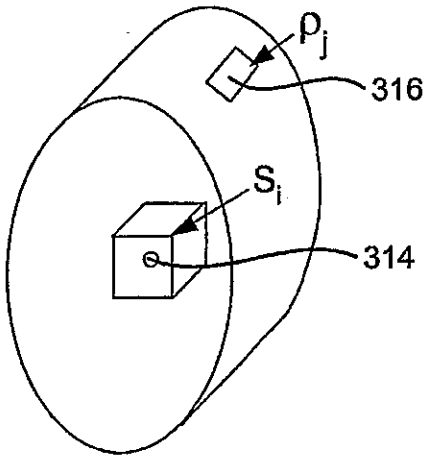


FIG. 3C

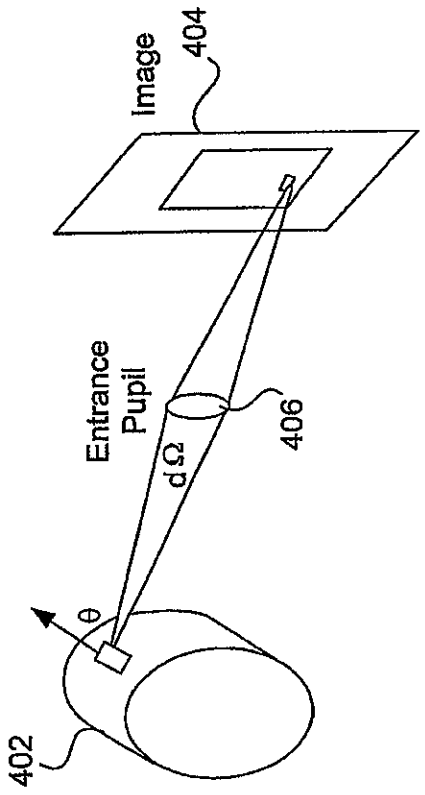


FIG. 4A

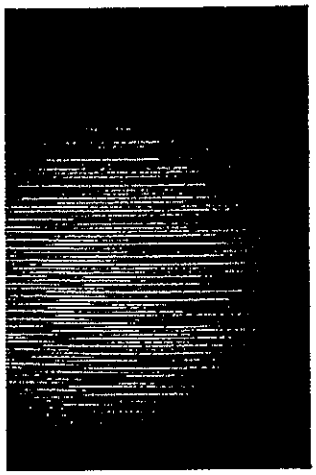


FIG. 4B



FIG. 4C

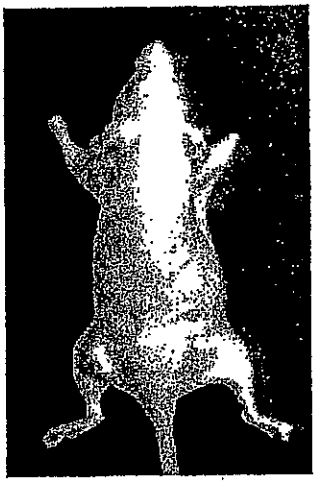


FIG. 4D

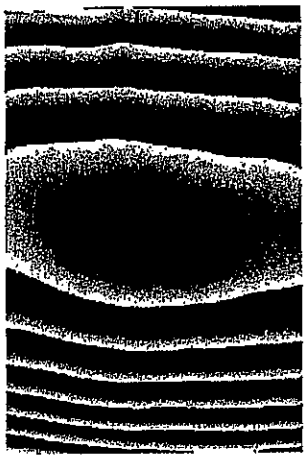


FIG. 4E

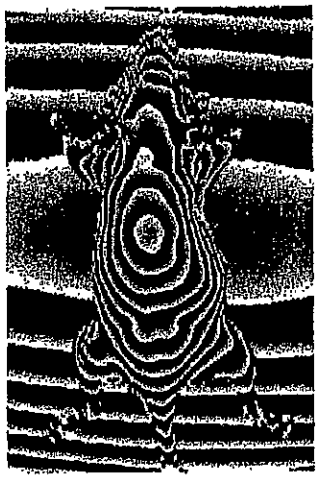


FIG. 4F



FIG. 4G



FIG. 4H

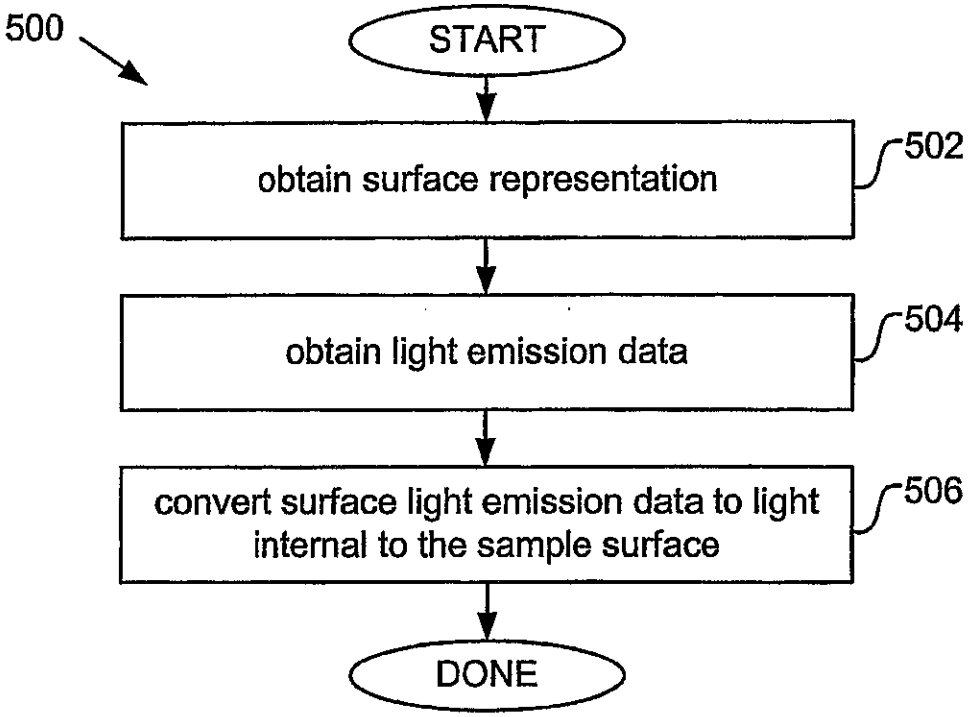

500
START
obtain surface representation
502
obtain light emission data
504
convert surface light emission data to light internal to the sample surface
506
DONE

FIG. 5A

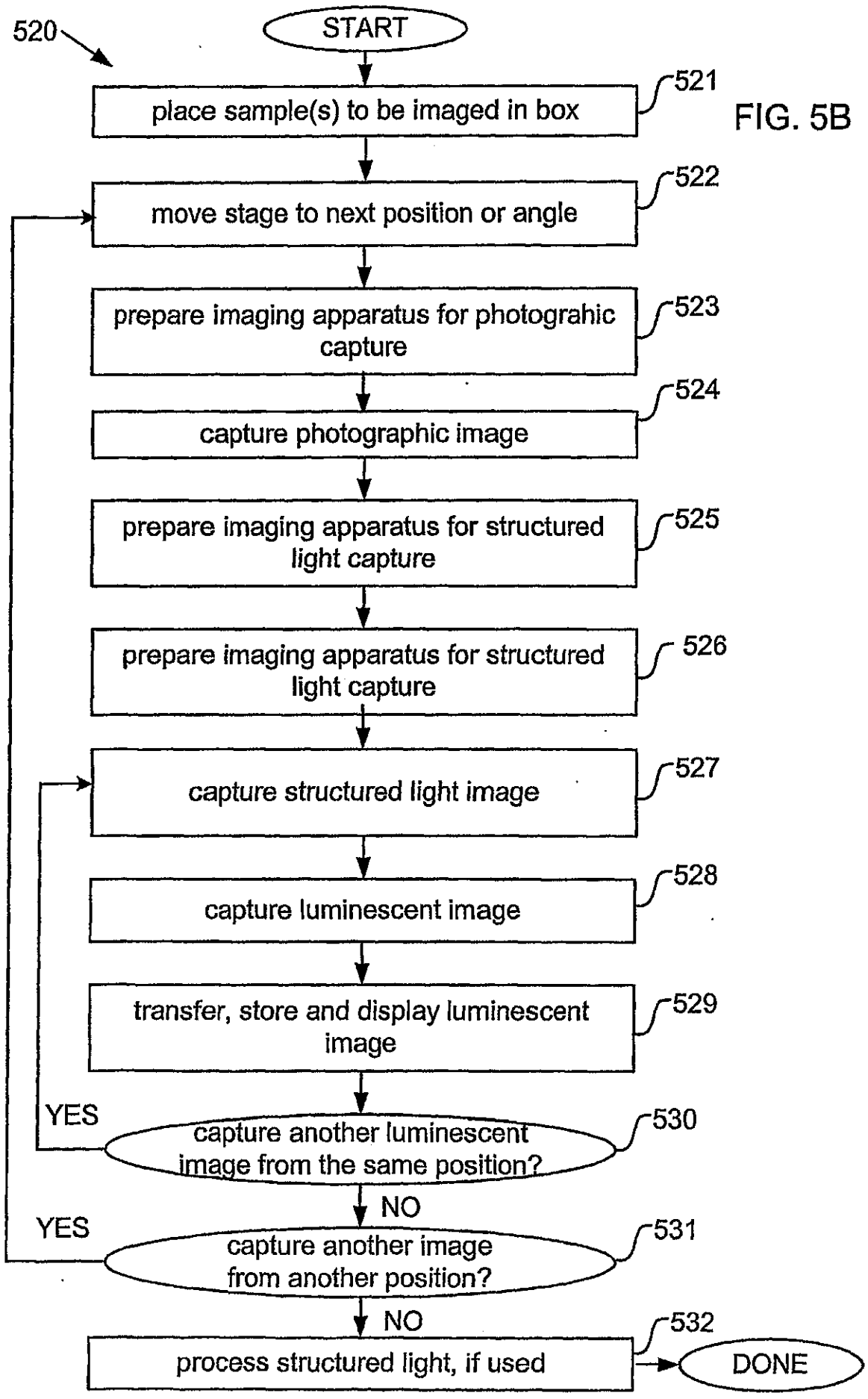

520
START
place sample(s) to be imaged in box
521
move stage to next position or angle
522
prepare imaging apparatus for photograhic capture
523
capture photographic image
524
prepare imaging apparatus for structured light capture
525
prepare imaging apparatus for structured light capture
526
capture structured light image
527
capture luminescent image
528
transfer, store and display luminescent image
529
YES
capture another luminescent image from the same position?
530
NO
YES
capture another image from another position?
531
NO
process structured light, if used
532
DONE

FIG. 5B

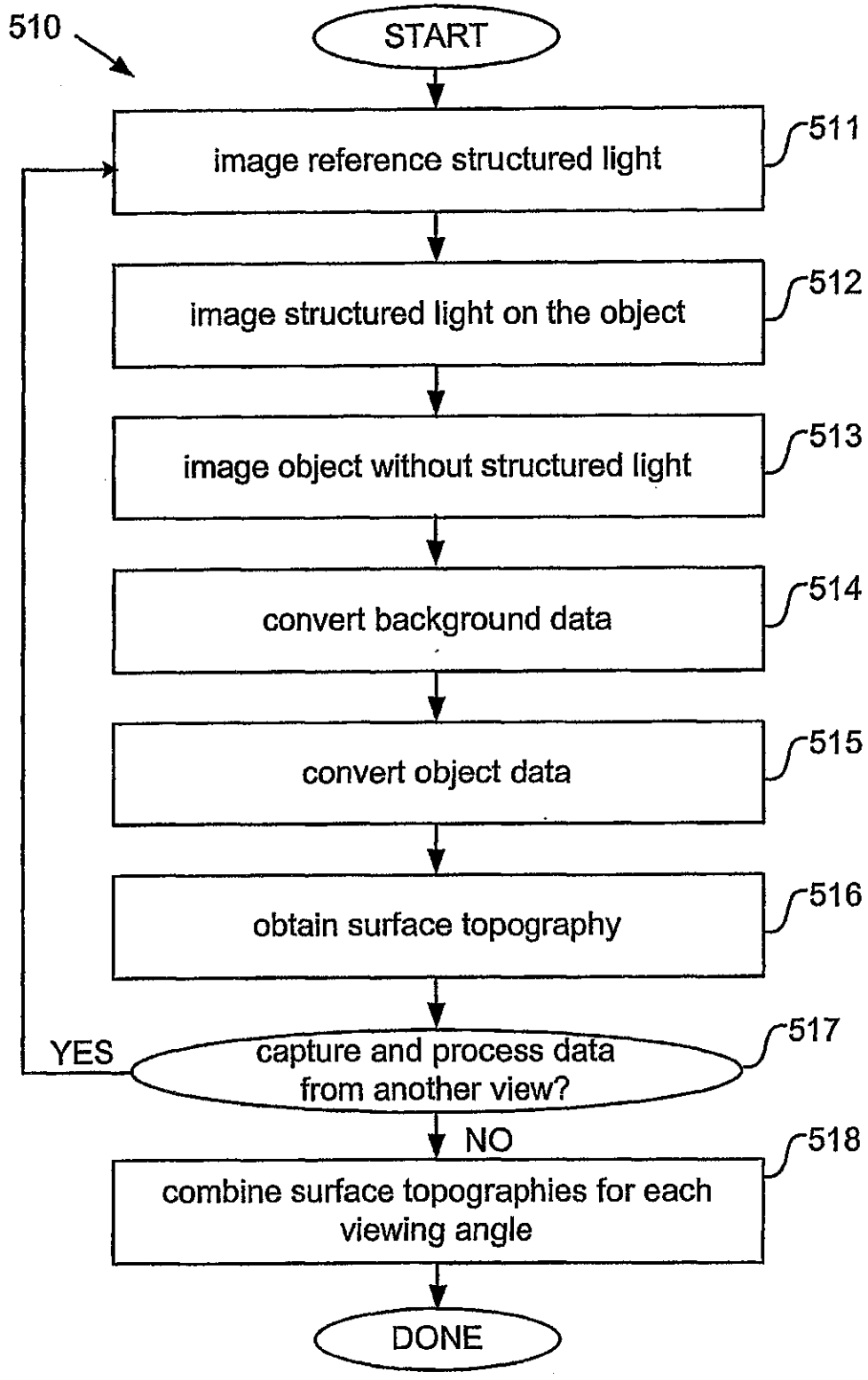

510
START
image reference structured light
511
image structured light on the object
512
image object without structured light
513
convert background data
514
convert object data
515
obtain surface topography
516
YES
capture and process data from another view?
517
NO
combine surface topographies for each viewing angle
518
DONE

FIG. 5C

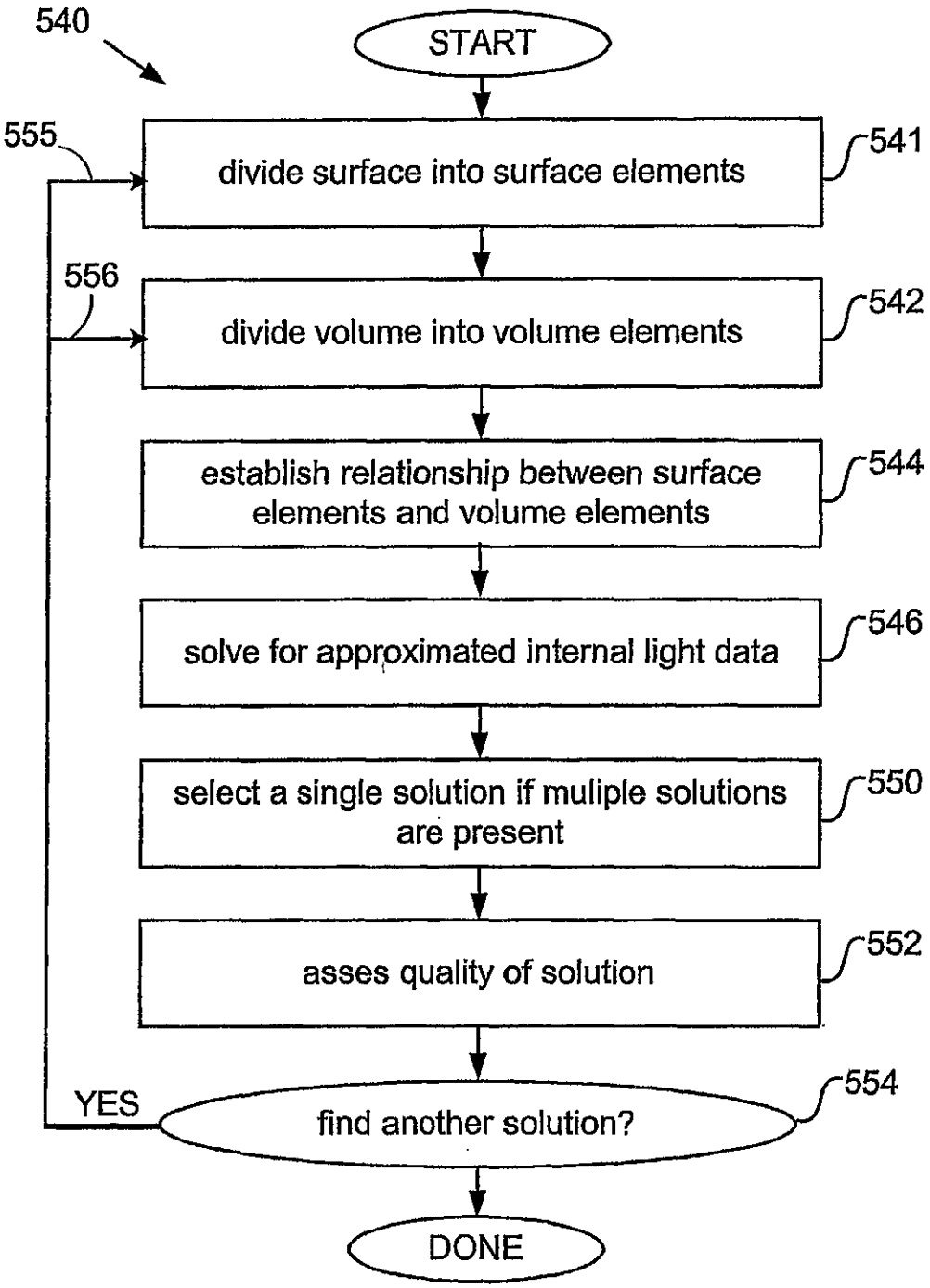

540
START
555
divide surface into surface elements
541
556
divide volume into volume elements
542
establish relationship between surface elements and volume elements
544
solve for approximated internal light data
546
select a single solution if muliple solutions are present
550
asses quality of solution
552
YES
find another solution?
554
DONE

FIG. 5D

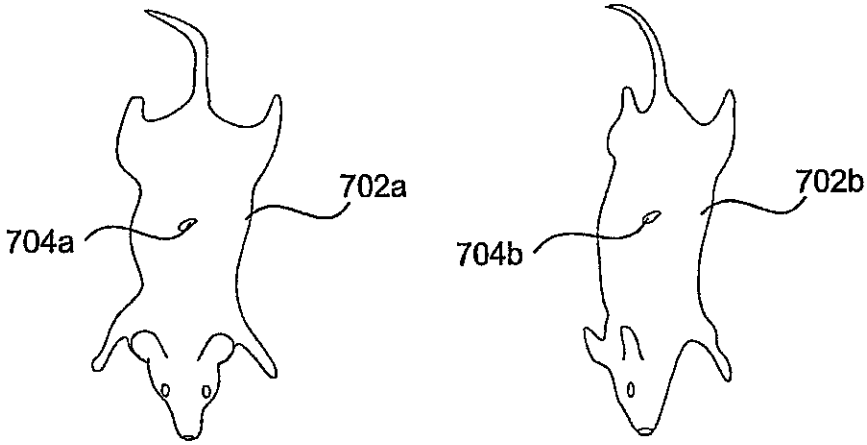

702a
704a
702b
704b

FIG. 5E

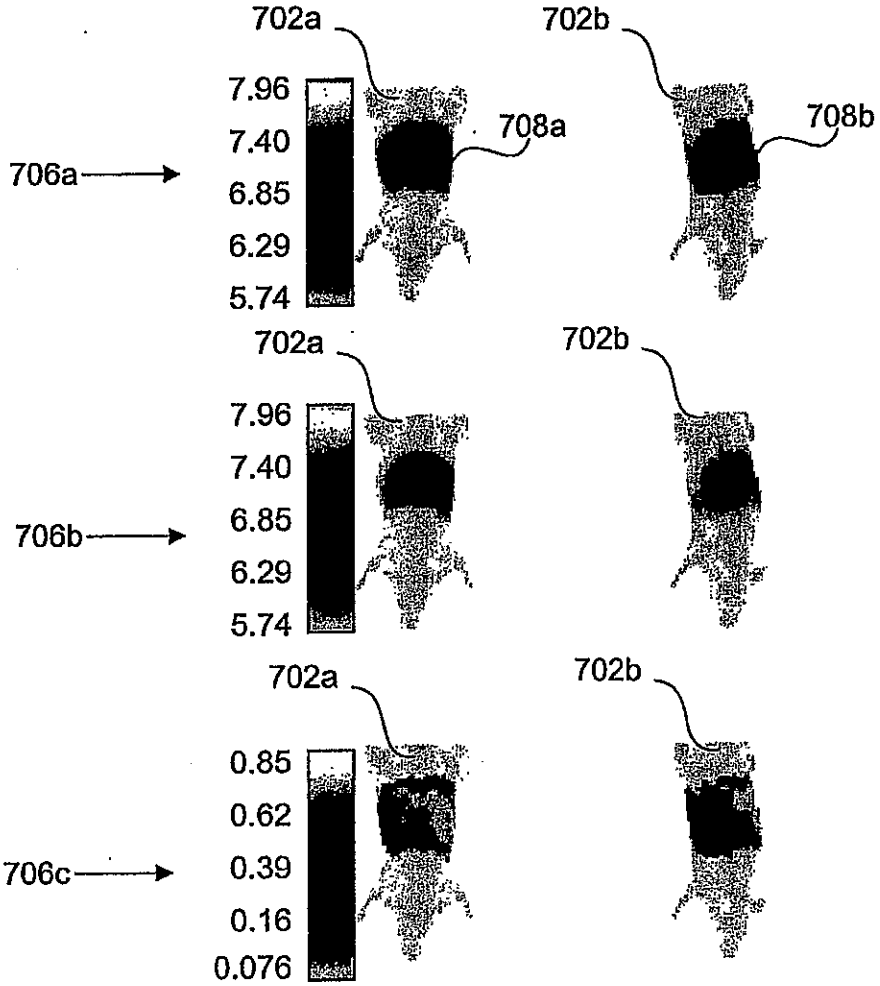

702a
702b
7.96
7.40
6.85
6.29
5.74
708a
708b
706a
702a
702b
7.96
7.40
6.85
6.29
5.74
706b
702a
702b
0.85
0.62
0.39
0.16
0.076
706c

FIG. 5F

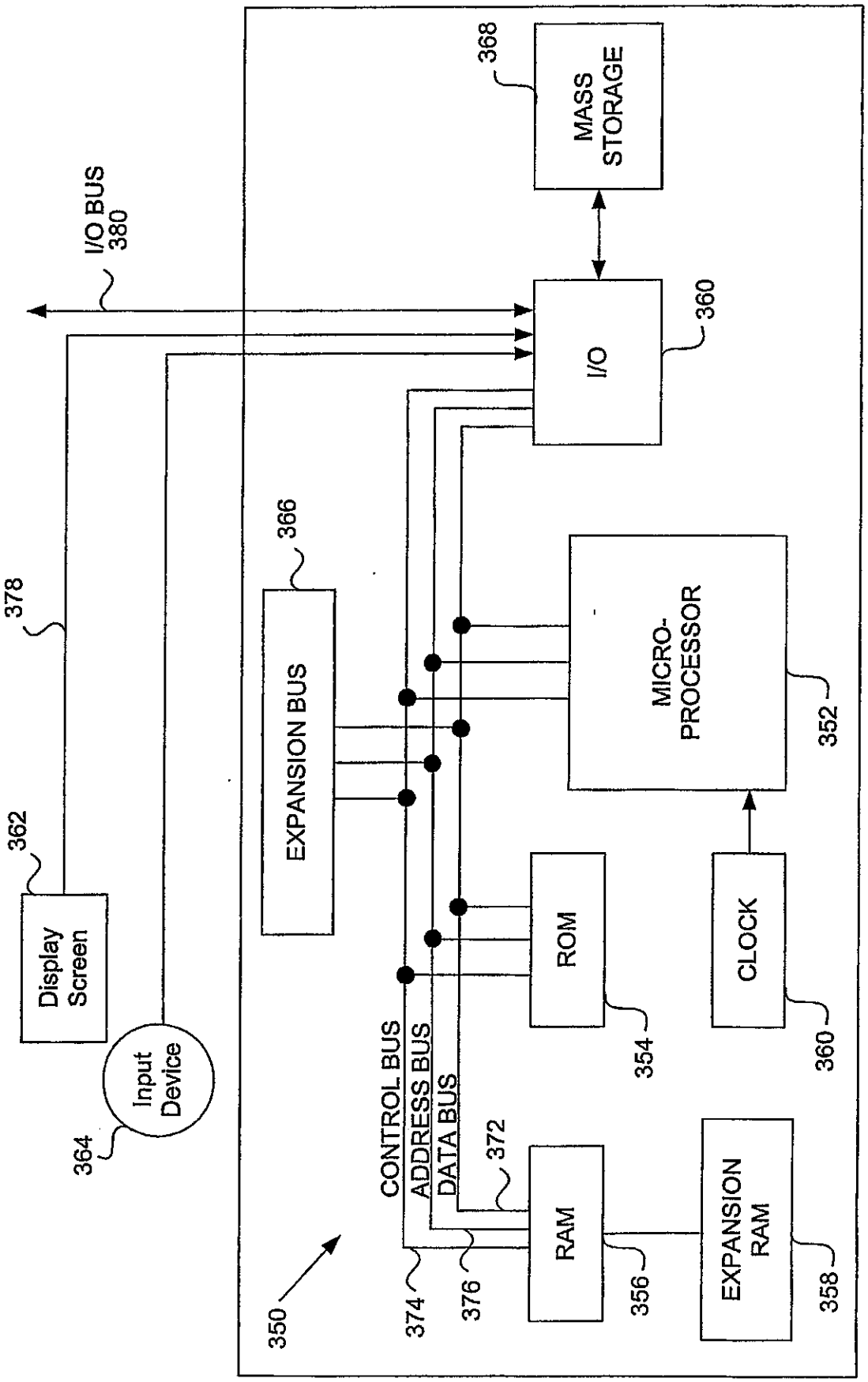

MASS STORAGE
368
I/O BUS
380
I/O
360
EXPANSION BUS
366
MICRO-PROCESSOR
352
378
362
Display Screen
Input Device
364
ROM
354
CLOCK
360
CONTROL BUS
ADDRESS BUS
DATA BUS
372
RAM
356
EXPANSION RAM
358
374
376
350

FIG.6