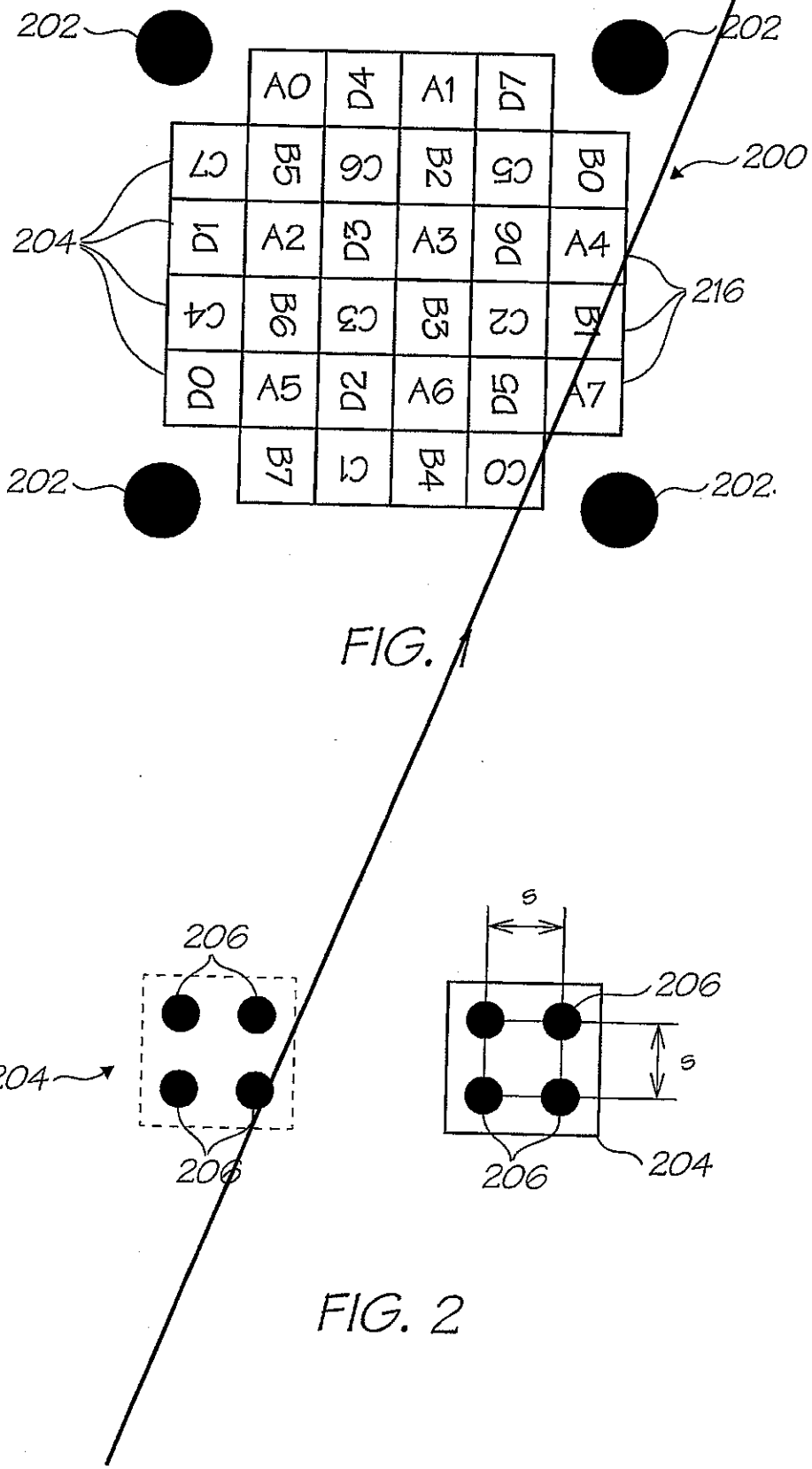

202
202
200
204
216
202
202
A0
D4
A1
D7
C7
B5
C6
B2
C5
B0
D1
A2
D3
A3
D6
A4
C4
B6
C3
B3
C2
B1
D0
A5
D2
A6
D5
A7
B7
C1
B4
C0

FIG. 1

206
204
206
S
206
S
206
204

FIG. 2

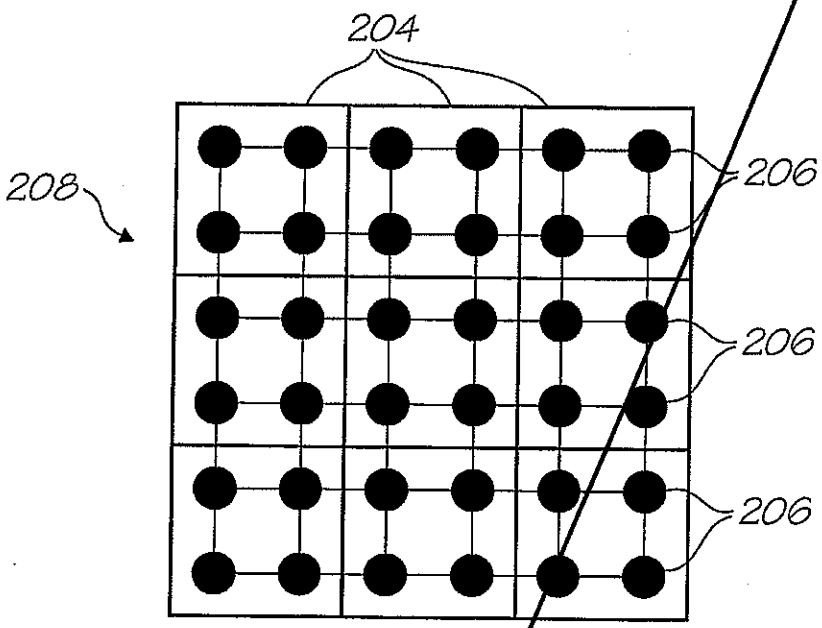


FIG. 3

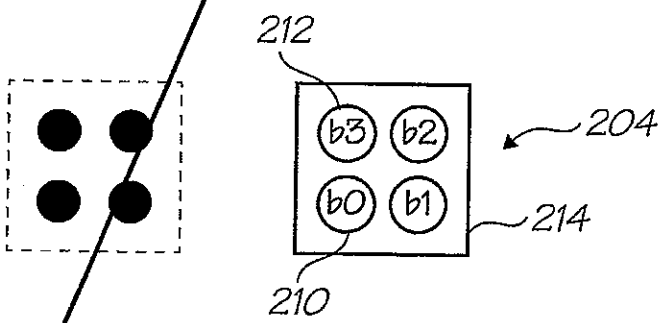


FIG. 4

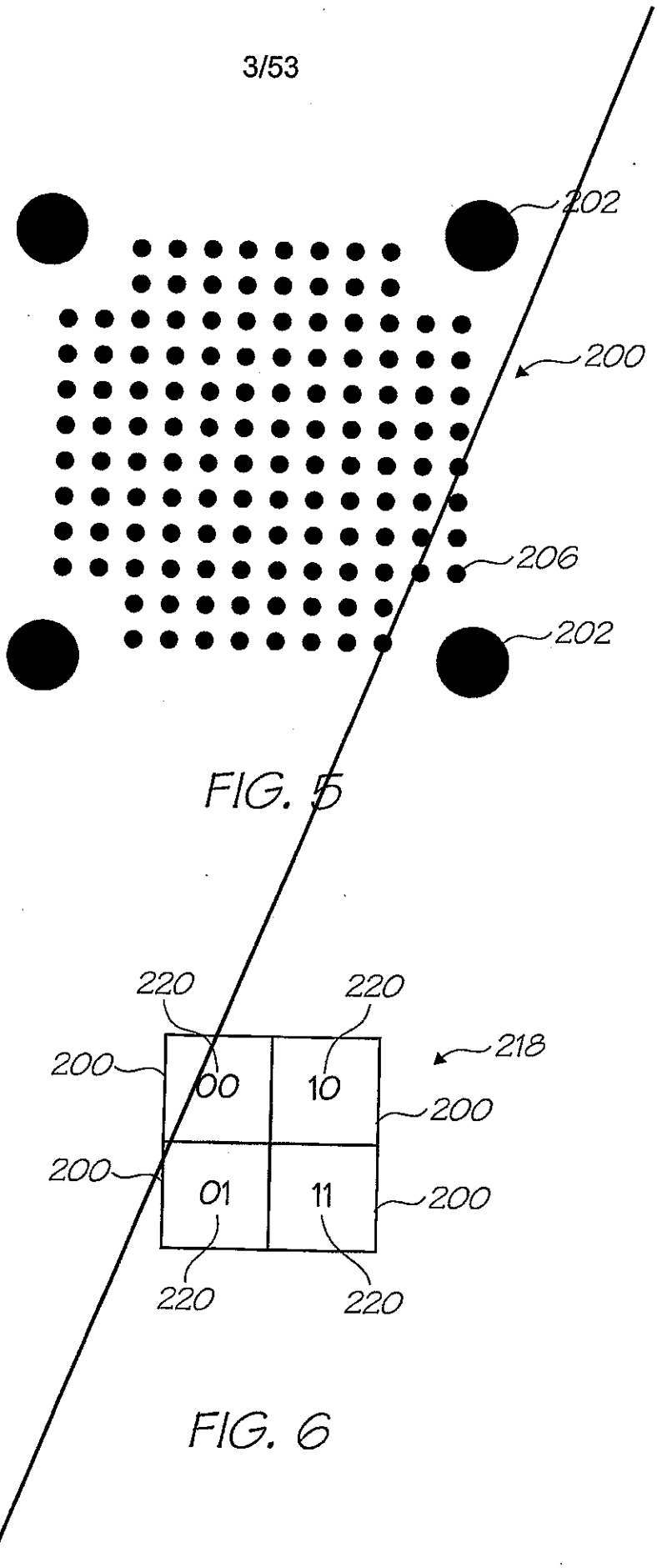


FIG. 5

FIG. 6

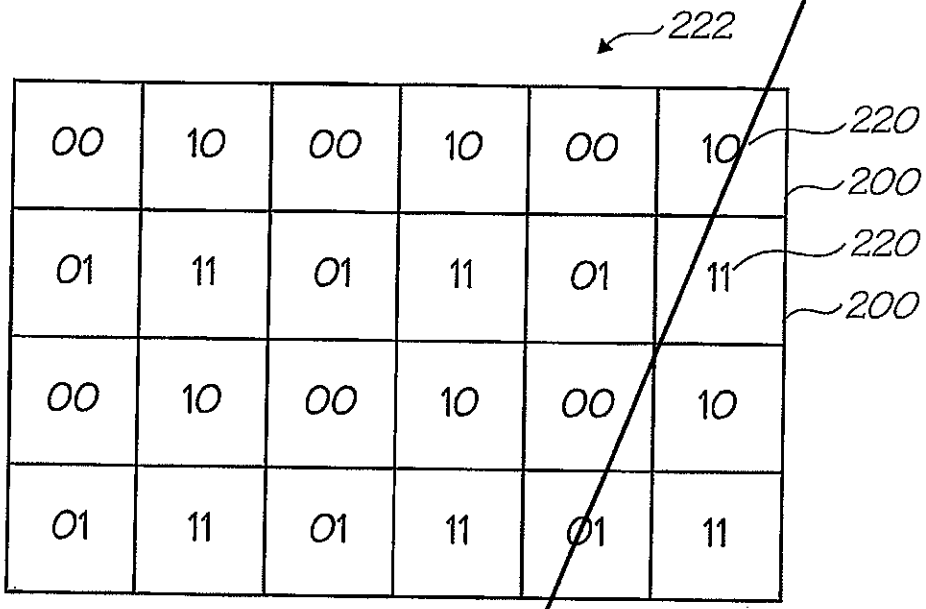

222
00
10
00
10
00
10
220
200
01
11
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200
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01
11

FIG. 7

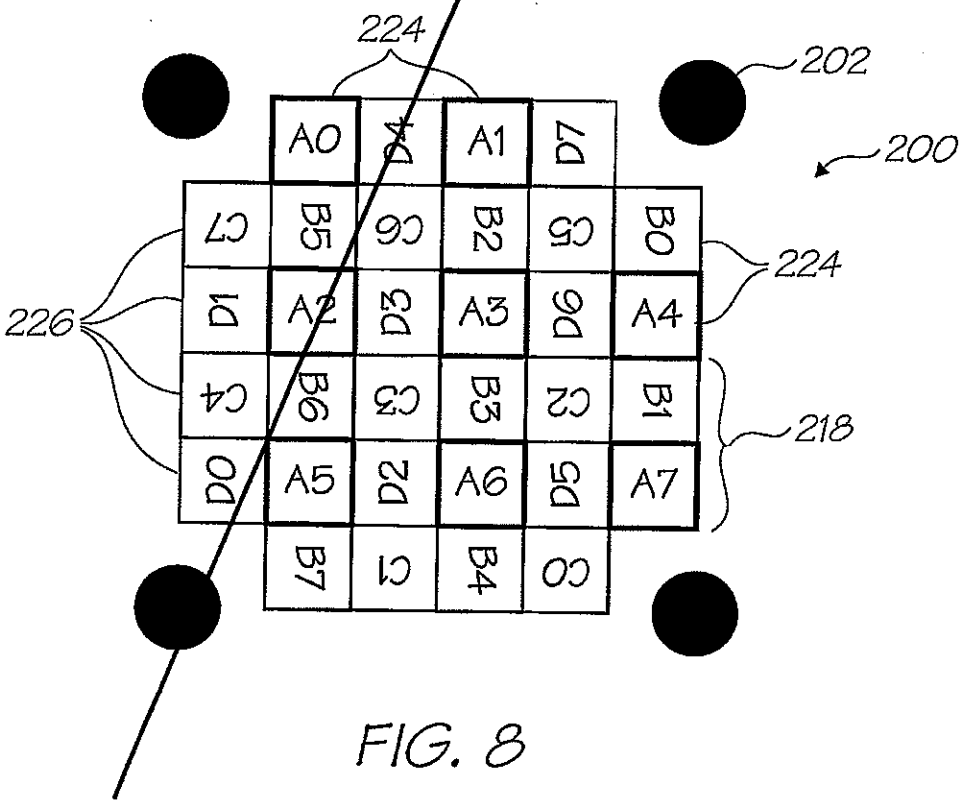

224
202
200
A0
A1
B5
B2
B0
224
226
A2
A3
A4
B6
B3
B1
218
A5
A6
A7
B7
B4

FIG. 8

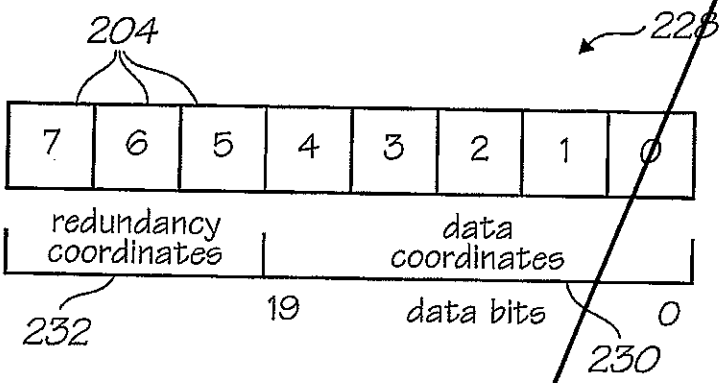

204
228
7
6
5
4
3
2
1
0
redundancy coordinates
data coordinates
232
19
data bits
0
230

FIG. 9

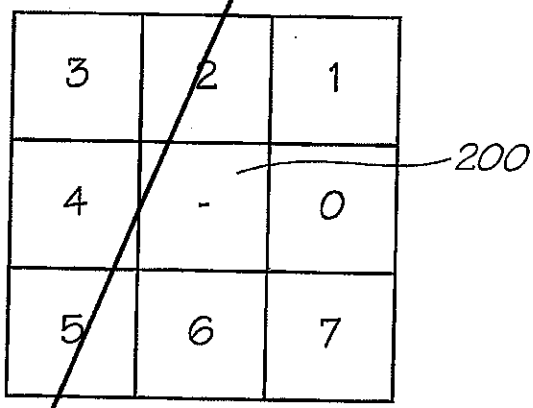

3
2
1
200
4
-
0
5
6
7

FIG. 10

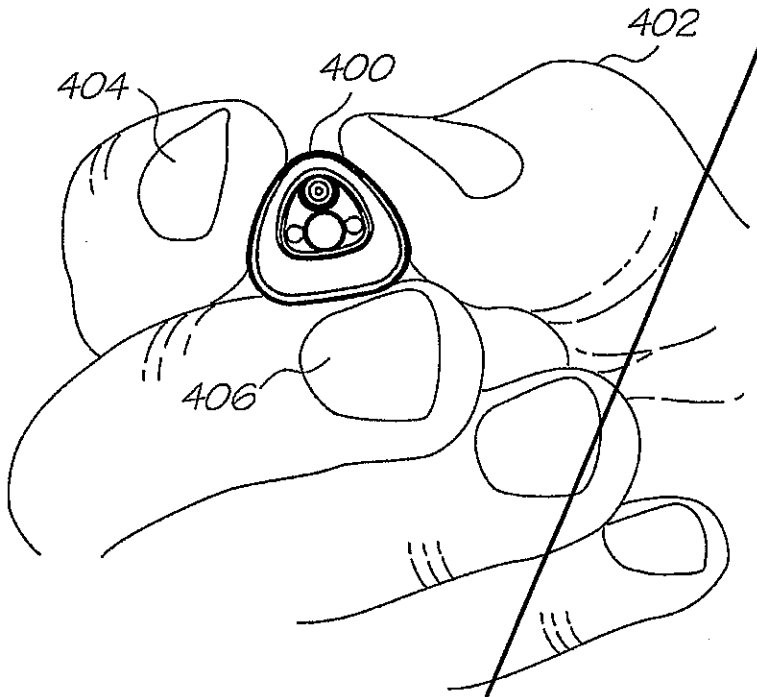


FIG. 11

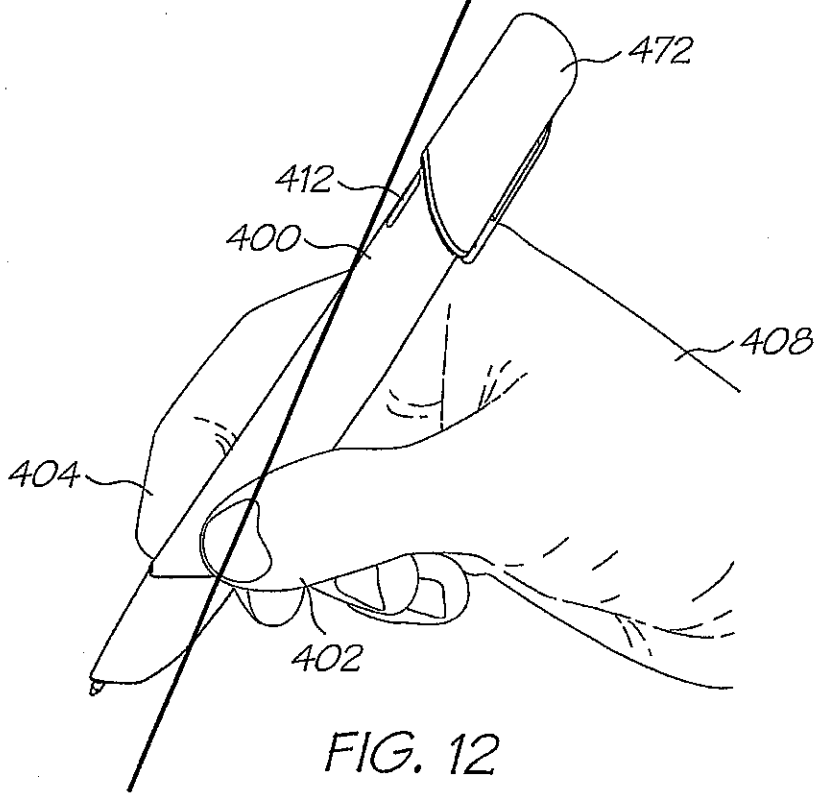


FIG. 12

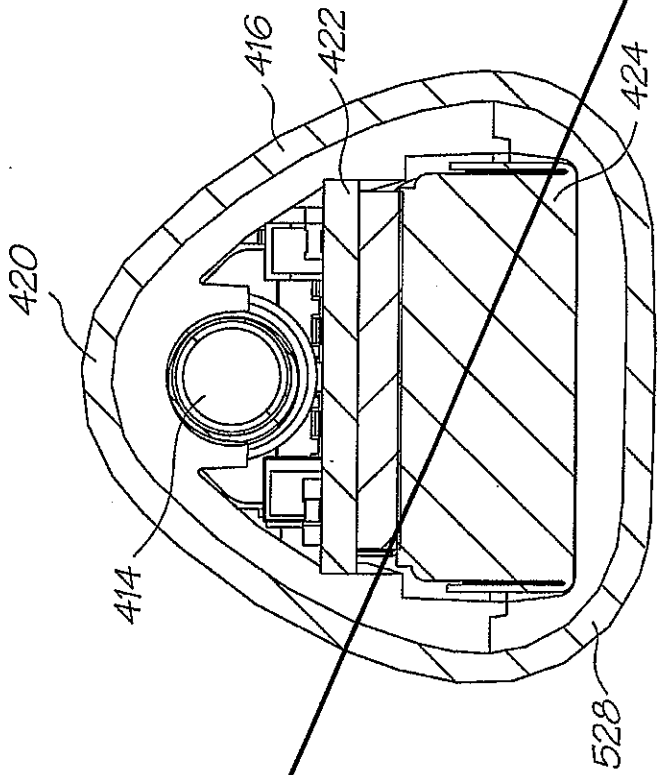


FIG. 13

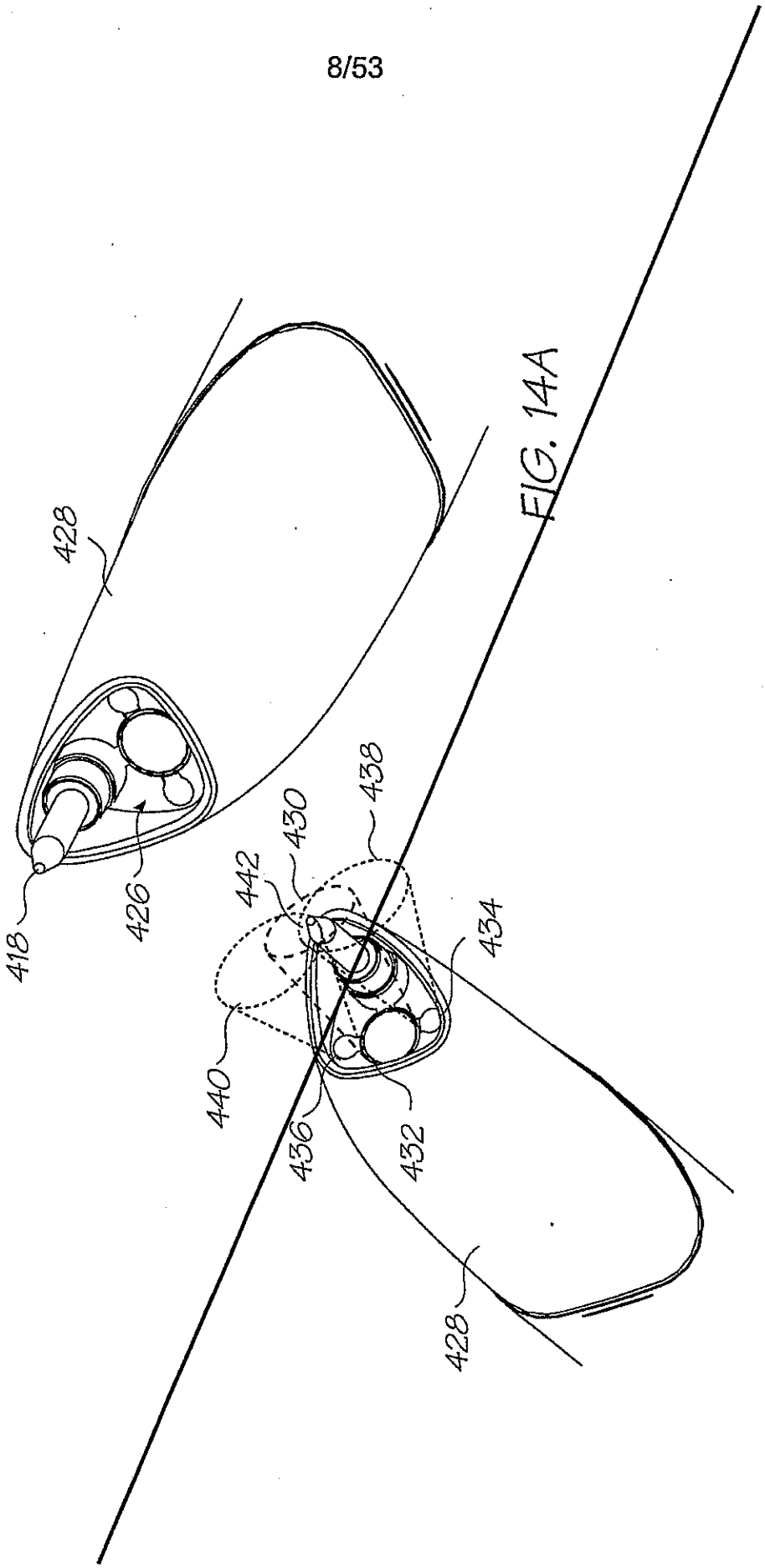


FIG. 14A

FIG. 14B

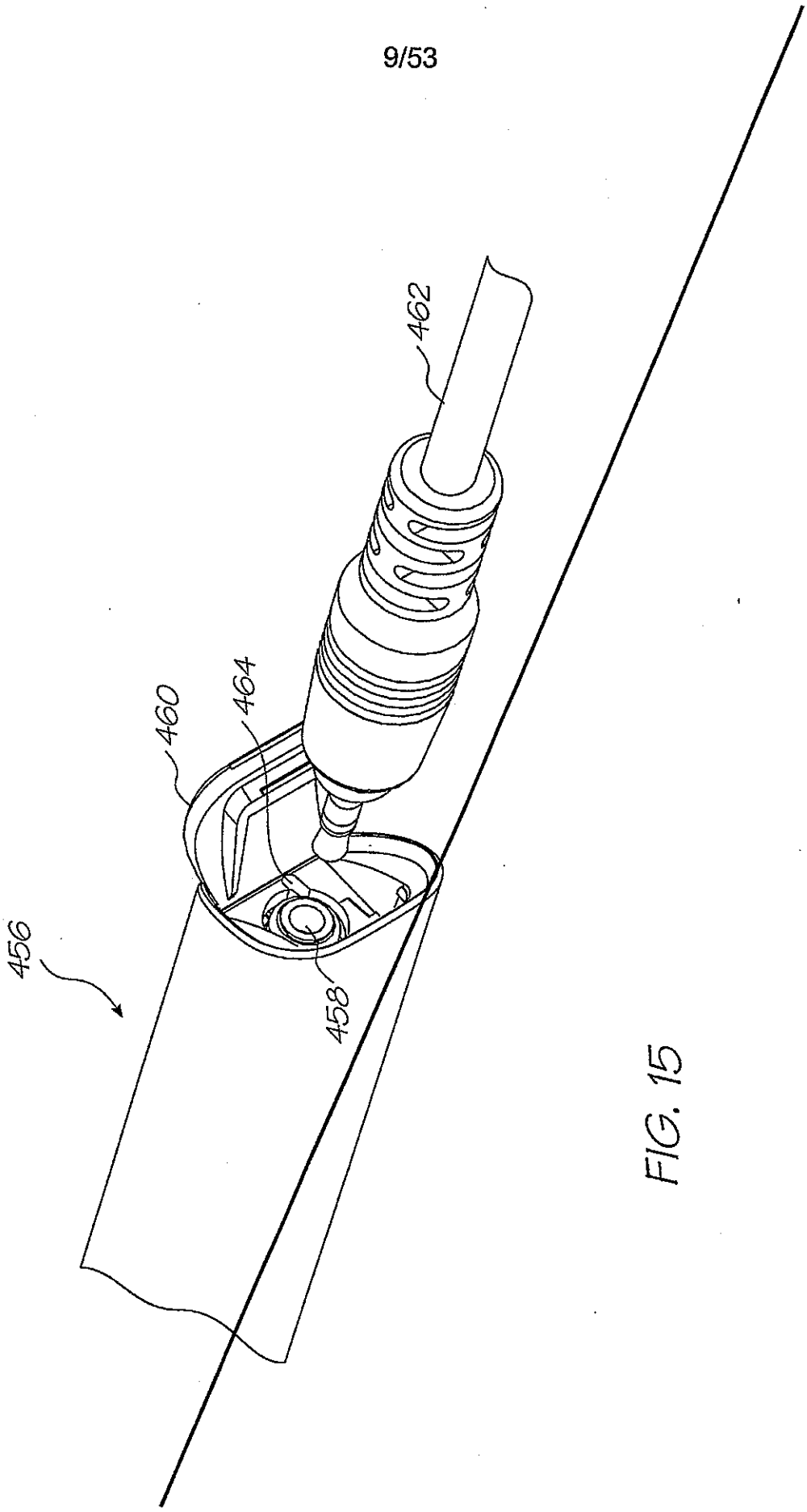


FIG. 15

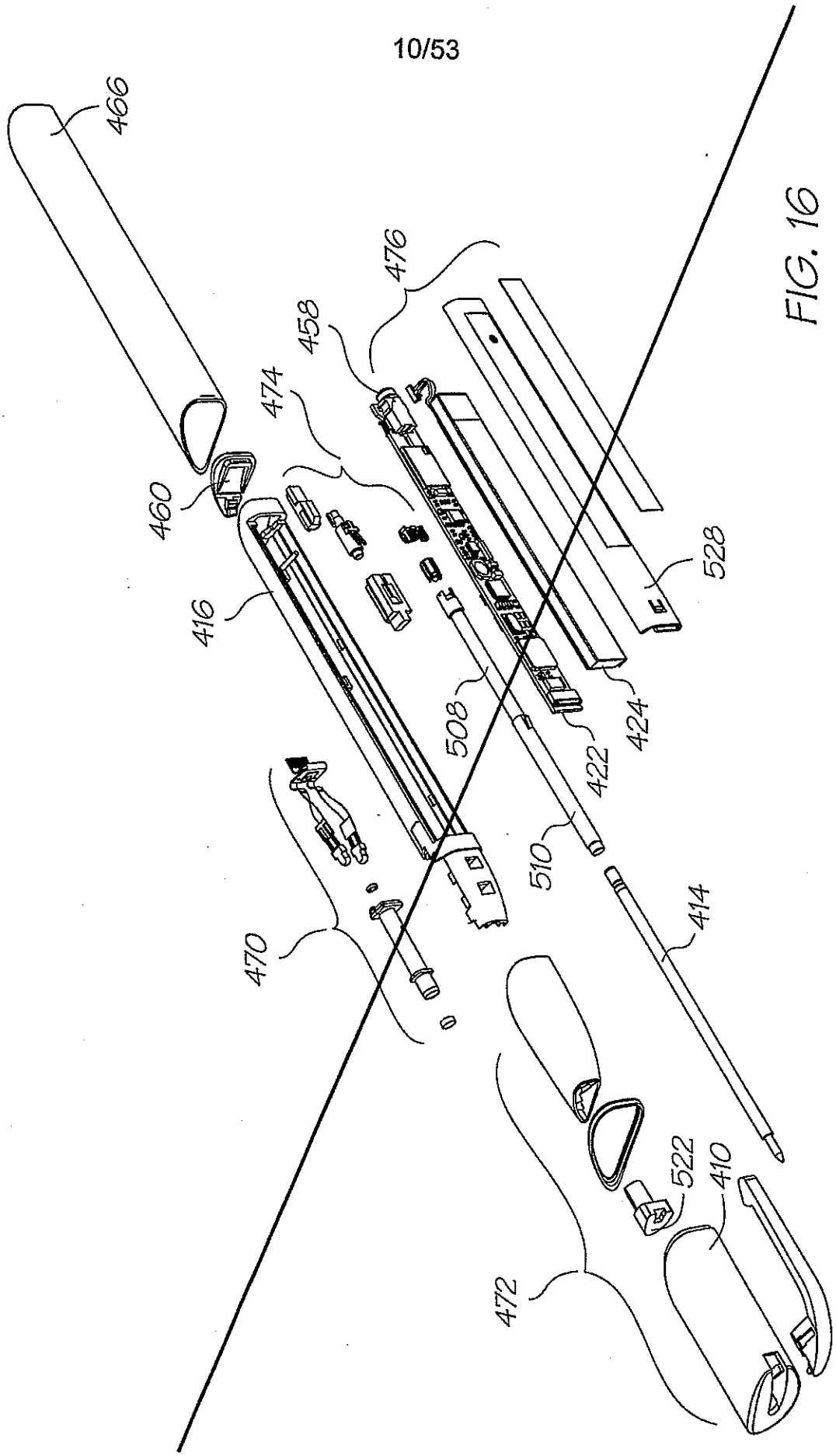


FIG. 16

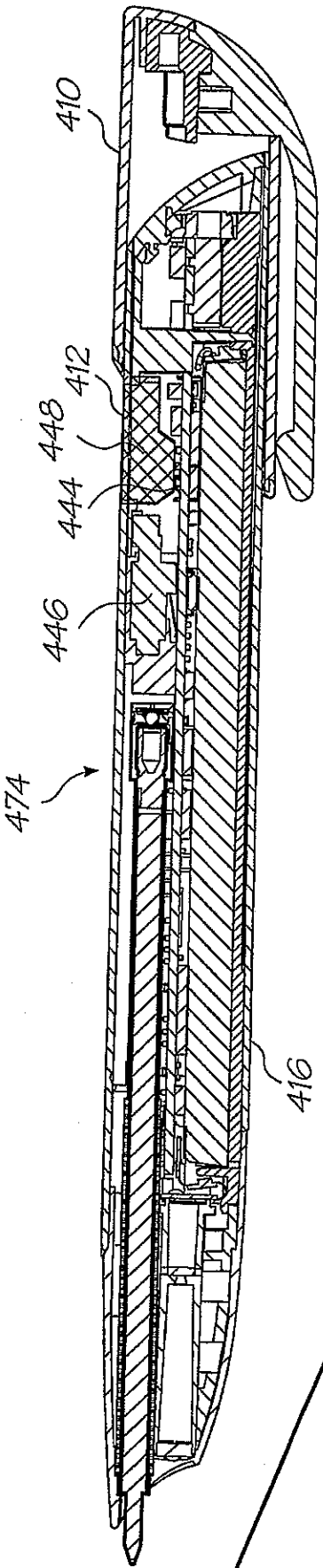

410
412
448
444
446
474
416

FIG. 17

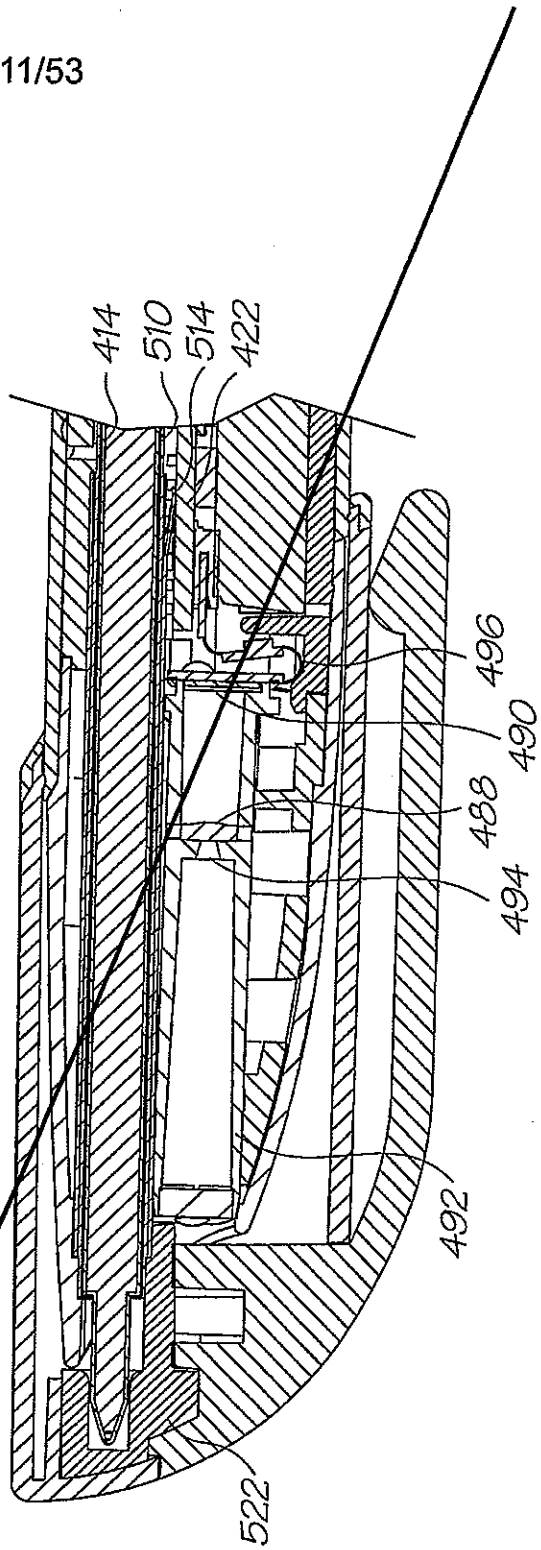

414
510
514
422
496
490
488
494
492
522

FIG. 18

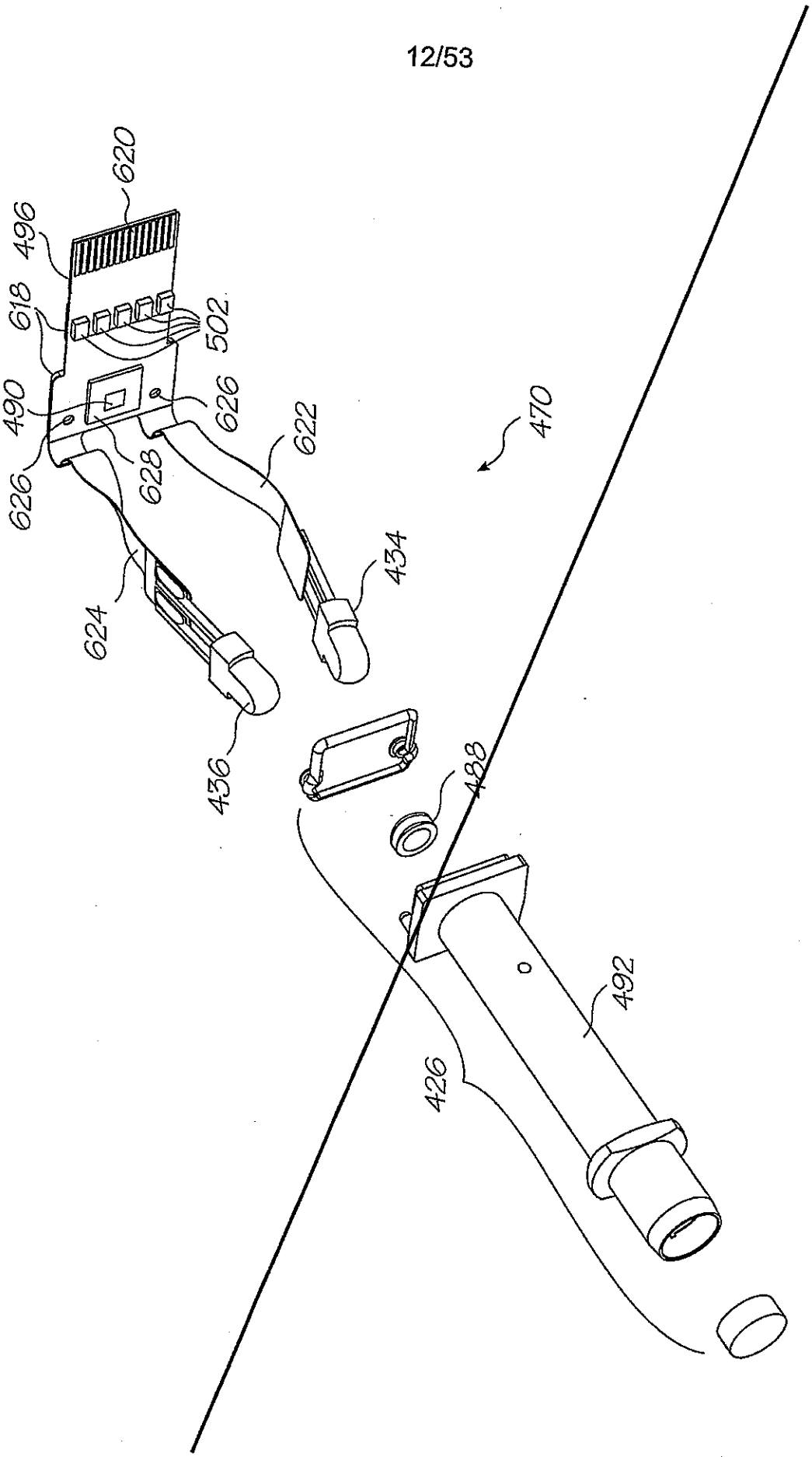


FIG. 19

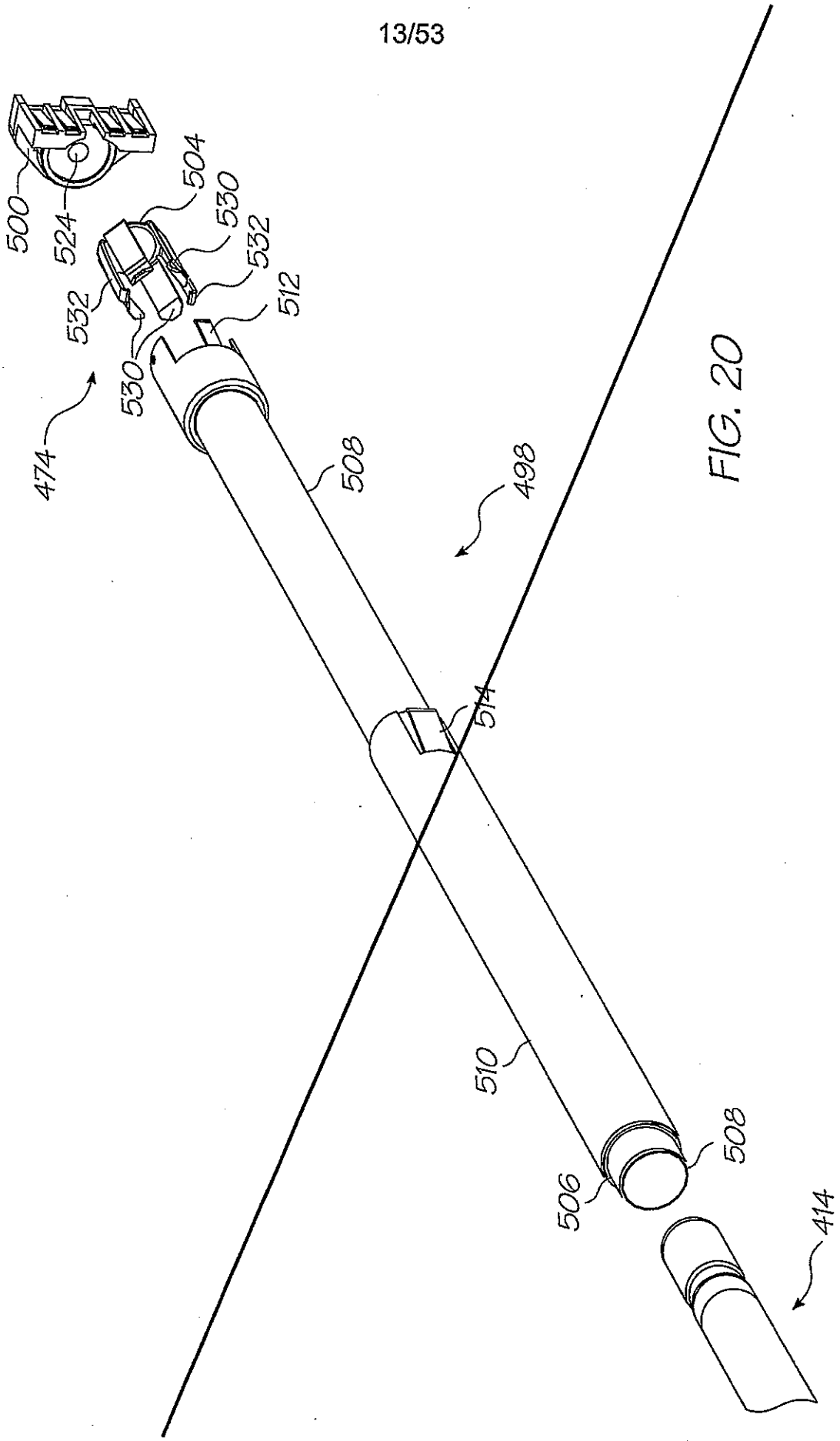


FIG. 20

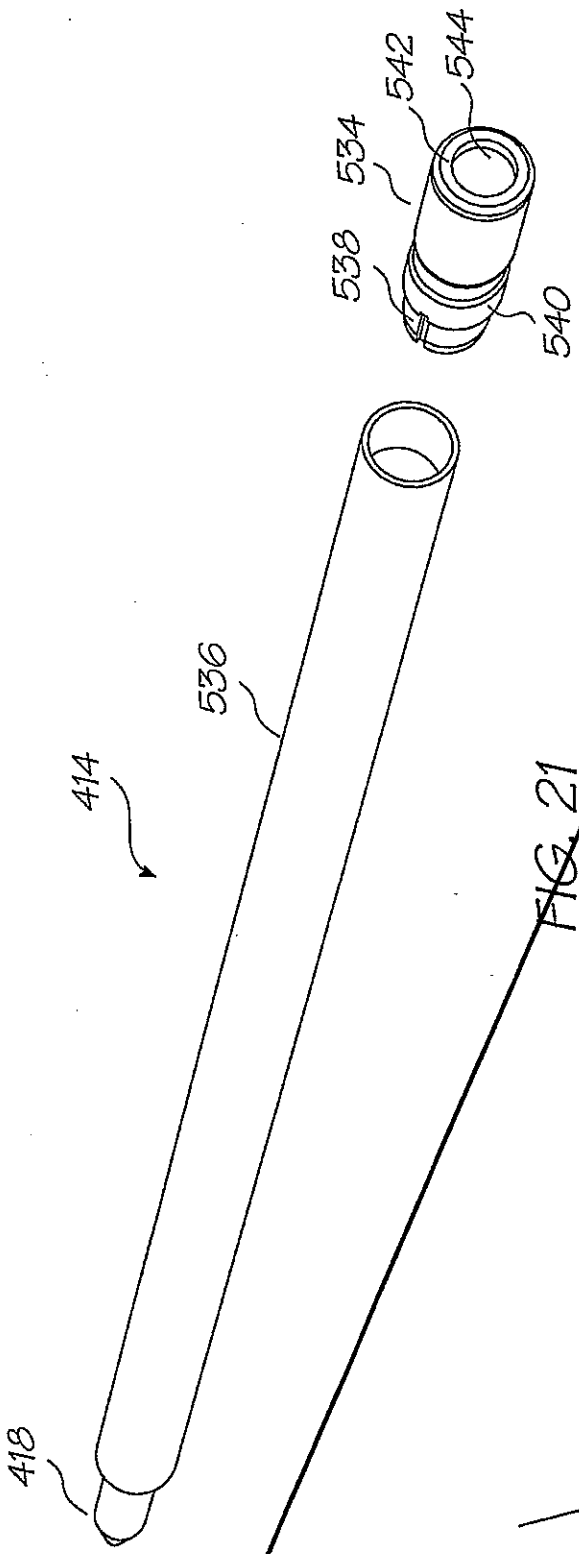


FIG. 21

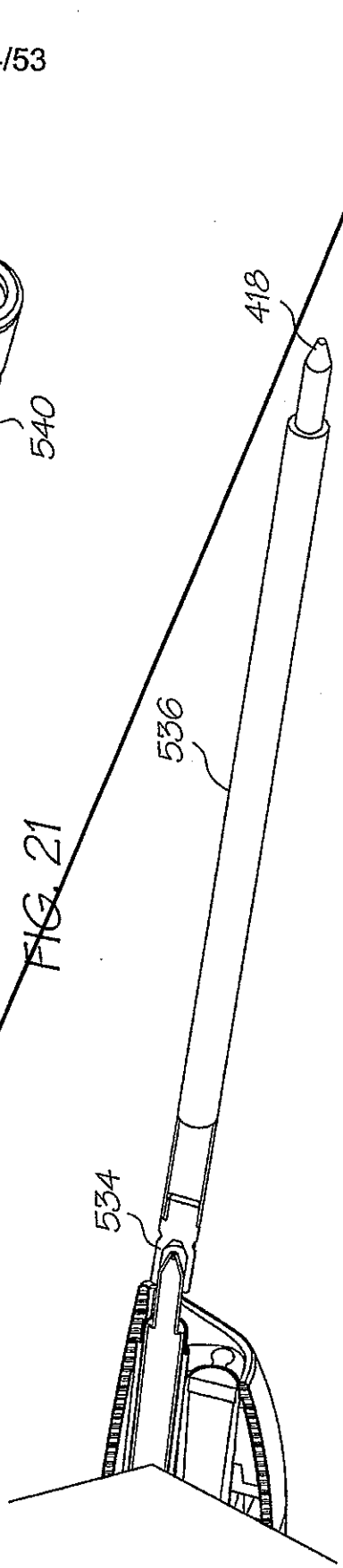


FIG. 22

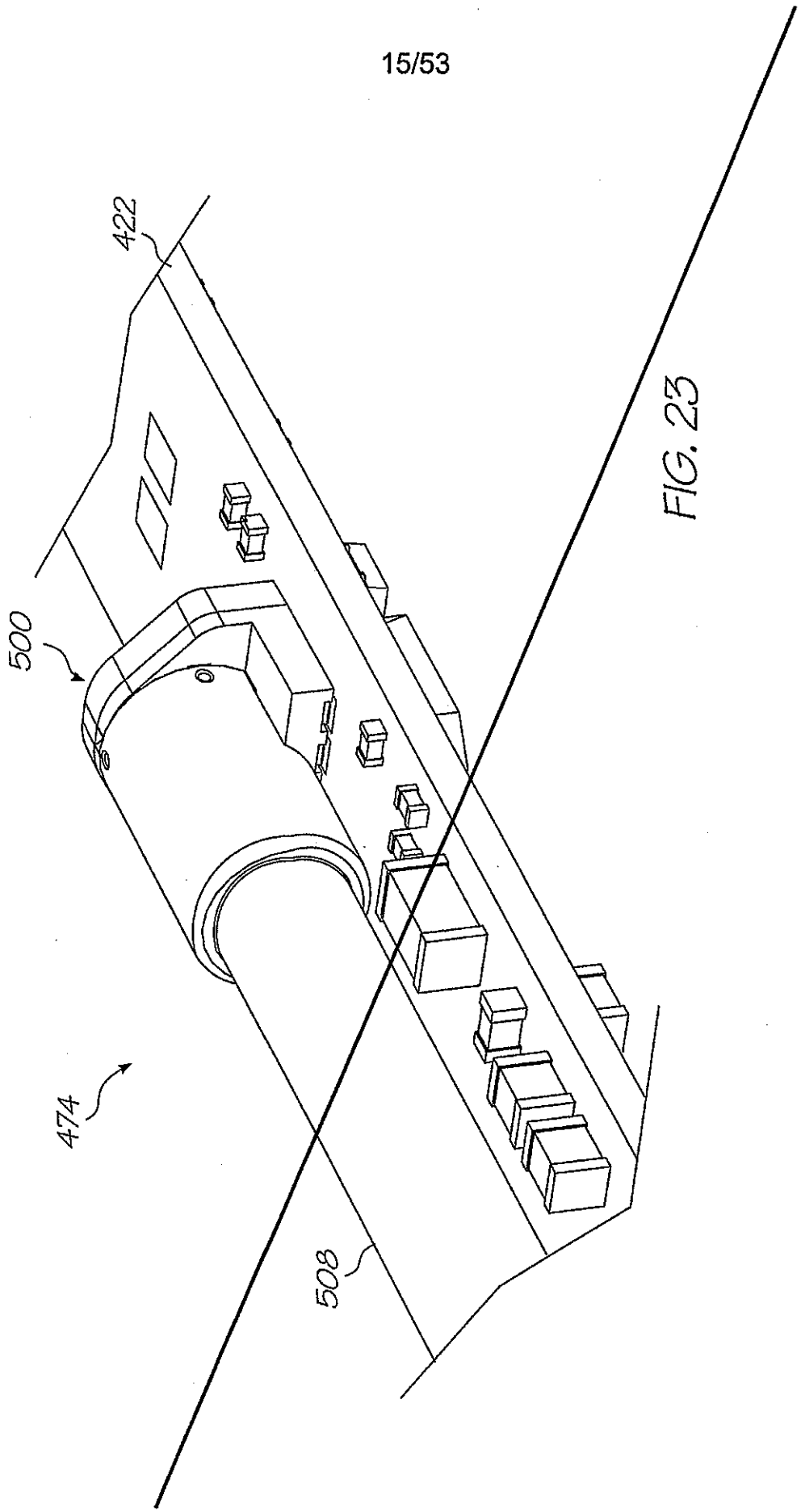


FIG. 23

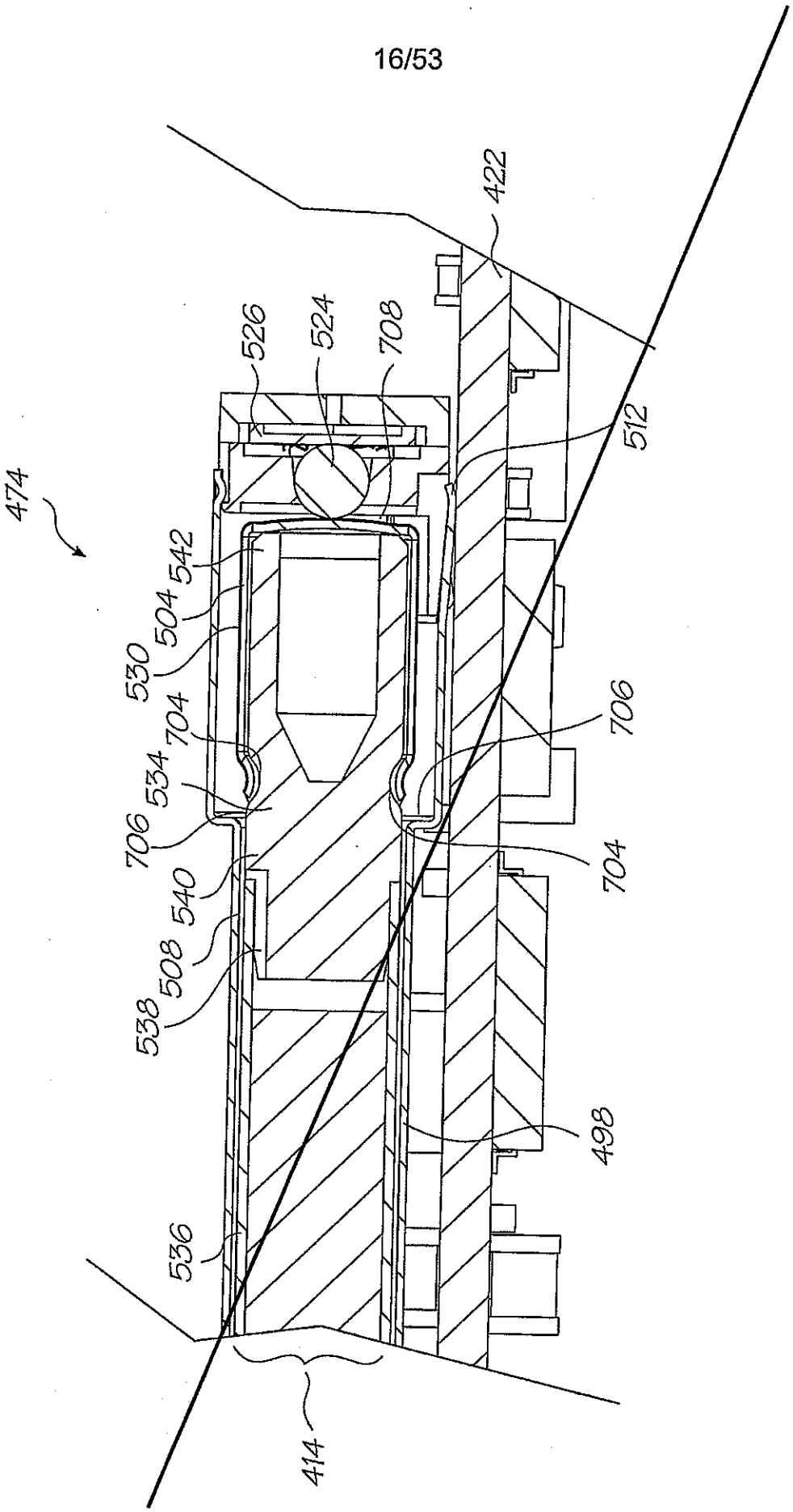

422
526
524
708
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474
542
504
530
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706
534
706
540
704
508
538
498
536
414

FIG. 24

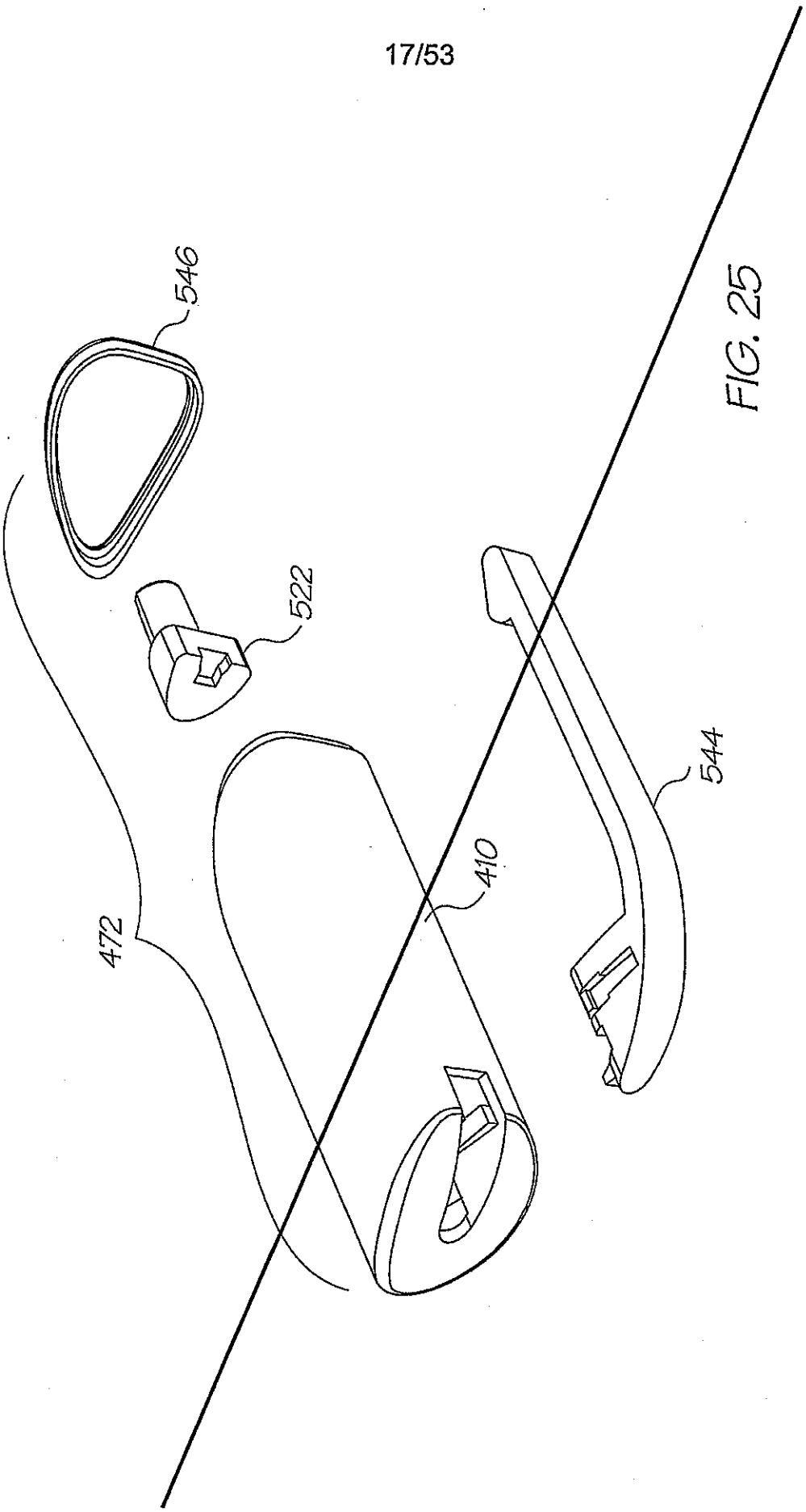


FIG. 25

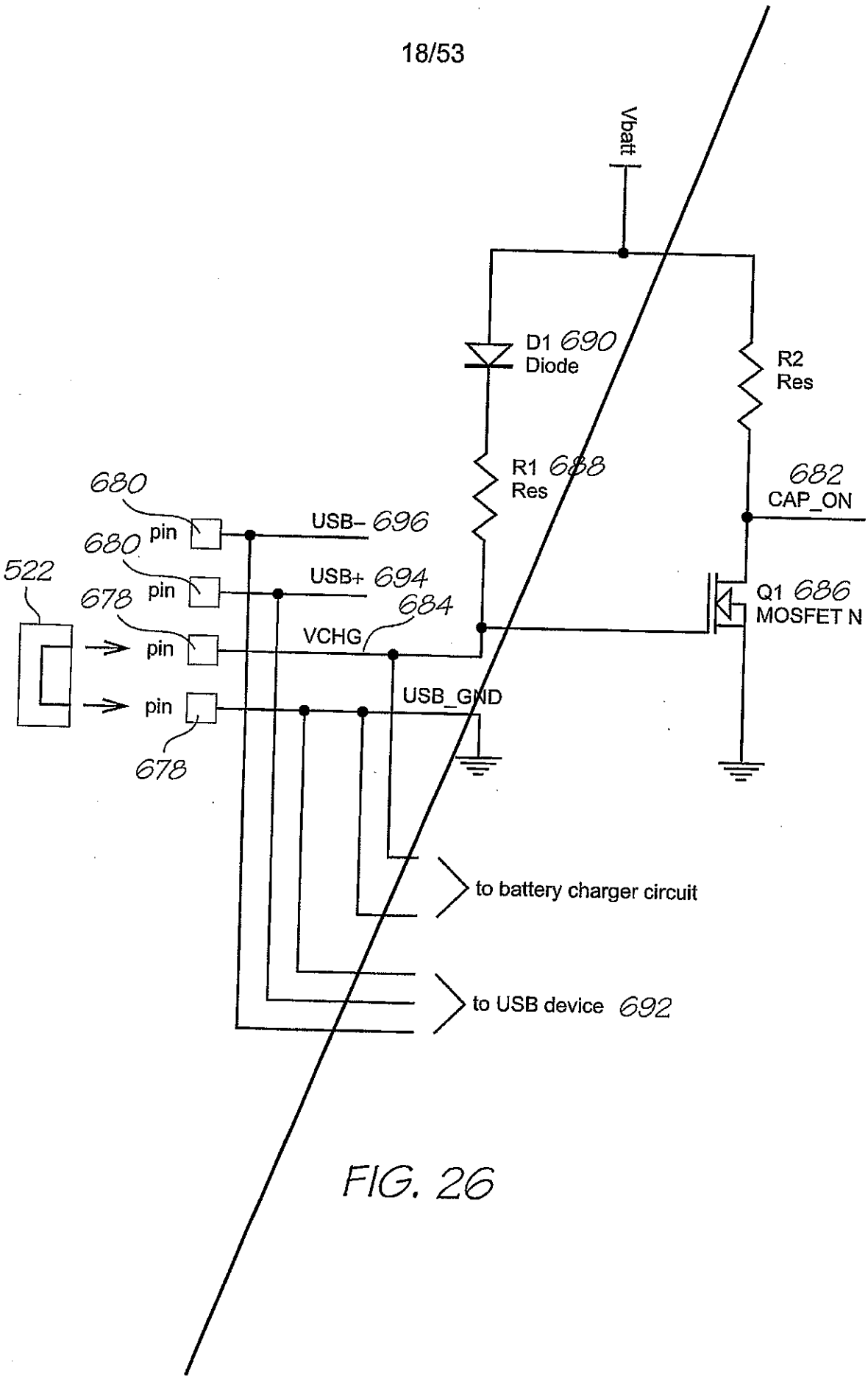

Vbatt
D1 690
Diode
R2
Res
R1 688
Res
682
CAP_ON
680
pin
USB– 696
680
pin
USB+ 694
522
678
pin
684
VCHG
Q1 686
MOSFET N
pin
USB_GND
678
to battery charger circuit
to USB device 692

FIG. 26

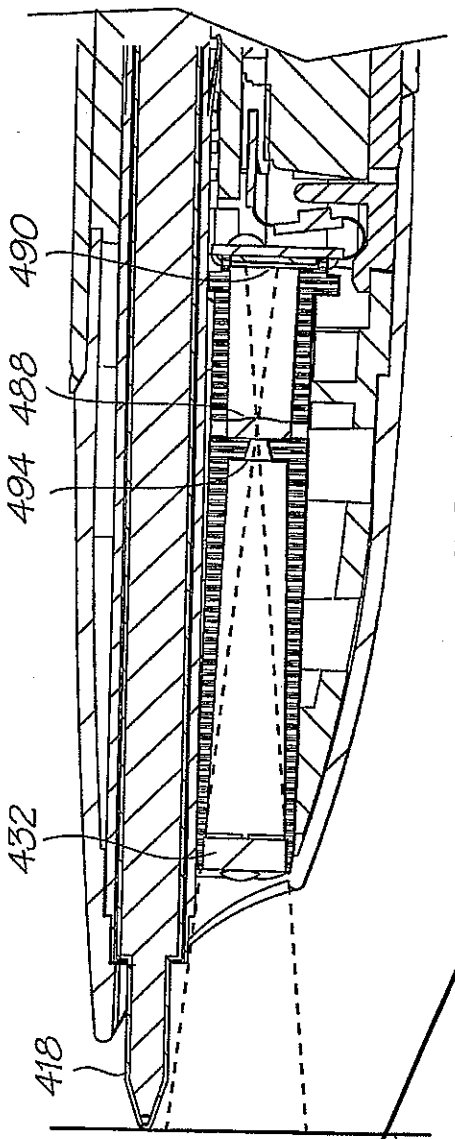


FIG. 27A

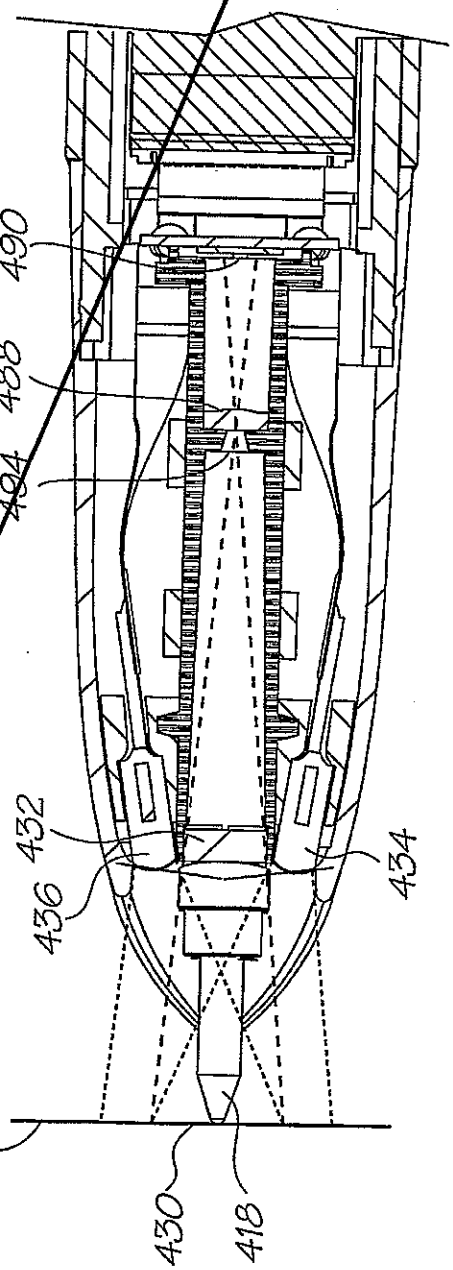


FIG. 27B

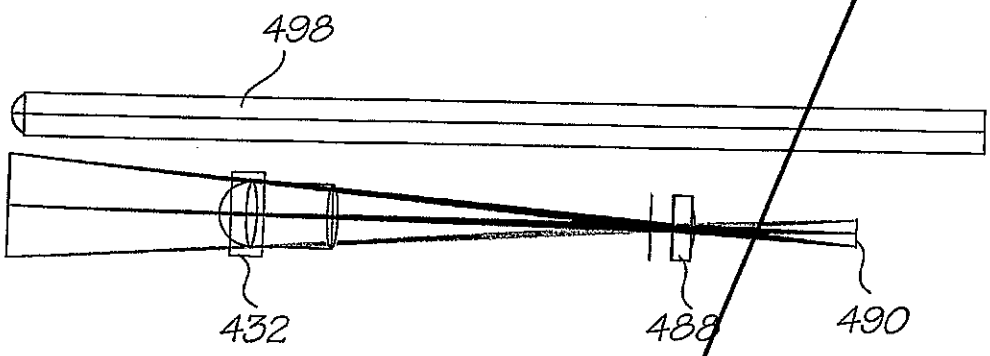


FIG. 28

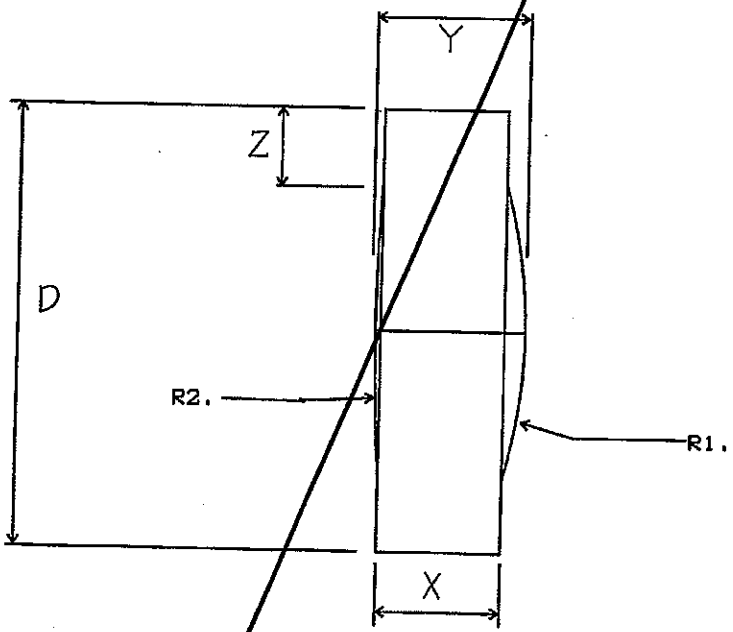


FIG. 29

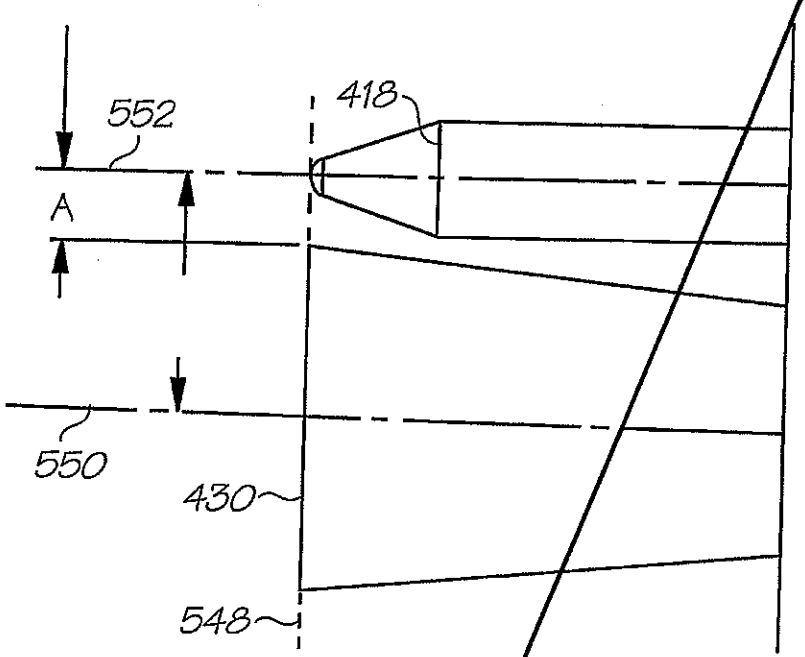


FIG. 30

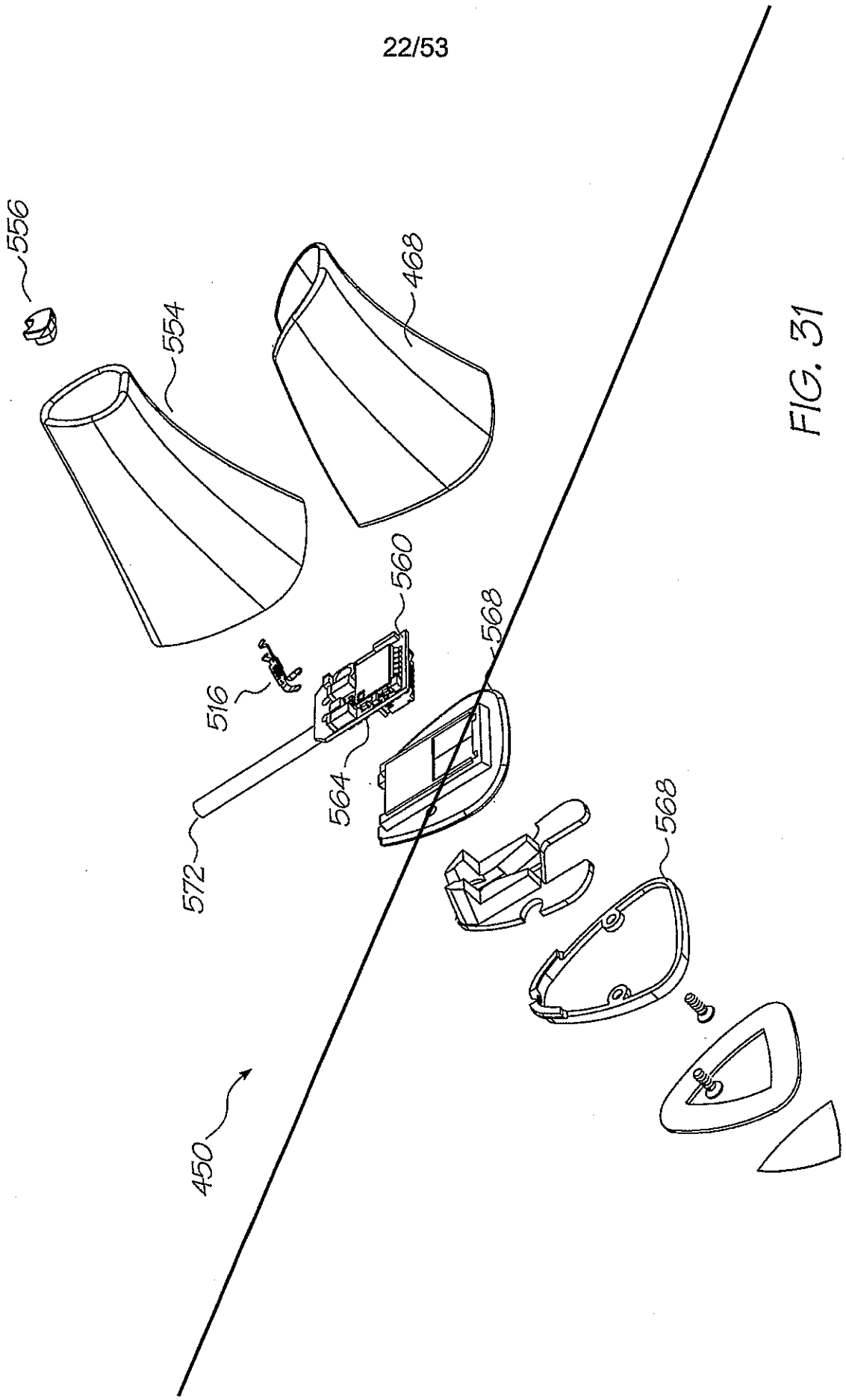


FIG. 31

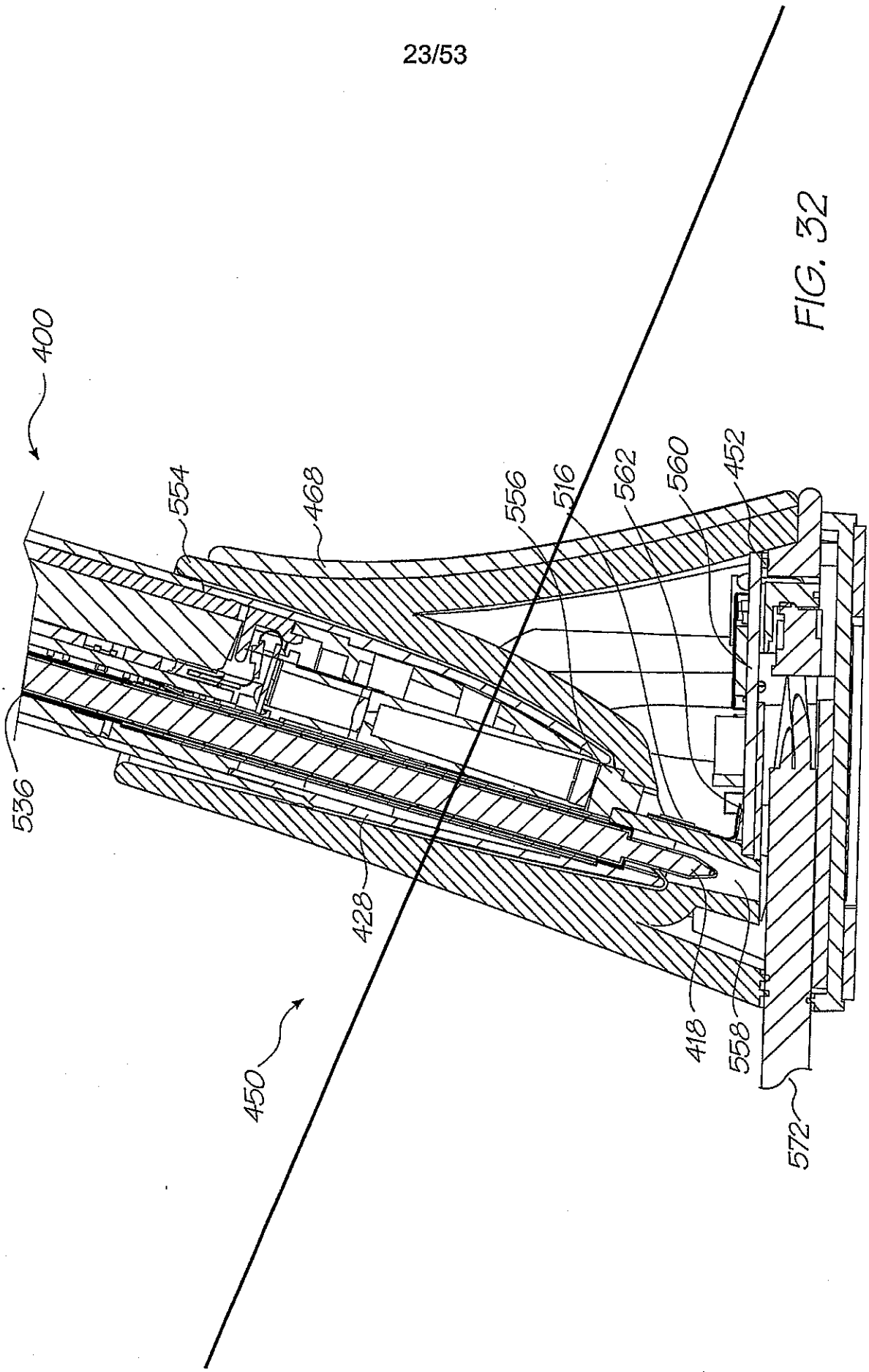


FIG. 32

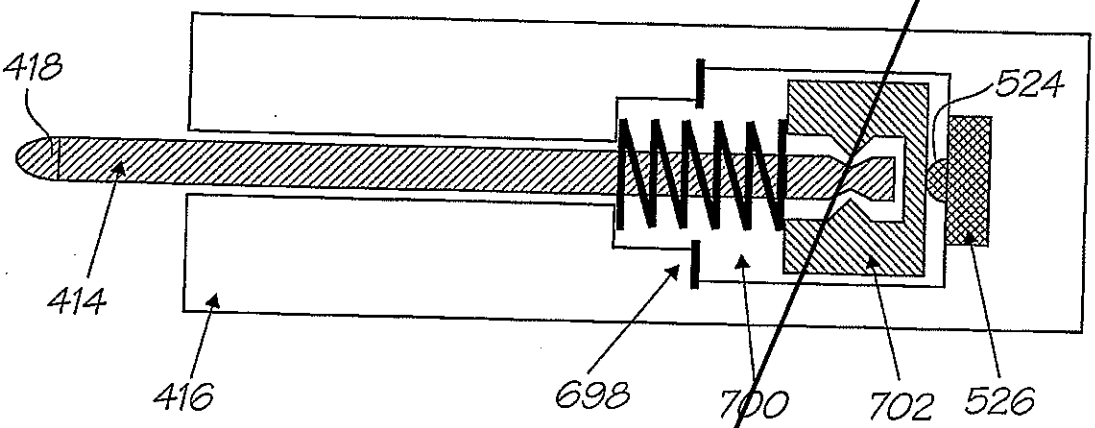

418
524
414
416
698
700
702
526

FIG. 33

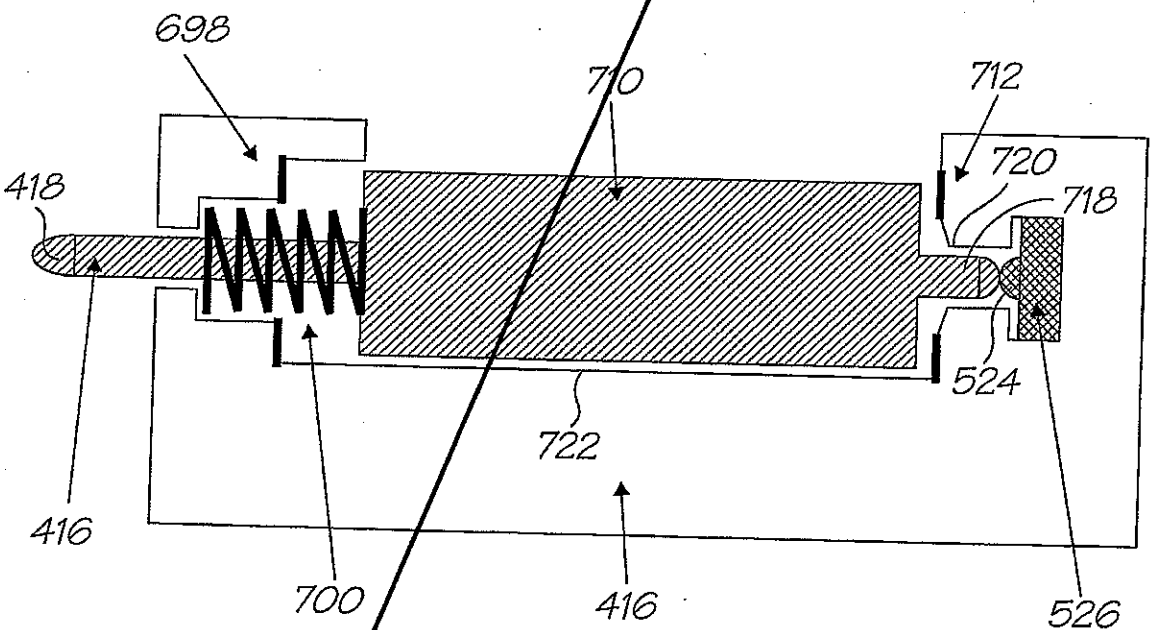

698
710
712
720
418
718
524
722
416
700
416
526

FIG. 34

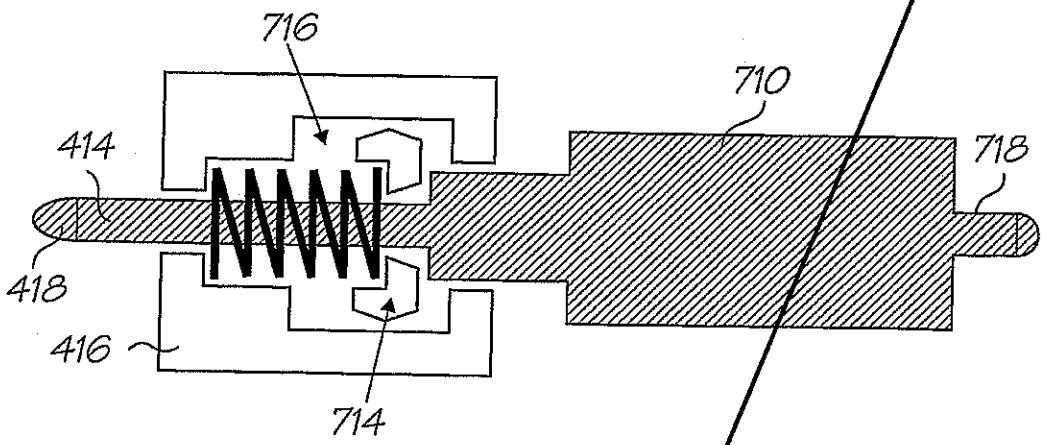

716
710
414
718
418
416
714

FIG. 35

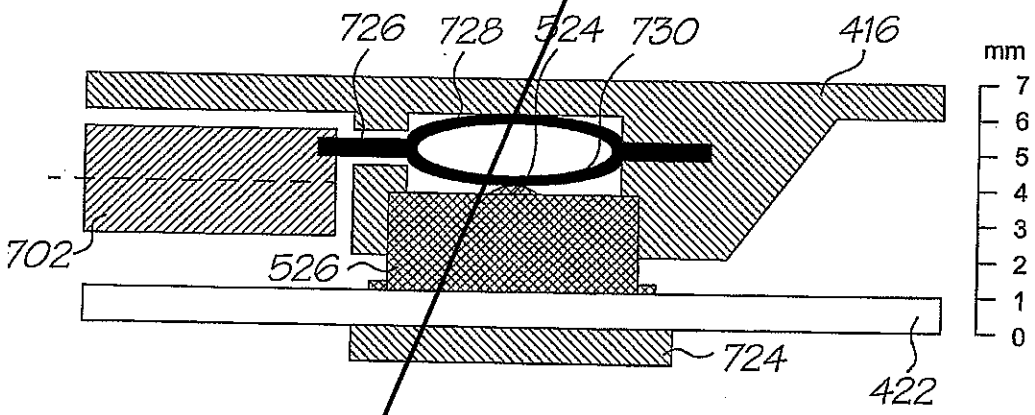

726
728
524
730
416
mm
7
6
5
4
3
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702
526
724
422

FIG. 36

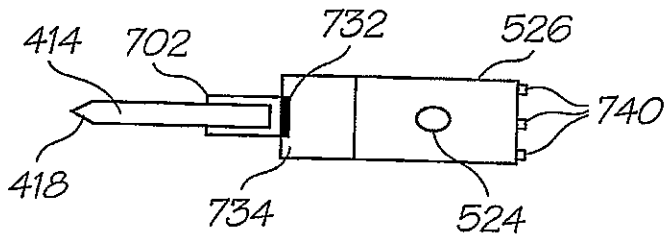


FIG. 37A

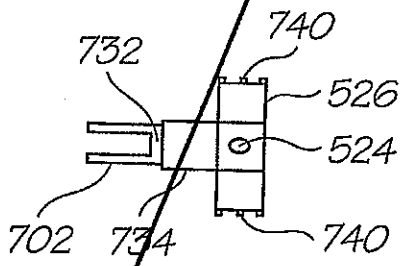


FIG. 38

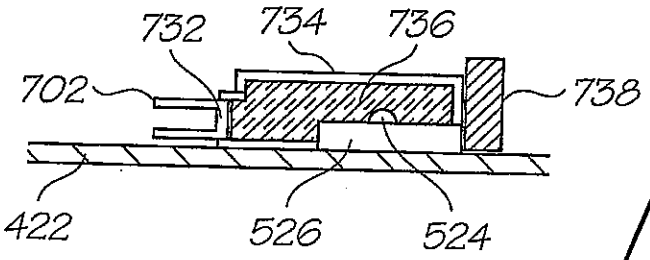


FIG. 37B

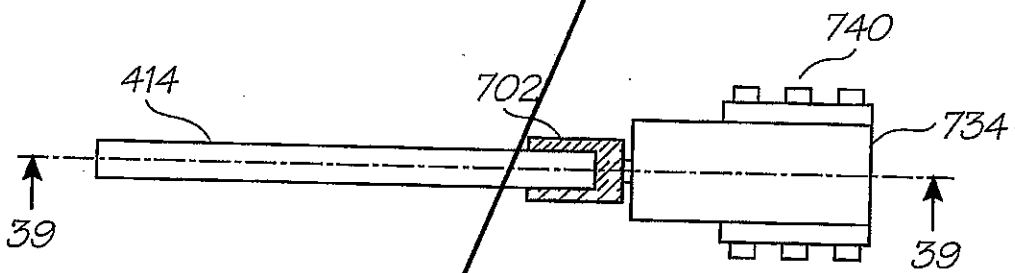


FIG. 39A

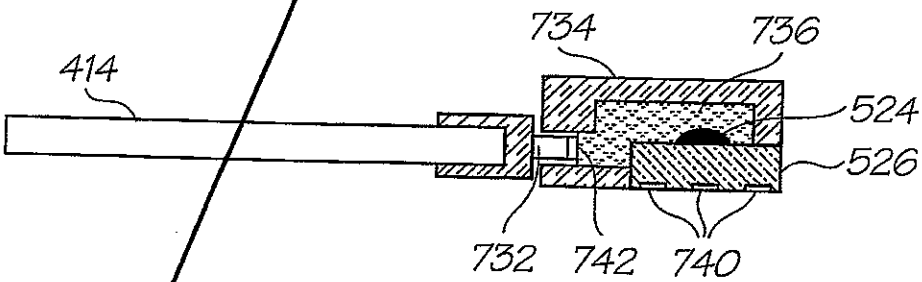
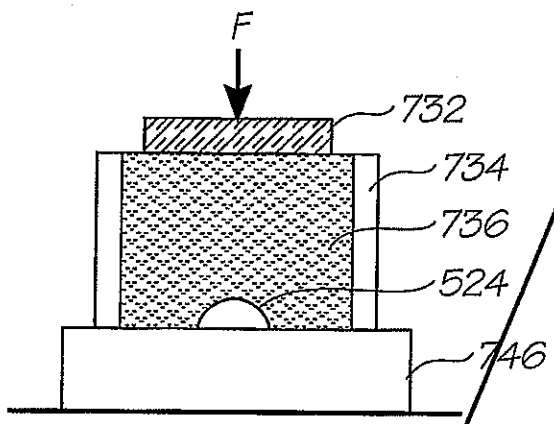


FIG. 39B



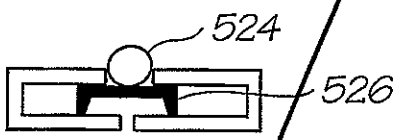


FIG. 40

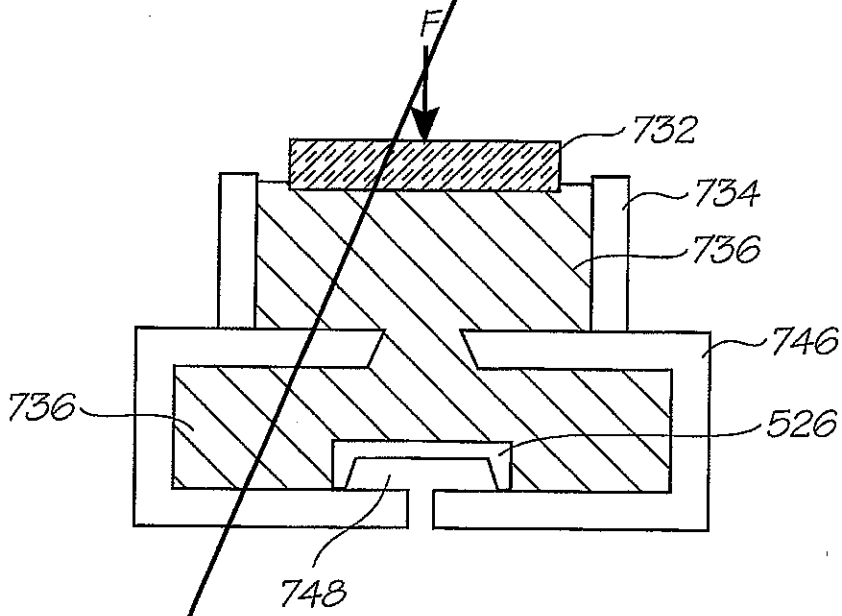


FIG. 41

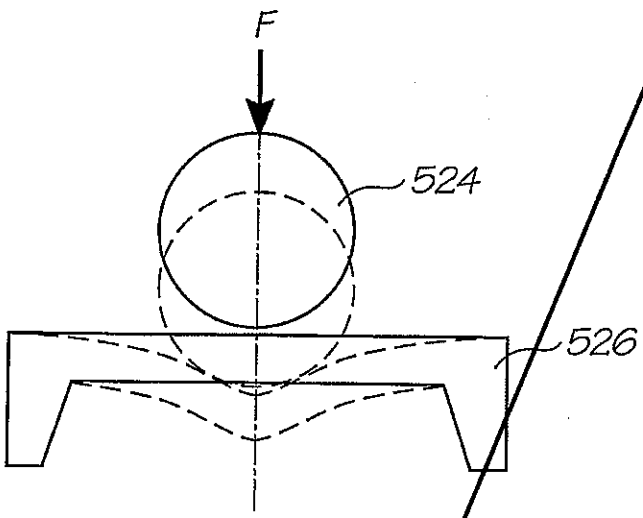


FIG. 42

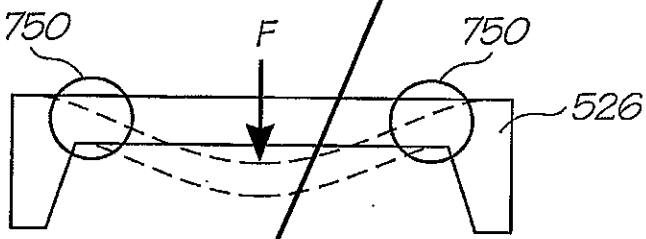


FIG. 43

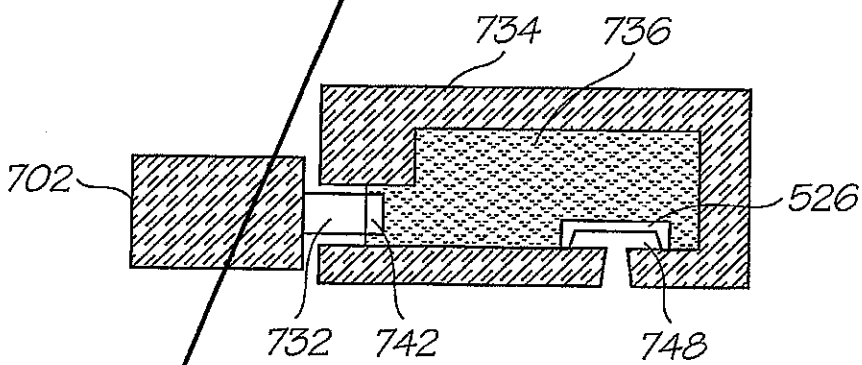


FIG. 44

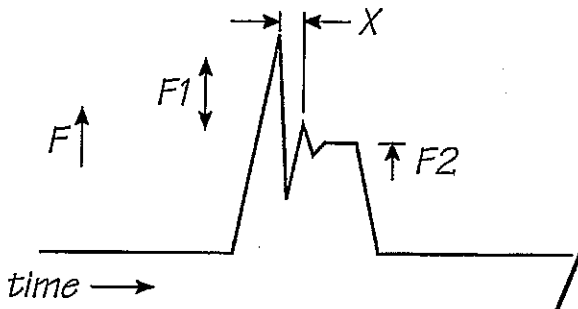


FIG. 45

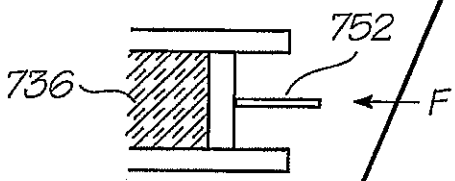


FIG. 46A

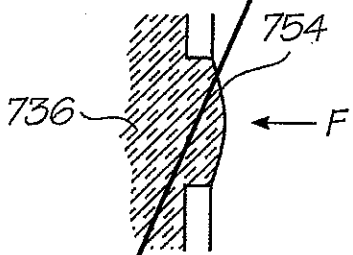


FIG. 46B

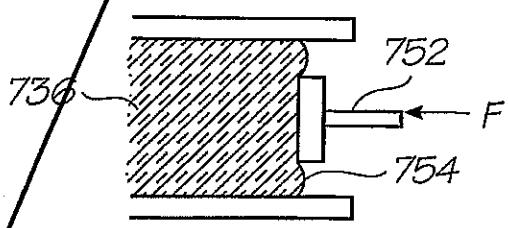


FIG. 46C

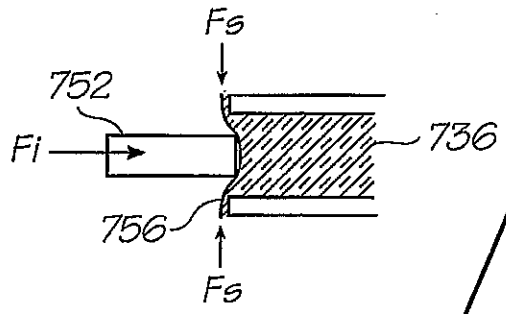


FIG. 47A

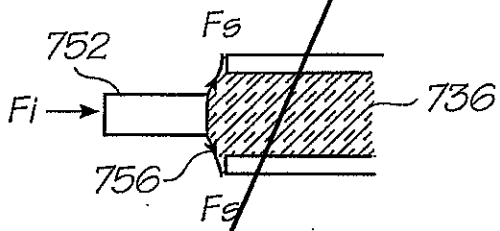


FIG. 47B

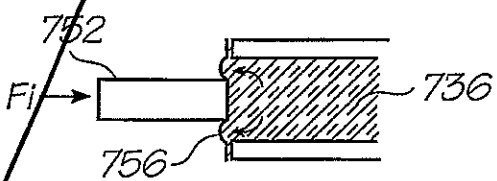


FIG. 47C

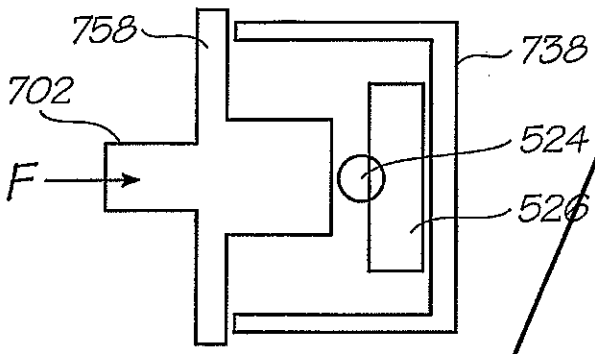


FIG. 48

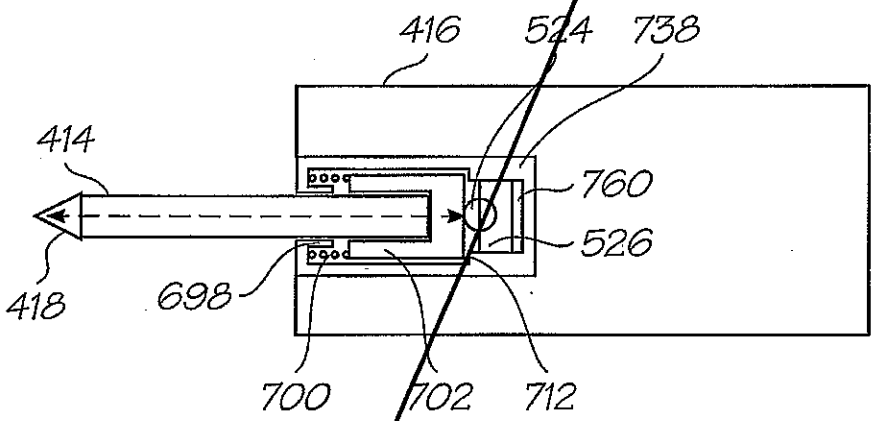


FIG. 49

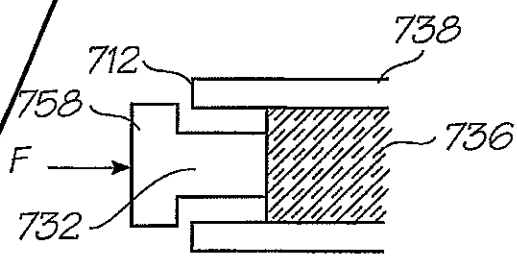


FIG. 50

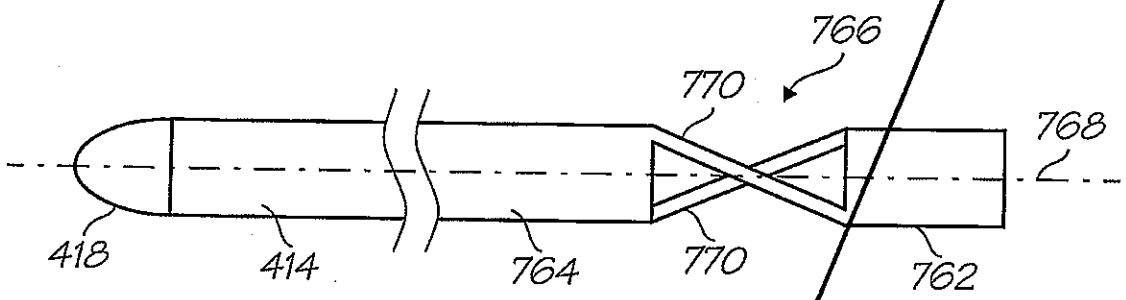


FIG. 51

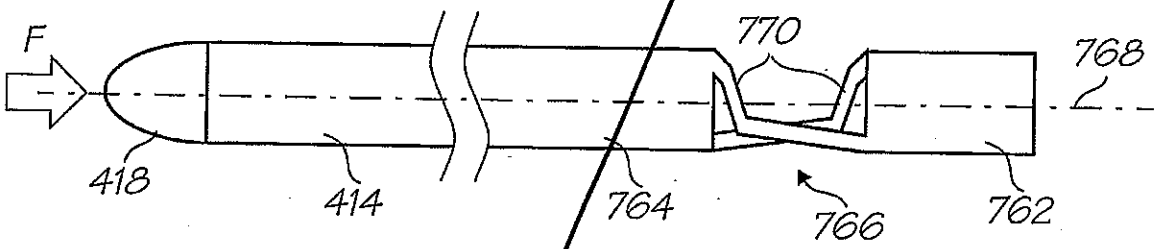


FIG. 52

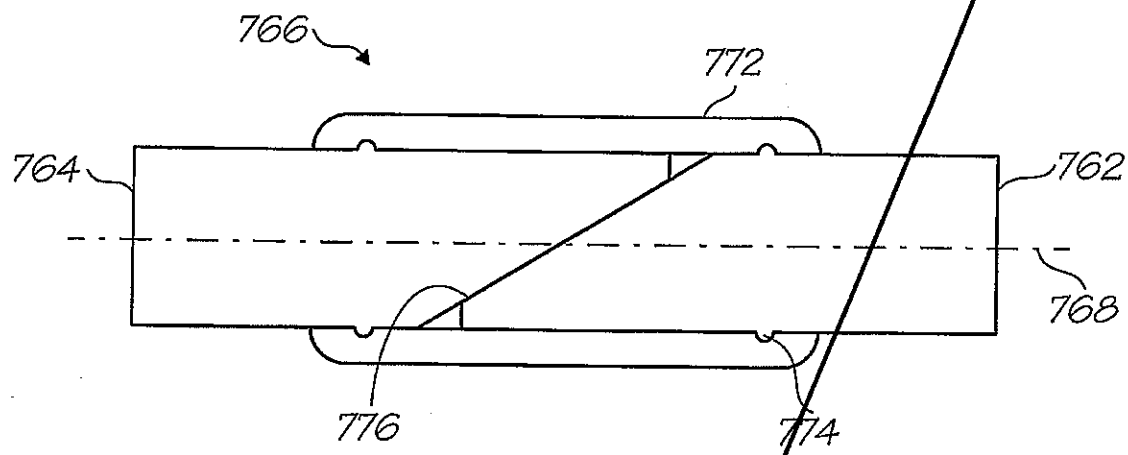


FIG. 53

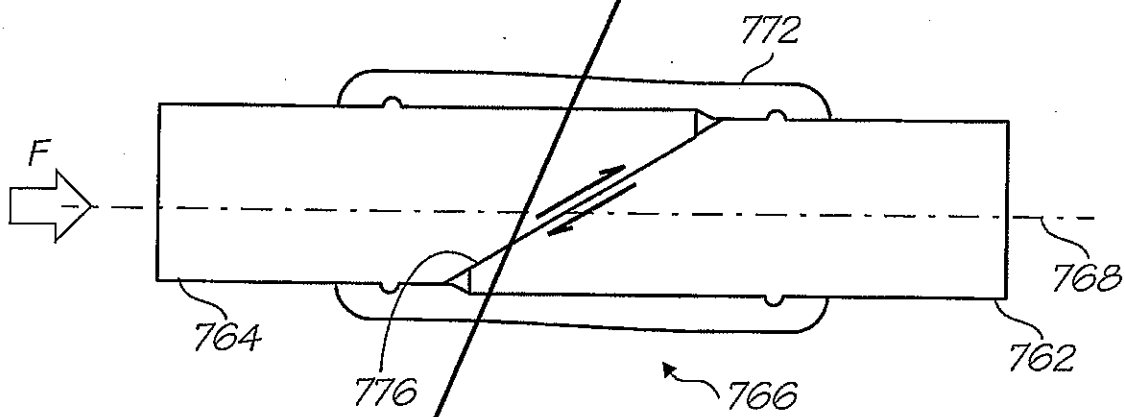


FIG. 54

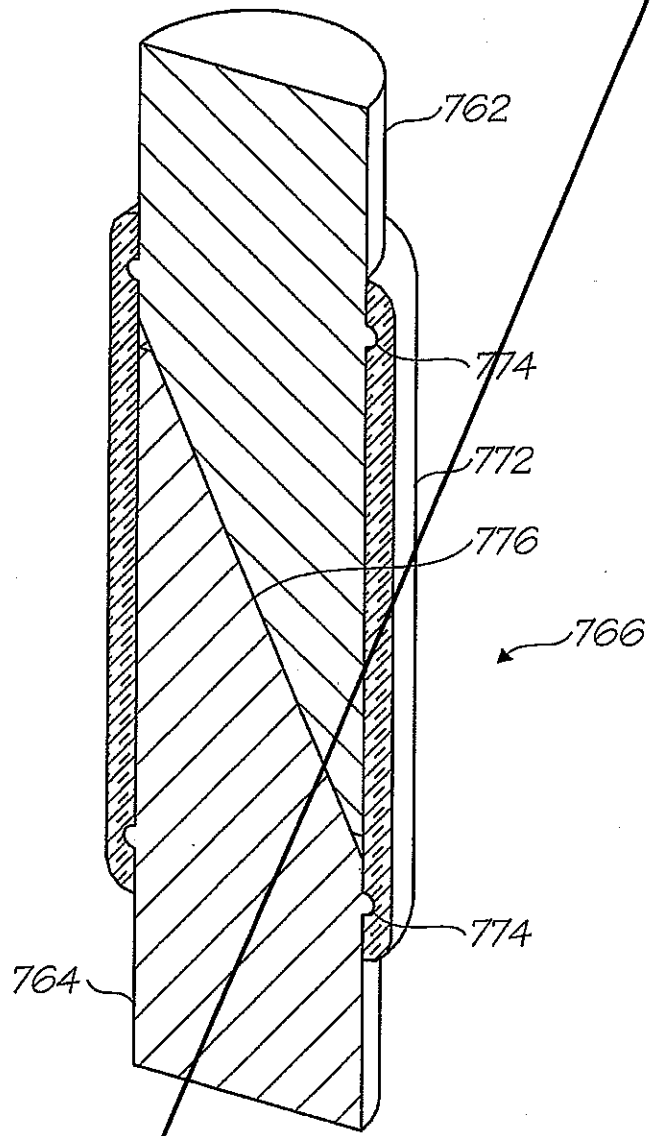


FIG. 55

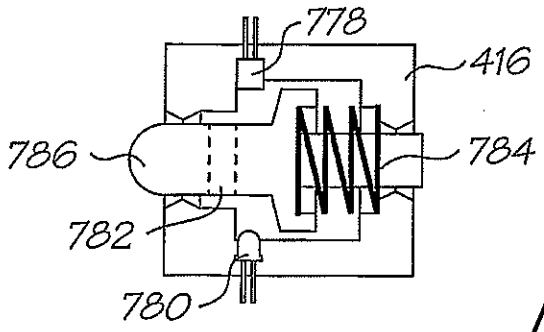


FIG. 56A

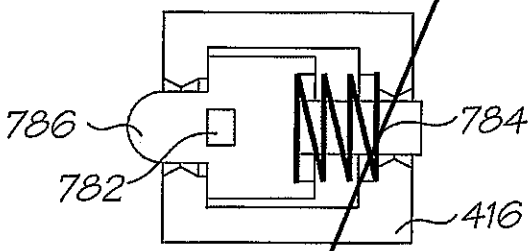


FIG. 56B

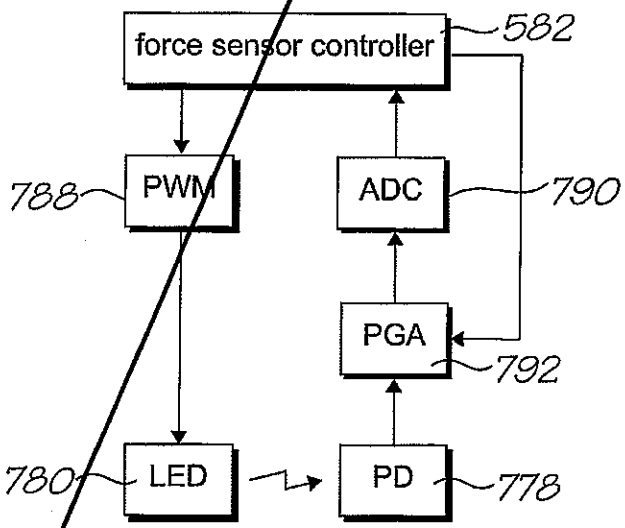


FIG. 57

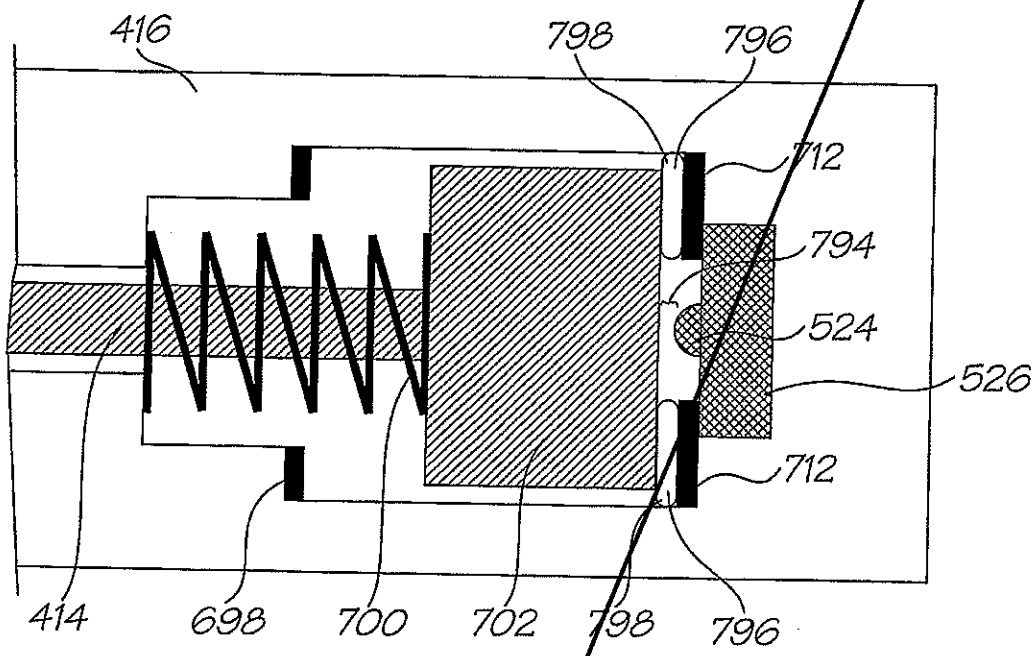

416
798
796
712
794
524
526
712
414
698
700
702
798
796

FIG. 58

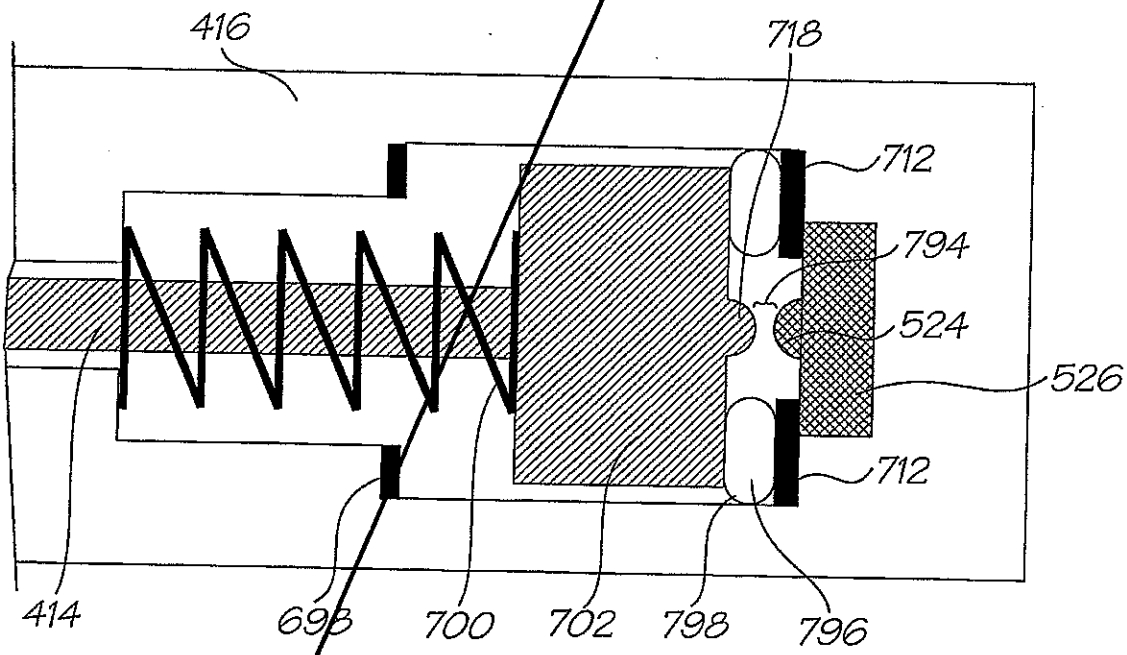

416
718
712
794
524
526
712
414
698
700
702
798
796

FIG. 59

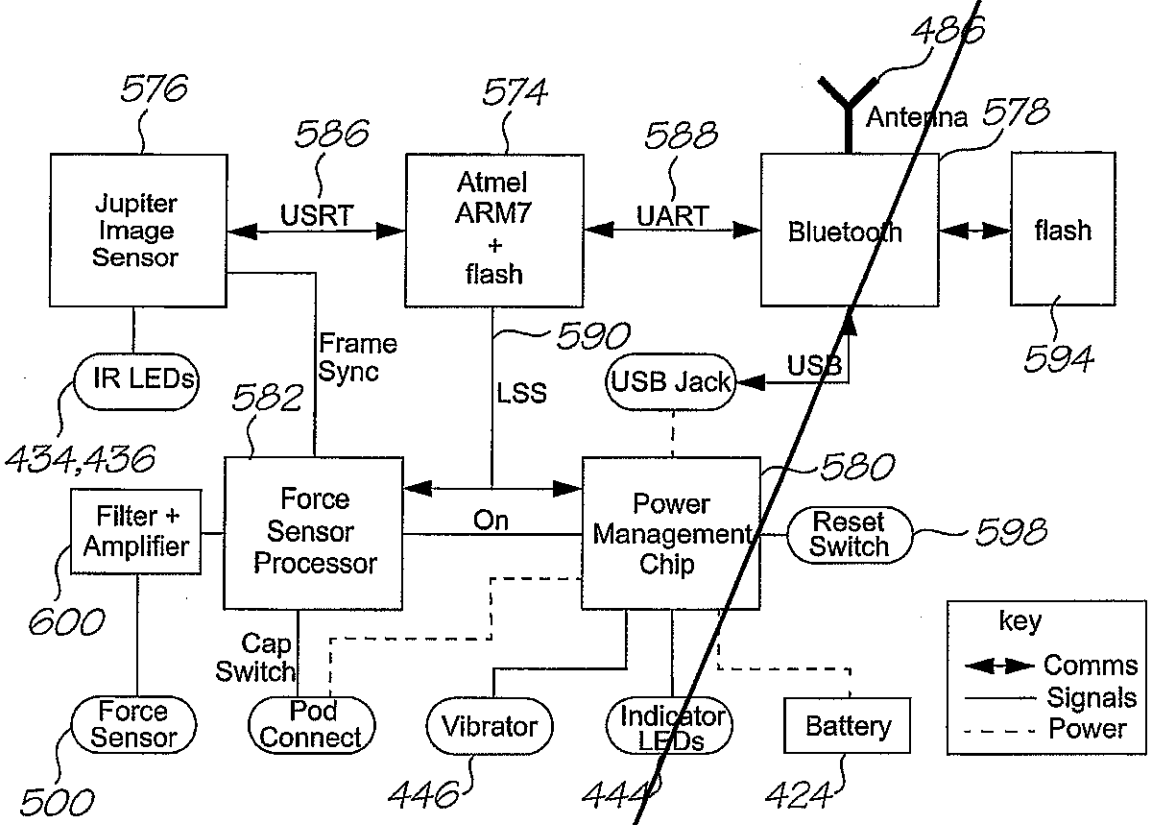

576
586
574
588
486
Antenna
578
Jupiter Image Sensor
USRT
Atmel ARM7 + flash
UART
Bluetooth
flash
590
Frame Sync
LSS
USB Jack
USB
IR LEDs
582
594
434,436
580
Filter + Amplifier
Force Sensor Processor
On
Power Management Chip
Reset Switch
598
600
Cap Switch
key
Comms
Signals
Power
Force Sensor
Pod Connect
Vibrator
Indicator LEDs
Battery
500
446
444
424

FIG. 60

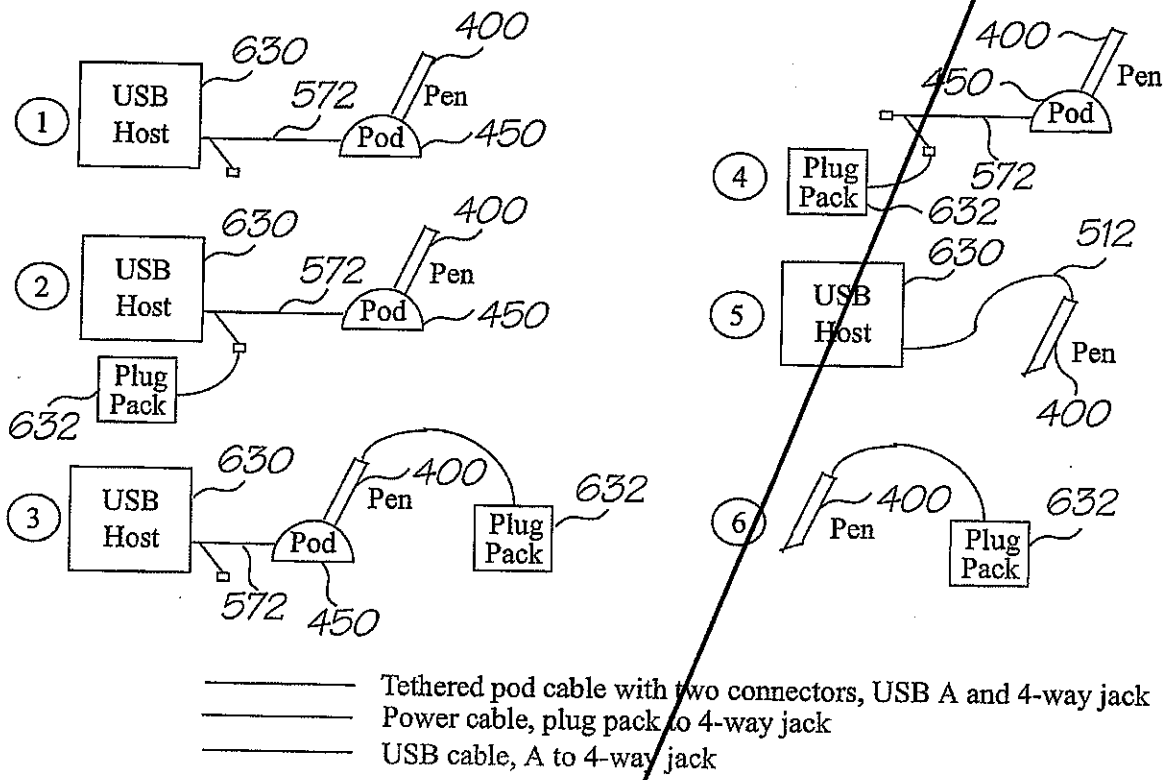

1
USB Host
630
572
Pen
400
Pod
450
2
USB Host
630
572
Pen
400
Pod
450
Plug Pack
632
3
USB Host
630
Pen
400
Pod
Plug Pack
632
572
450
4
Plug Pack
632
572
400
450
Pen
Pod
5
USB Host
630
512
Pen
400
6
Pen
400
Plug Pack
632
Tethered pod cable with two connectors, USB A and 4-way jack
Power cable, plug pack to 4-way jack
USB cable, A to 4-way jack

FIG. 61

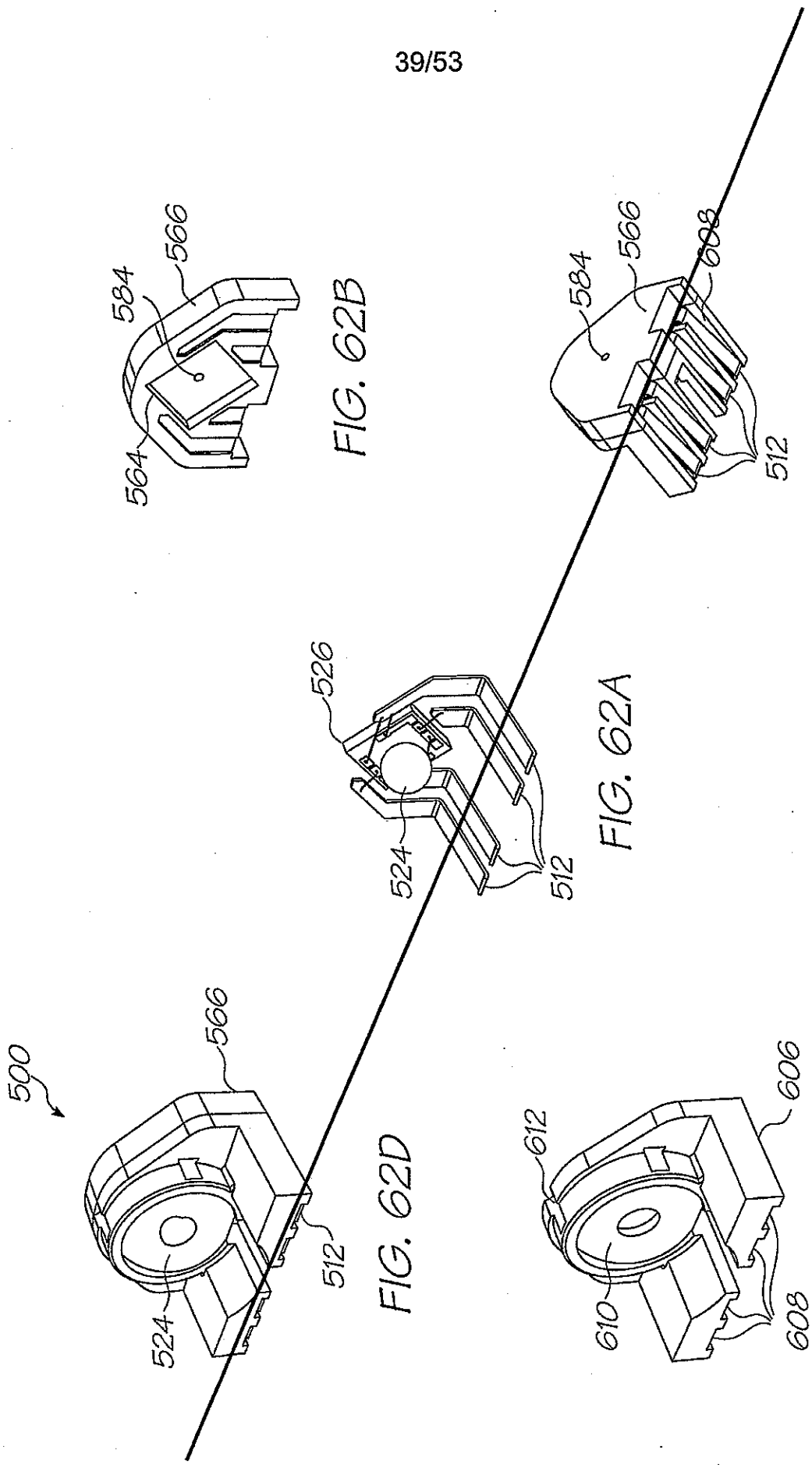


FIG. 62D FIG. 62A FIG. 62B FIG. 62E FIG. 62C

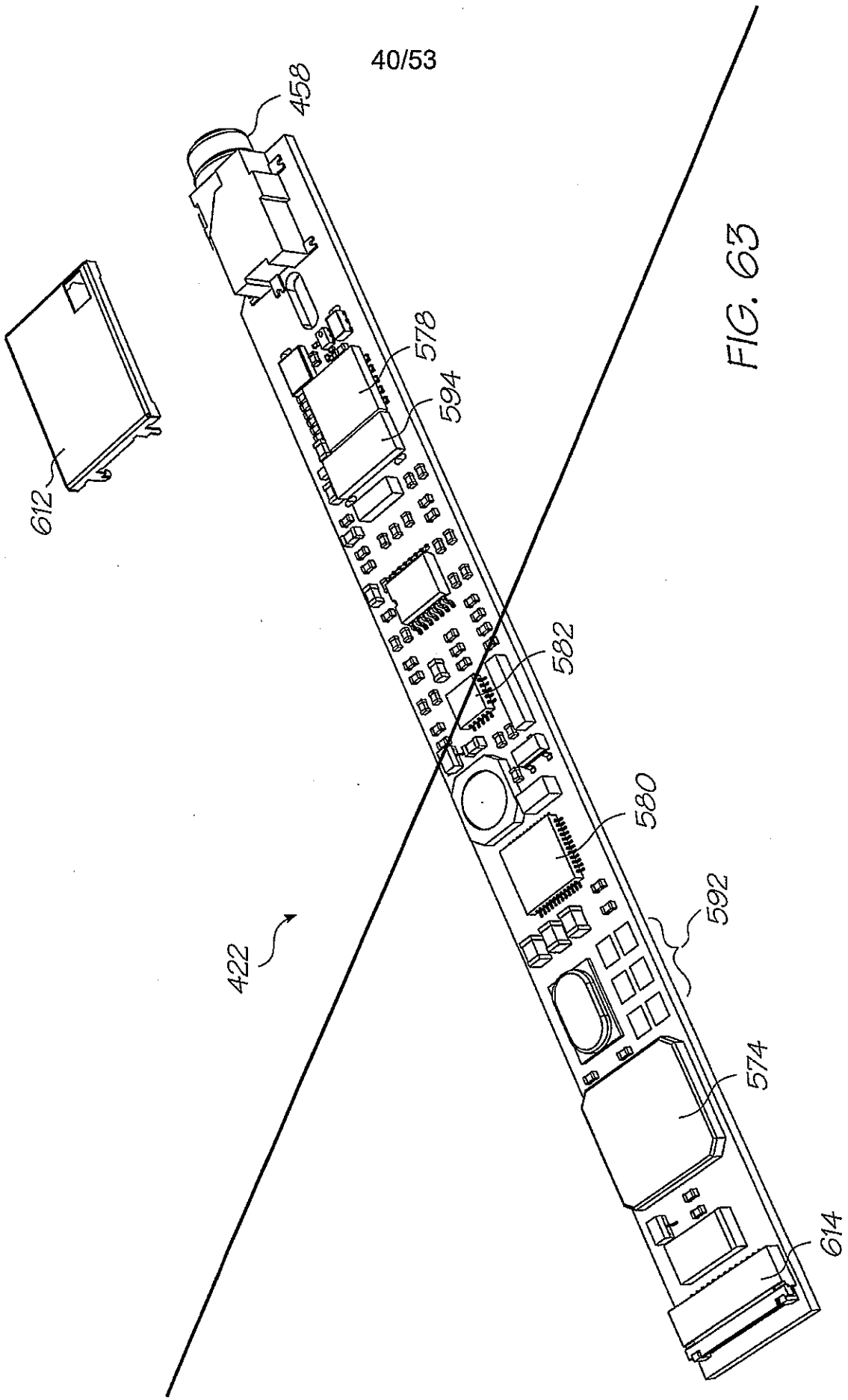


FIG. 63

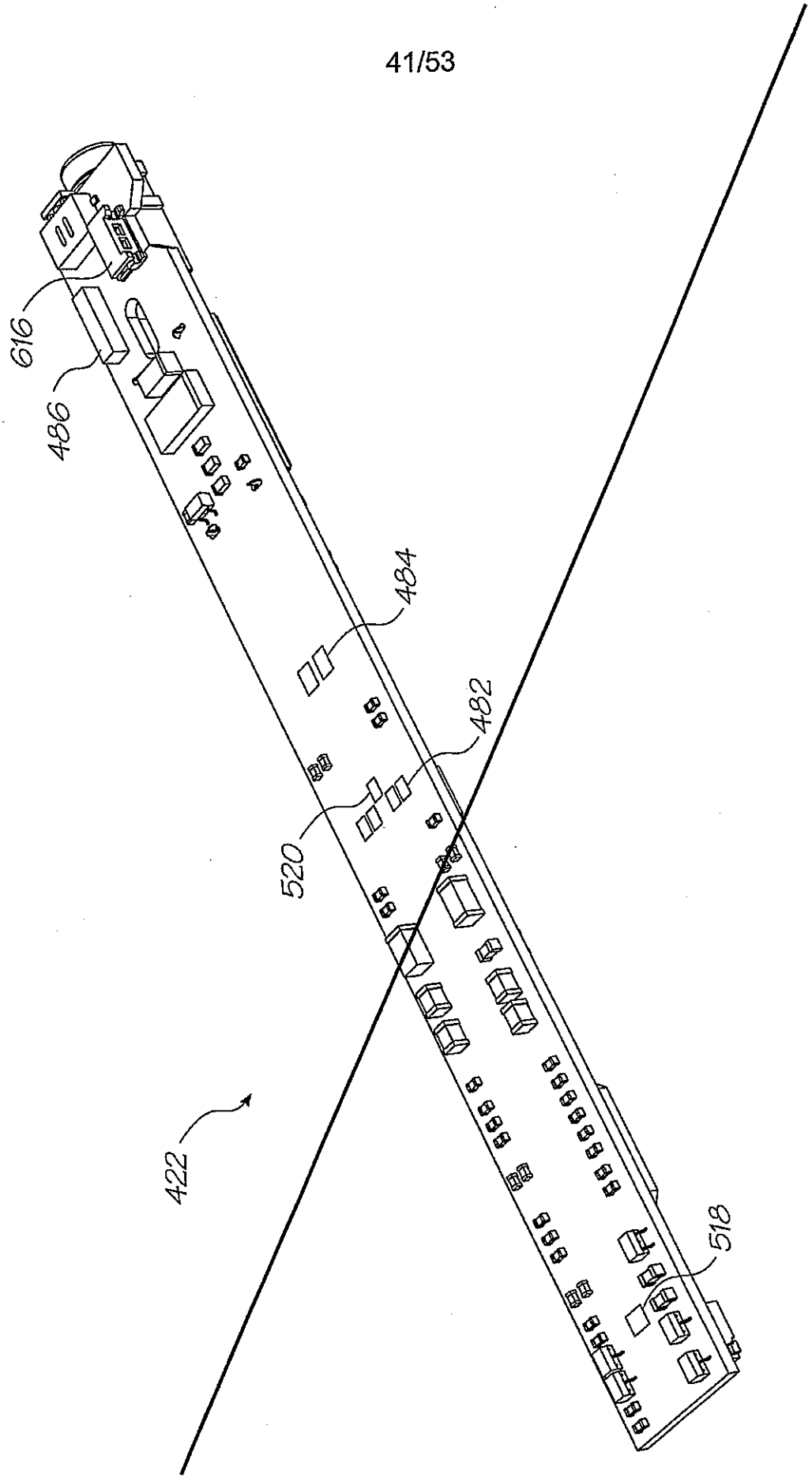


FIG. 64

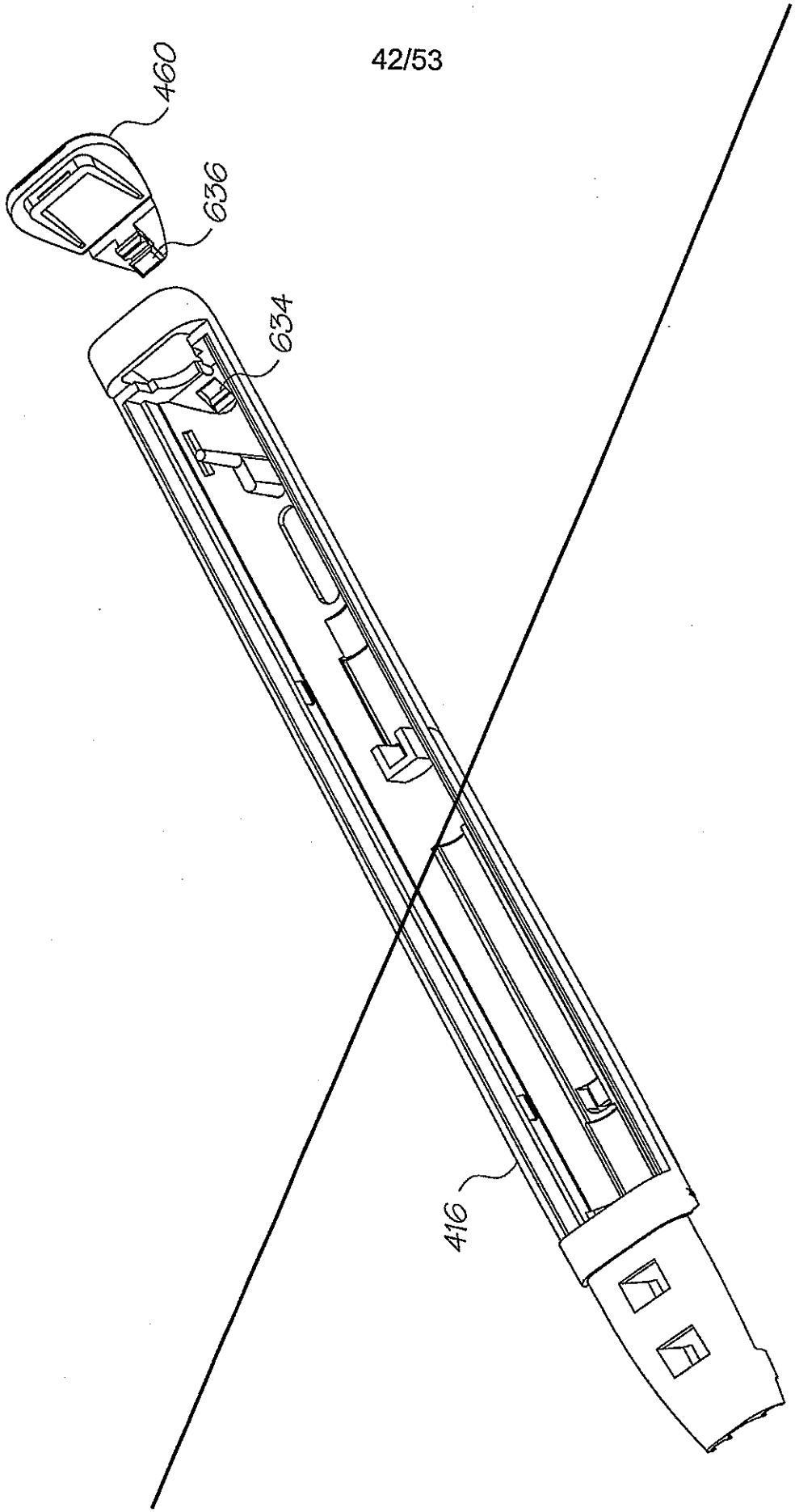


FIG. 65

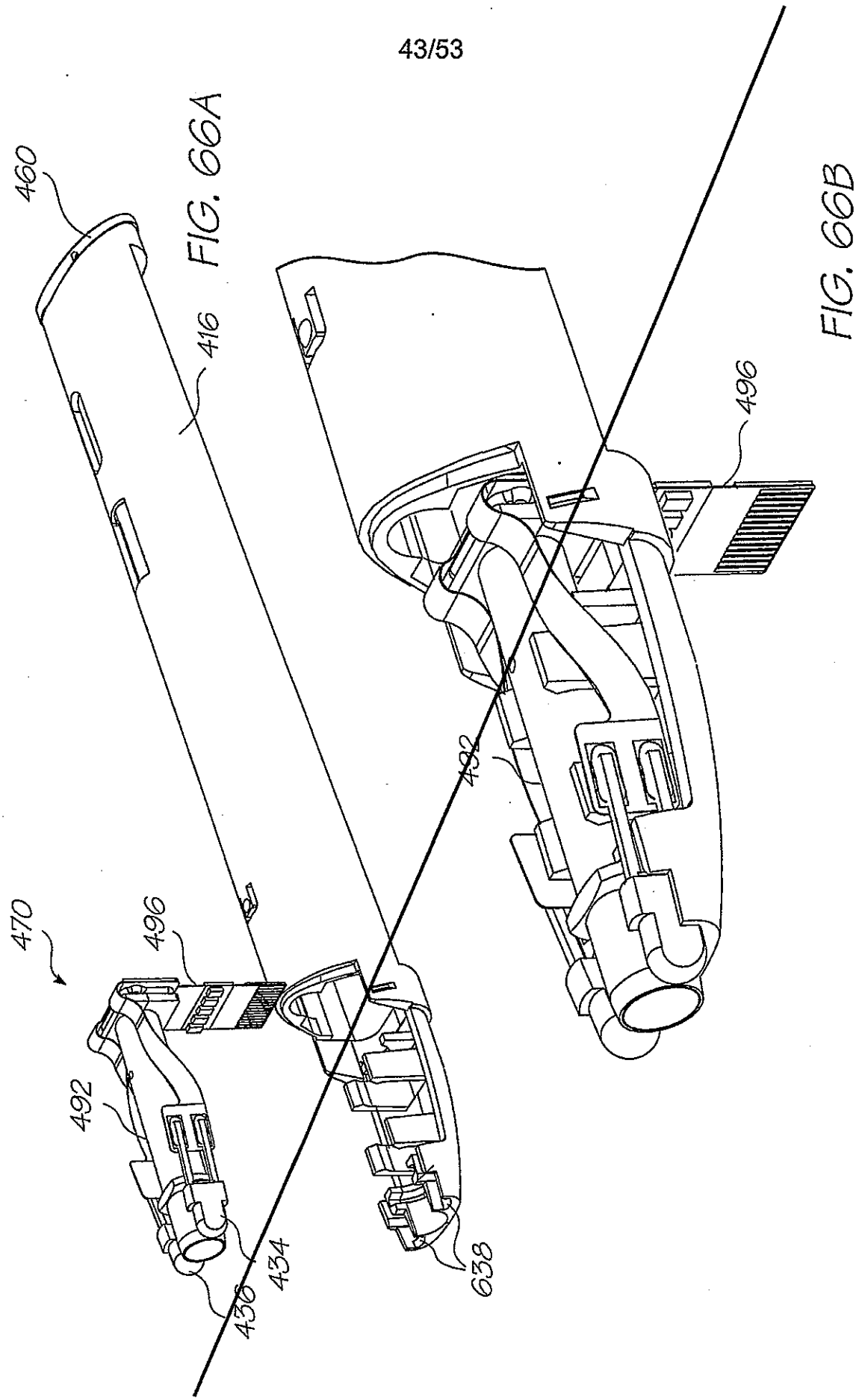


FIG. 66A

FIG. 66B

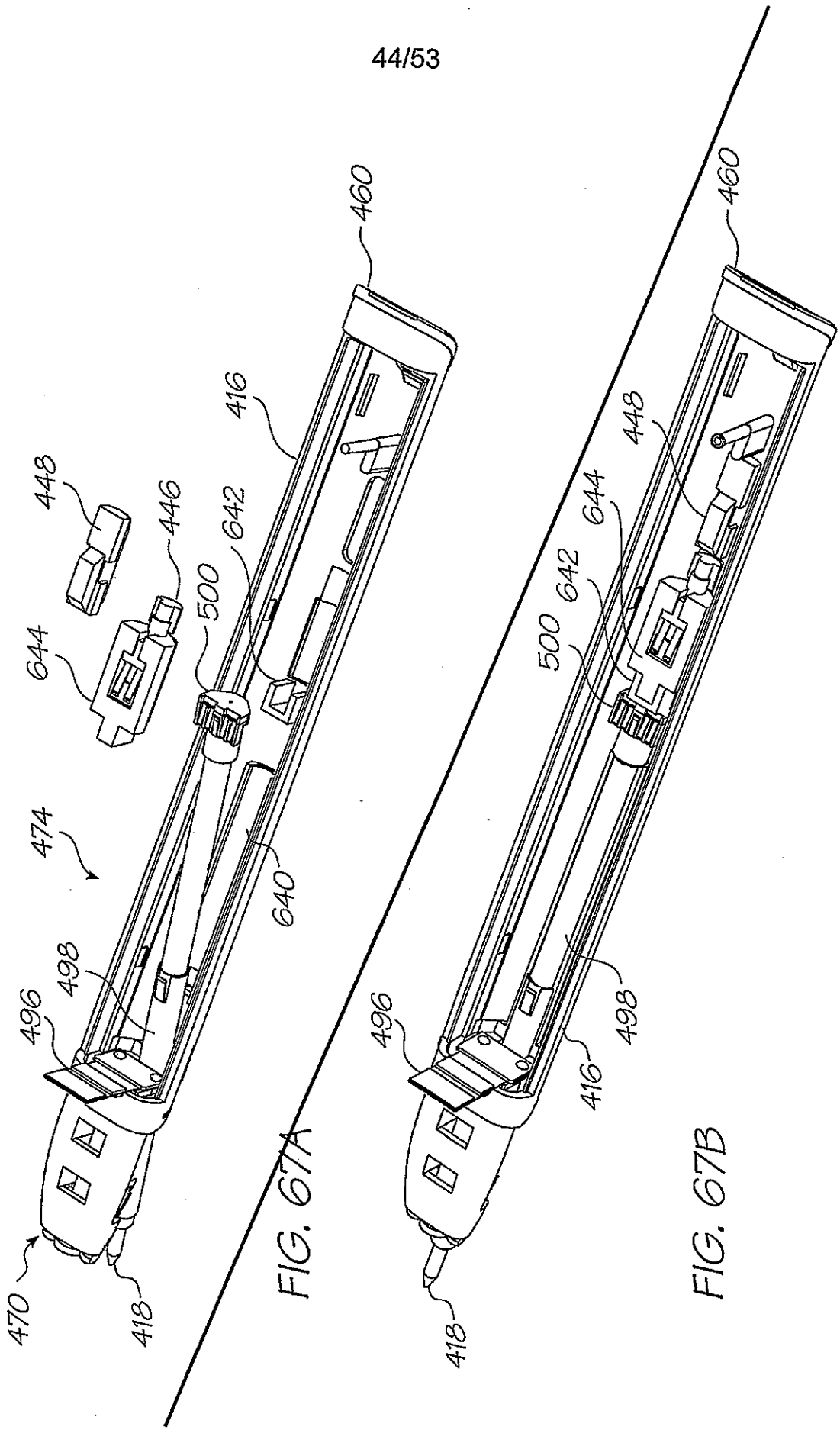


FIG. 67A

FIG. 67B

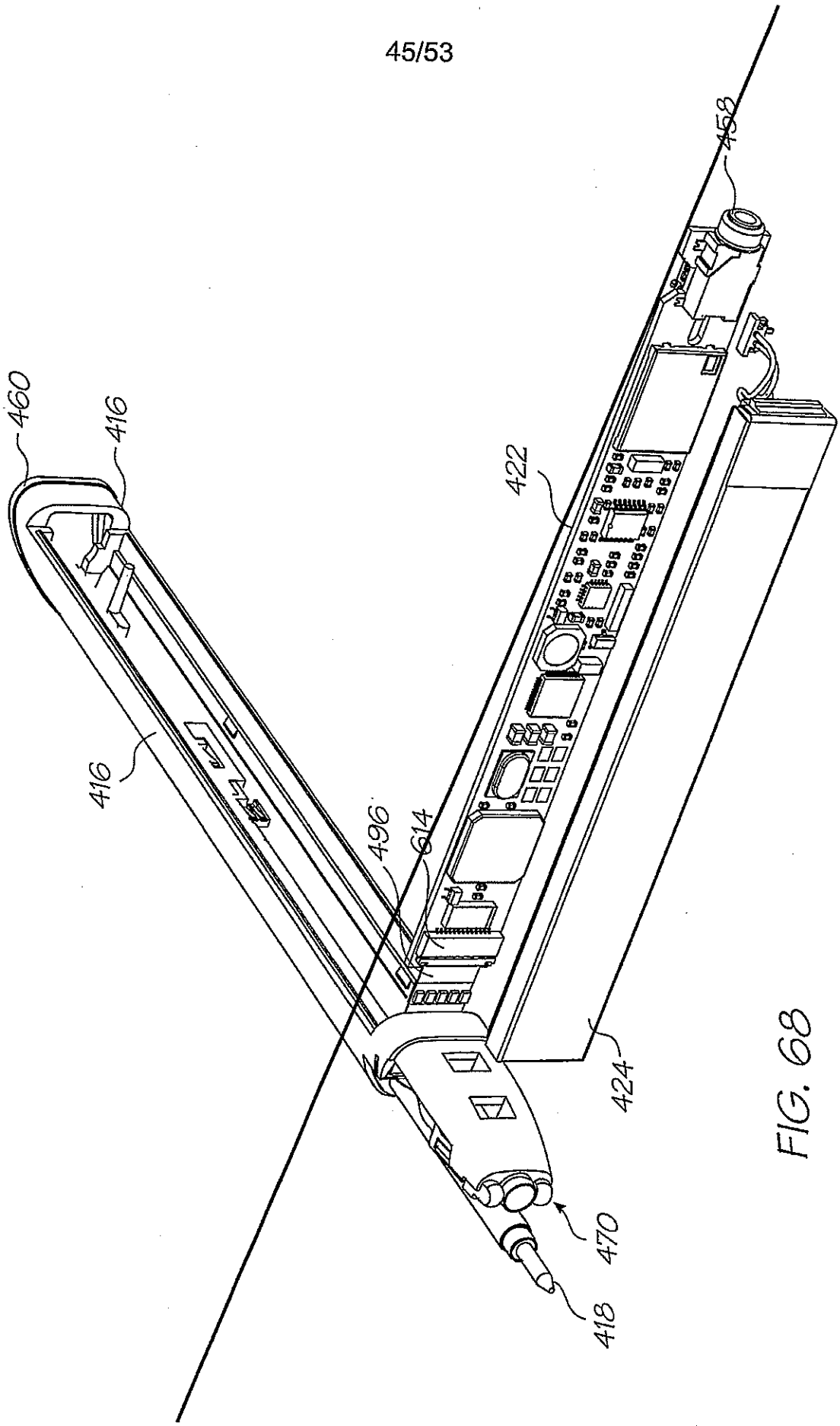


FIG. 68

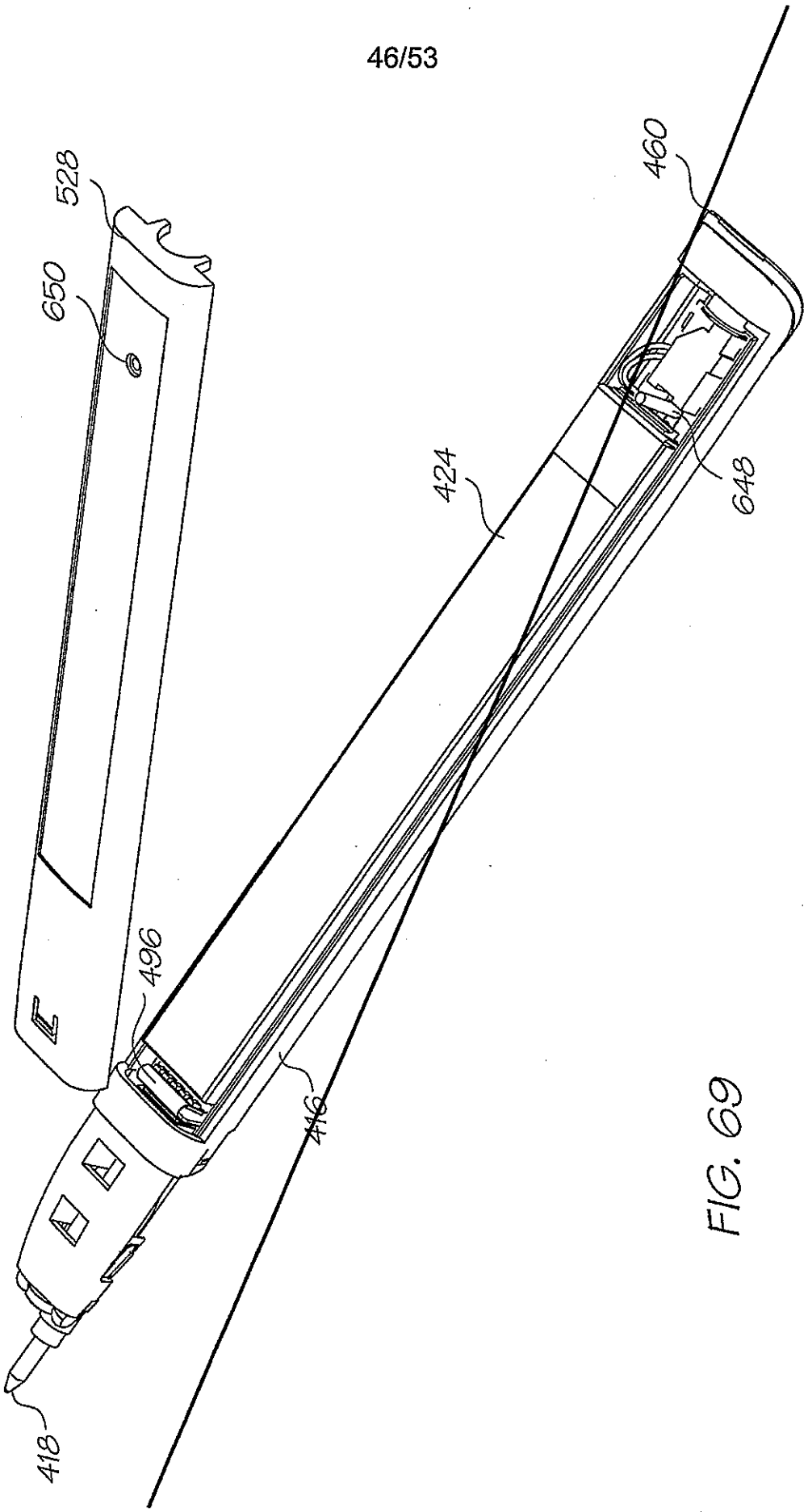


FIG. 69

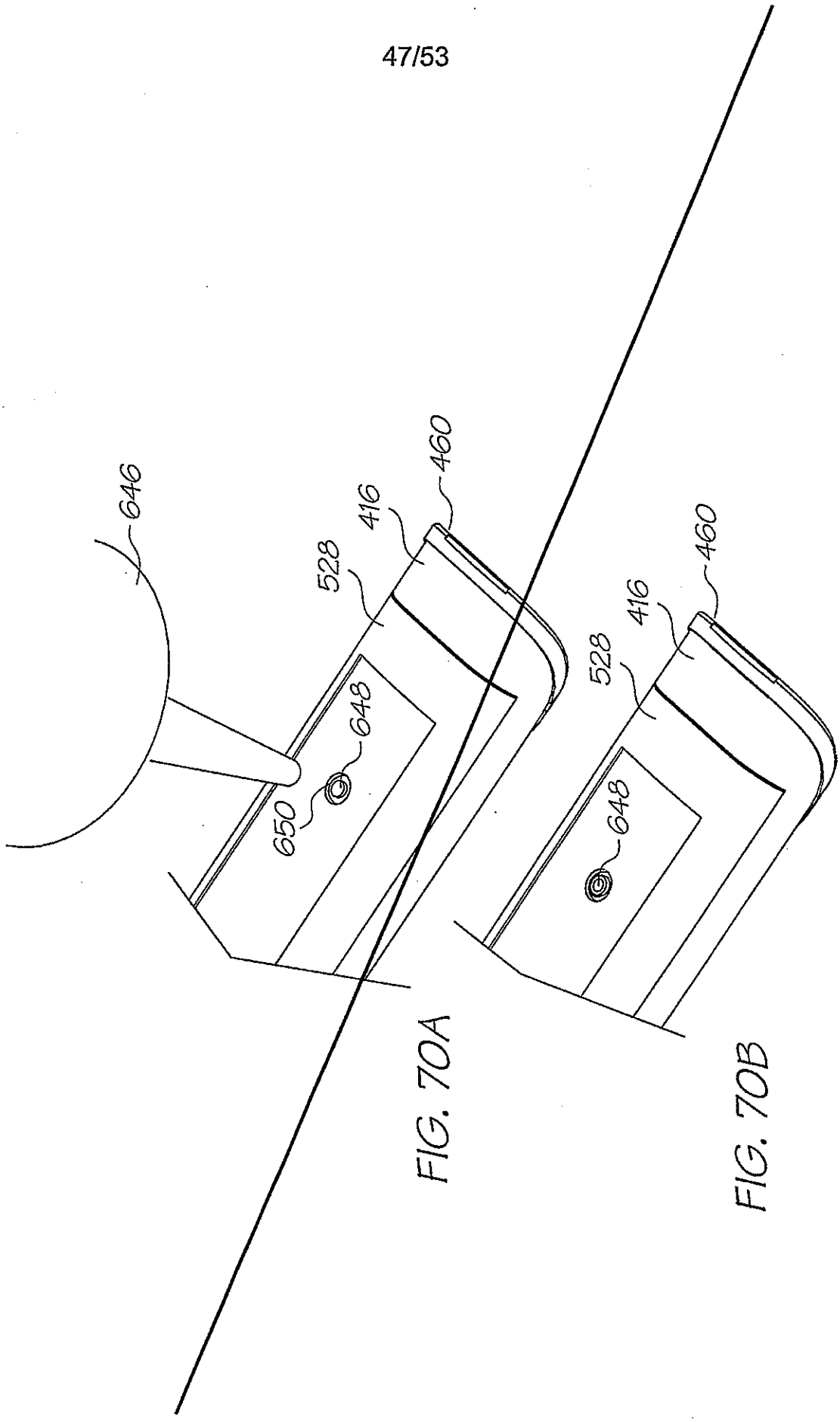


FIG. 70A

FIG. 70B

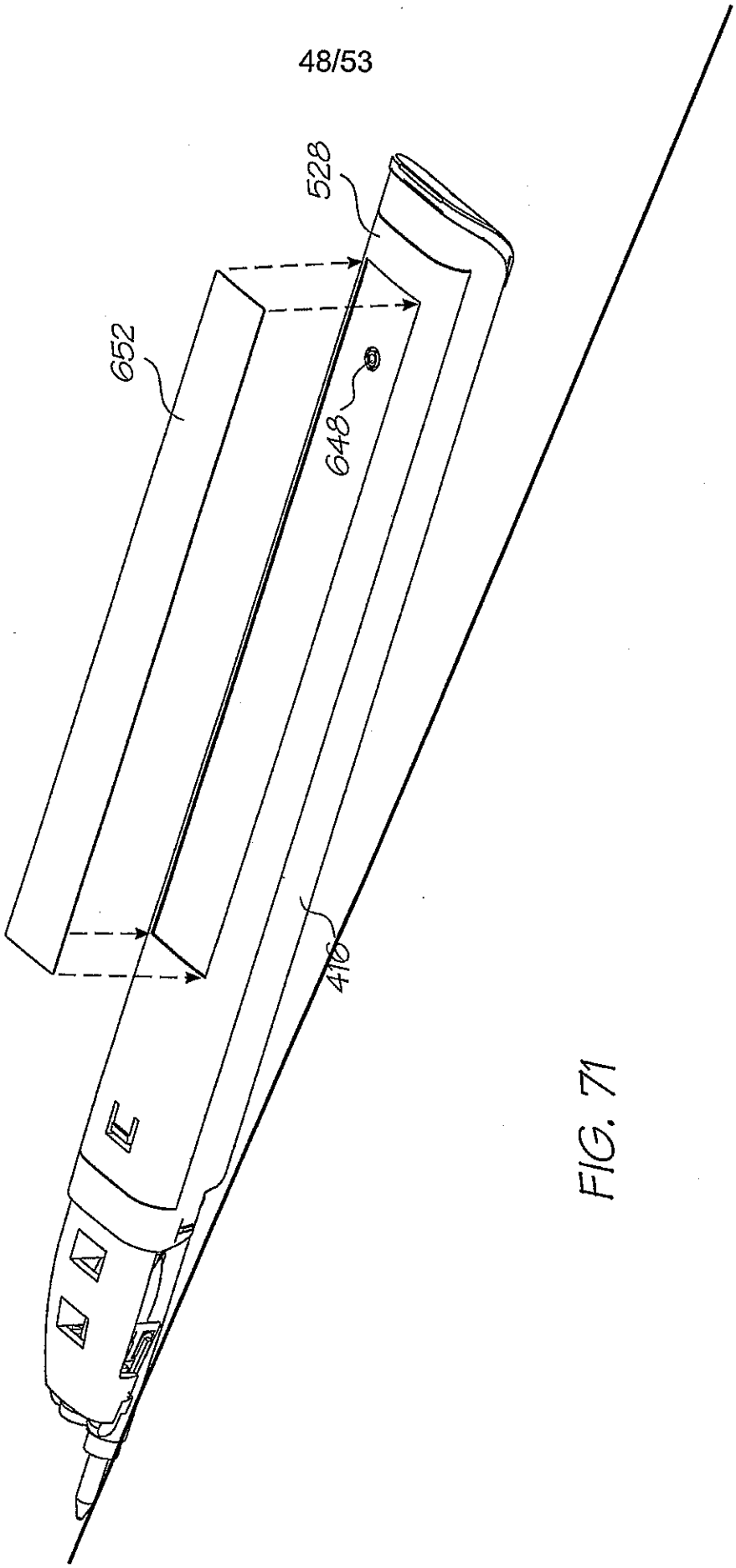


FIG. 71

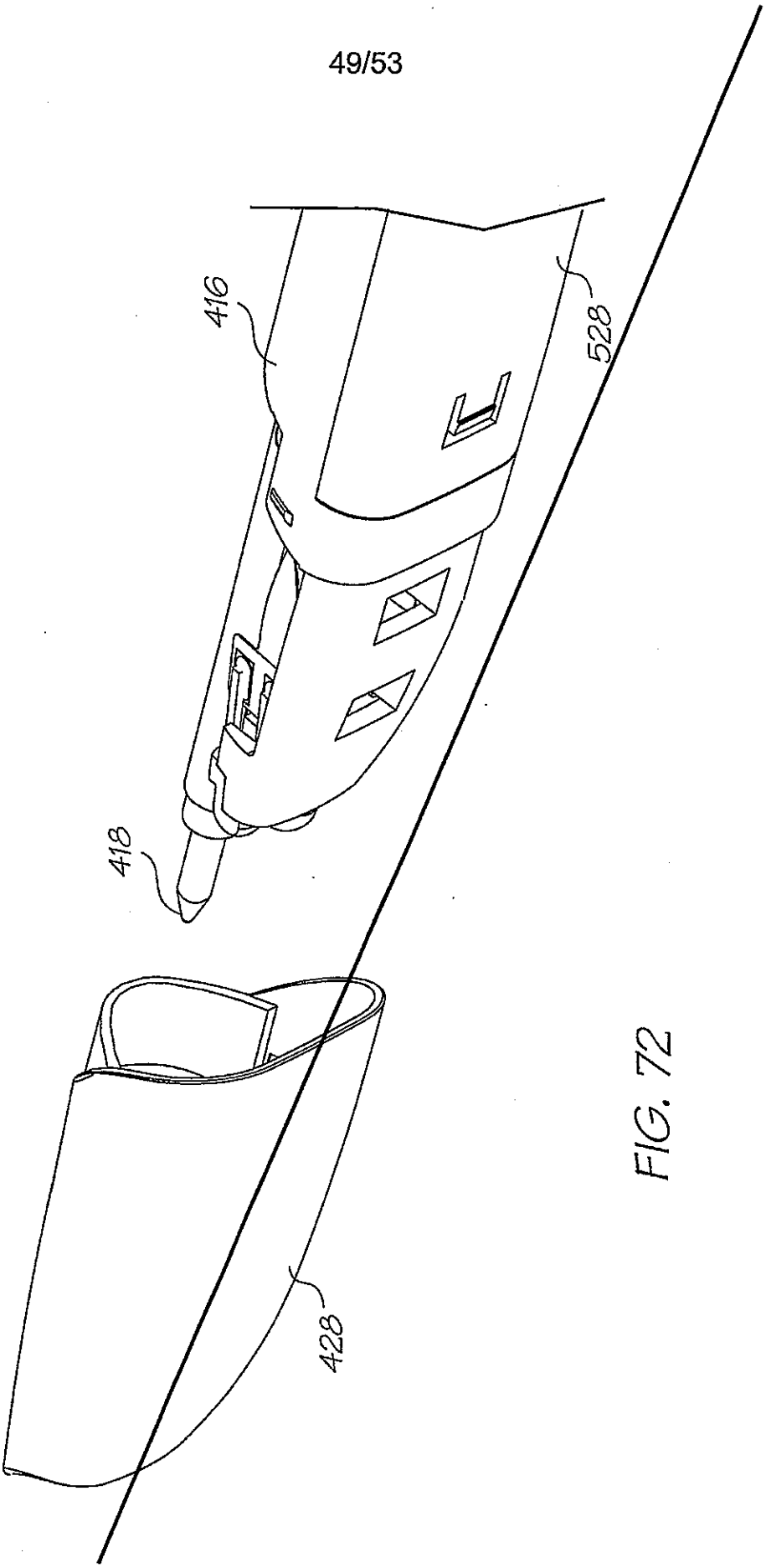


FIG. 72

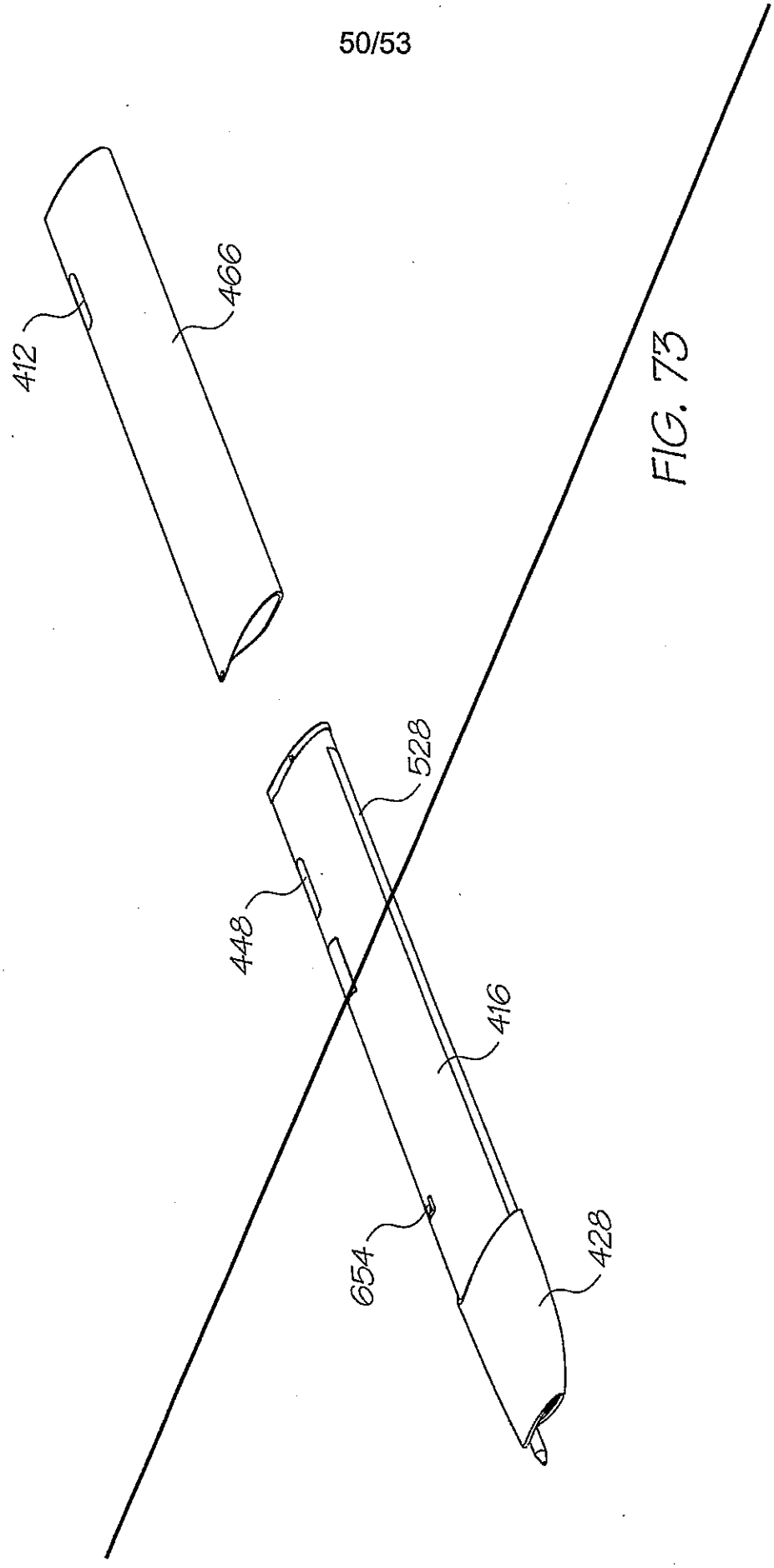


FIG. 73

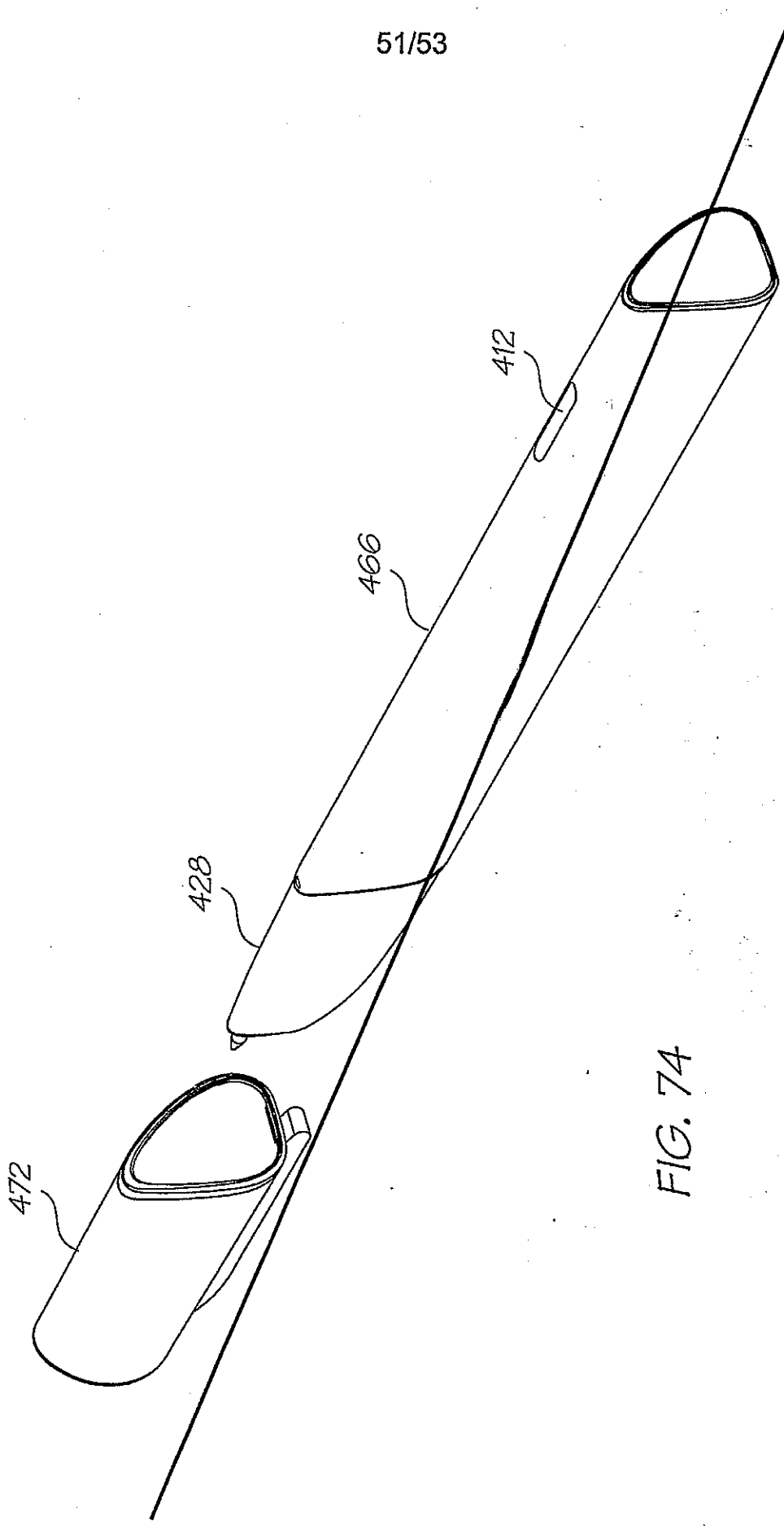


FIG. 74

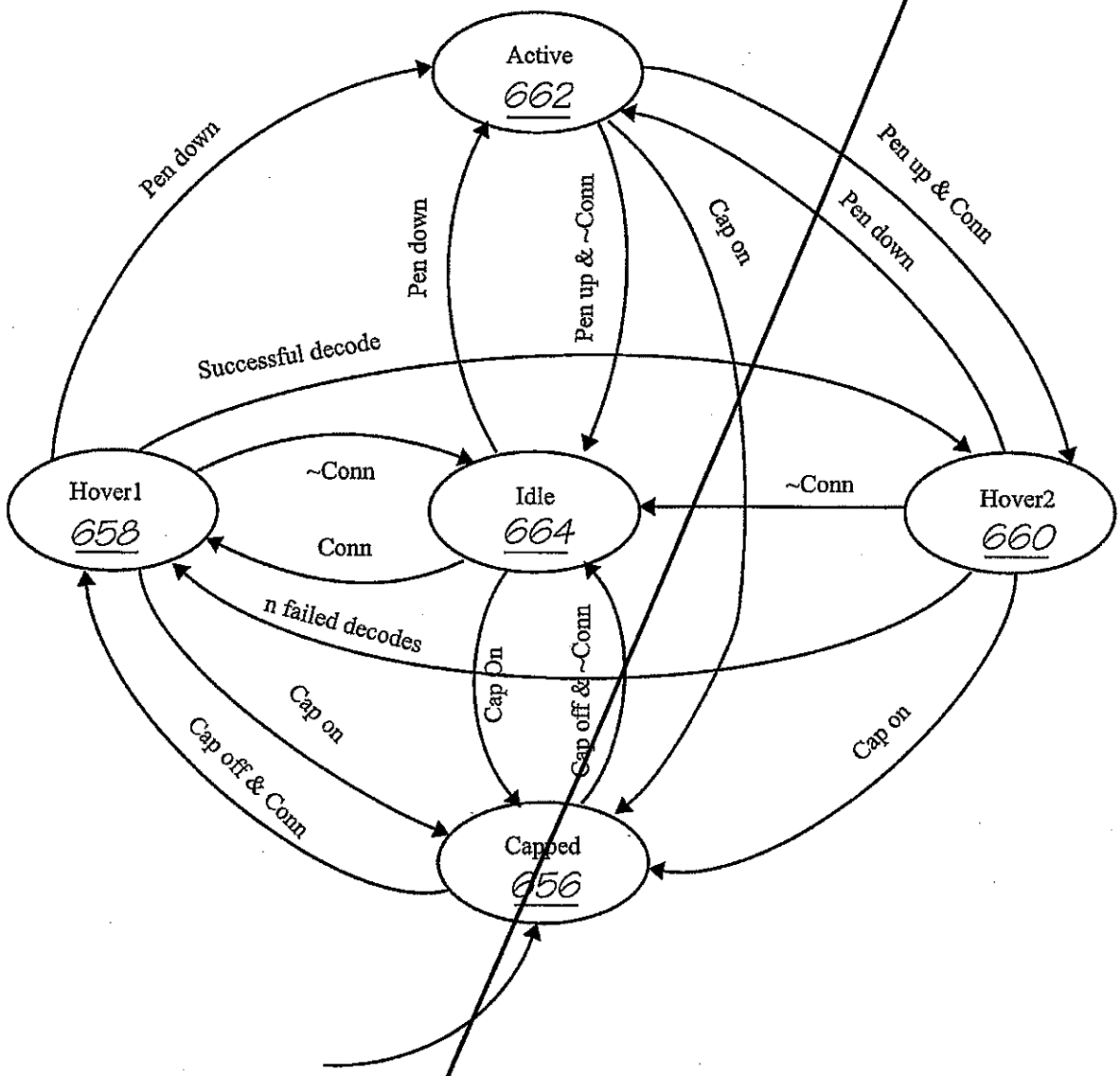

Active
662
Pen down
Pen down
Pen up & ~Conn
Cap on
Pen up & Conn
Pen down
Successful decode
Hover1
658
~Conn
Conn
Idle
664
~Conn
Hover2
660
n failed decodes
Cap On
Cap off & ~Conn
Cap on
Cap off & Conn
Cap on
Capped
656

FIG. 75

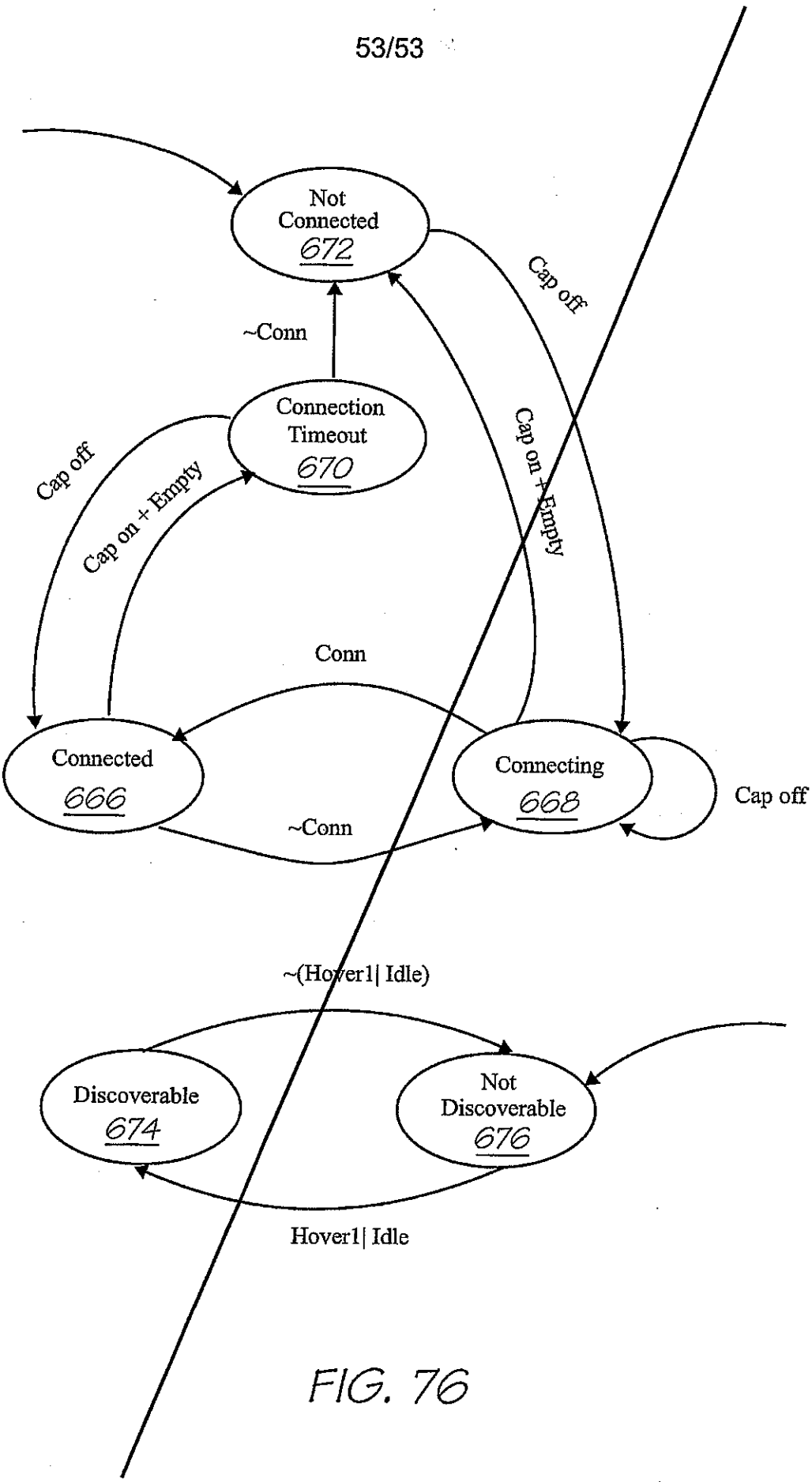

Not Connected 672
Cap off
~Conn
Connection Timeout 670
Cap off
Cap on + Empty
Cap on + Empty
Conn
Connected 666
Connecting 668
Cap off
~Conn
~(Hover1| Idle)
Discoverable 674
Not Discoverable 676
Hover1| Idle

FIG. 76

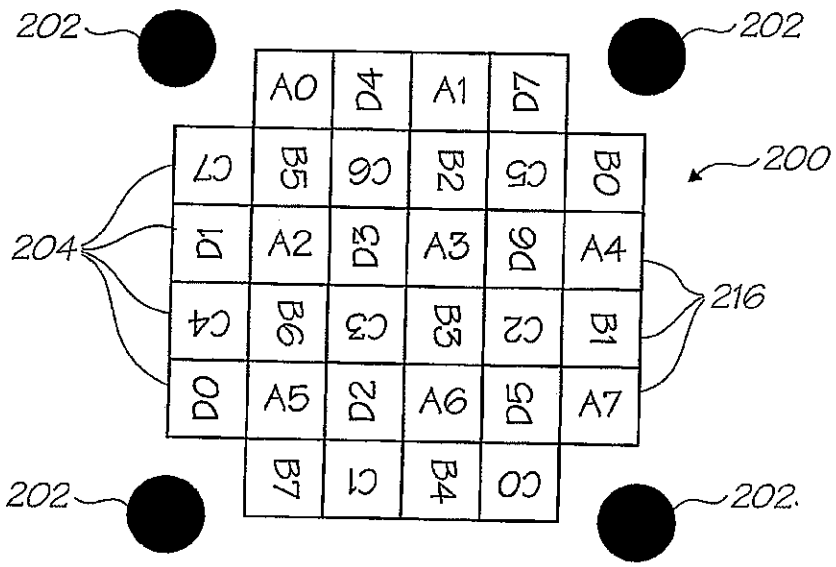

202
202
A0
D4
A1
D7
C7
B5
C6
B2
C5
B0
200
204
D1
A2
D3
A3
D6
A4
216
C4
B6
C3
B3
C2
B1
D0
A5
D2
A6
D5
A7
B7
C1
B4
C0
202
202

FIG. 1

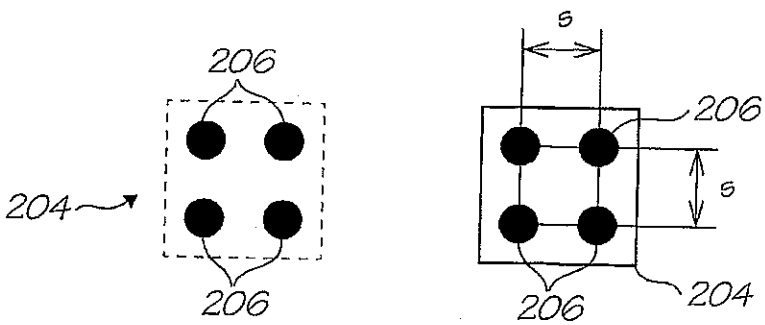

206
204
206
S
206
S
206
204

FIG. 2

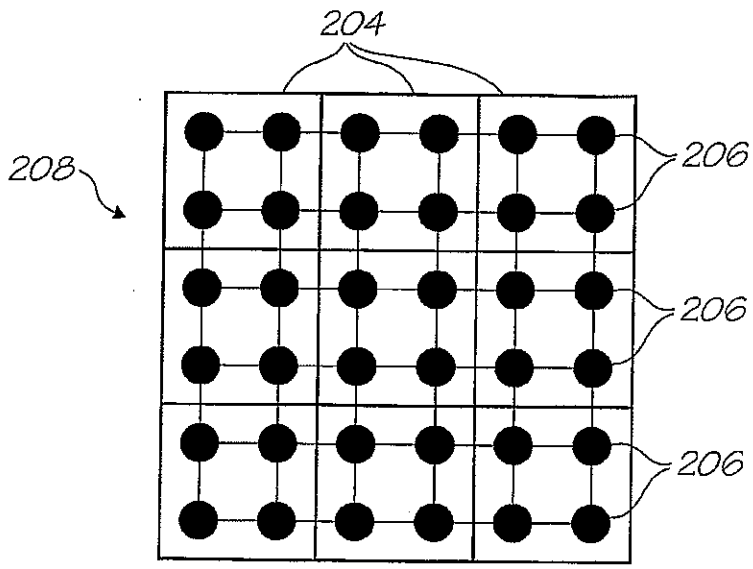


FIG. 3

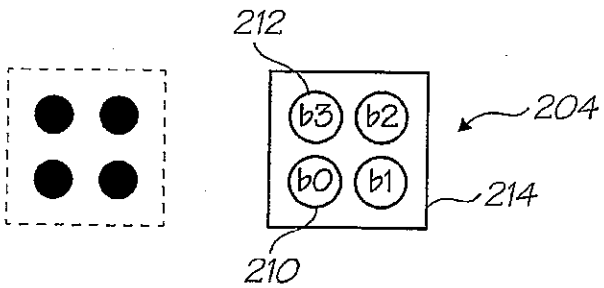


FIG. 4

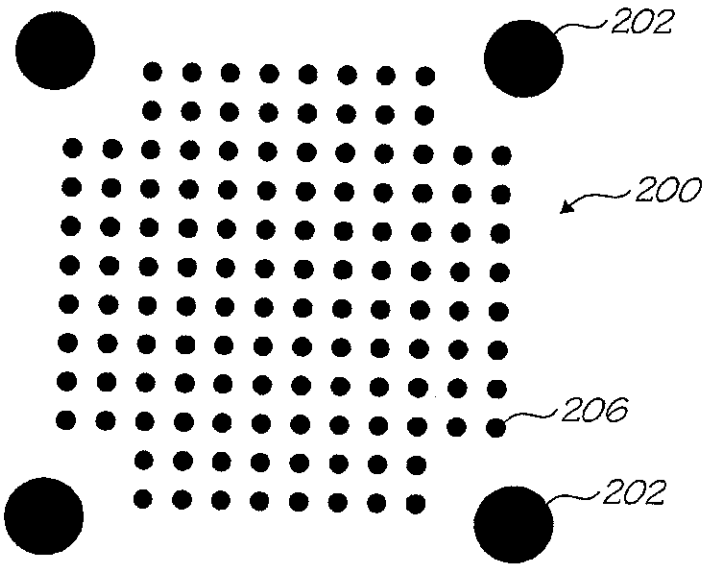


FIG. 5

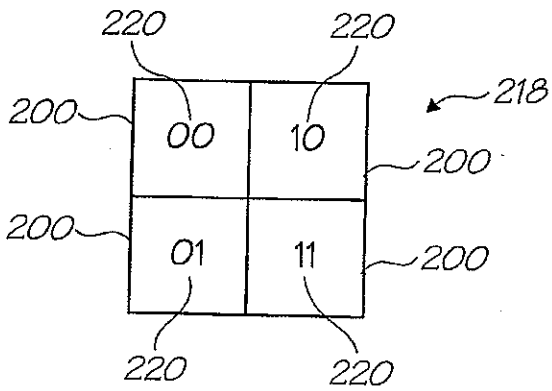


FIG. 6

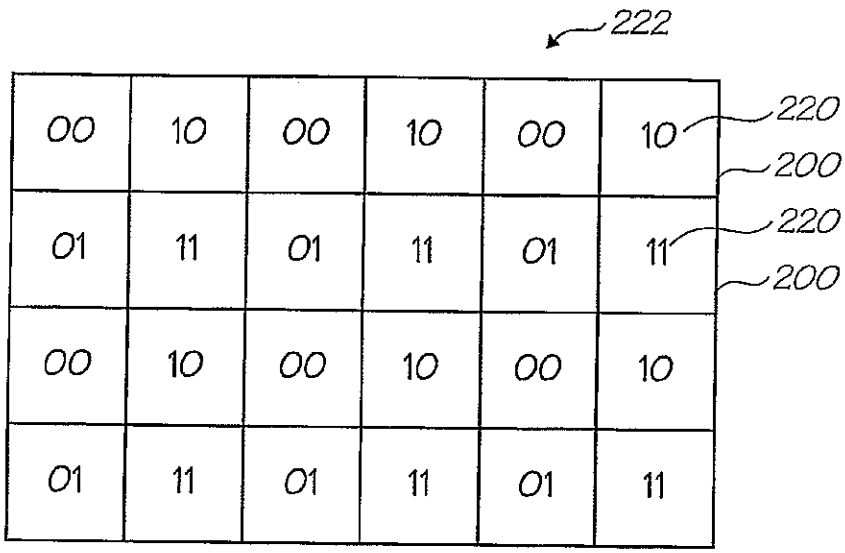

222
00
10
00
10
00
10
220
200
01
11
01
11
01
11
220
200
00
10
00
10
00
10
01
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01
11
01
11

FIG. 7

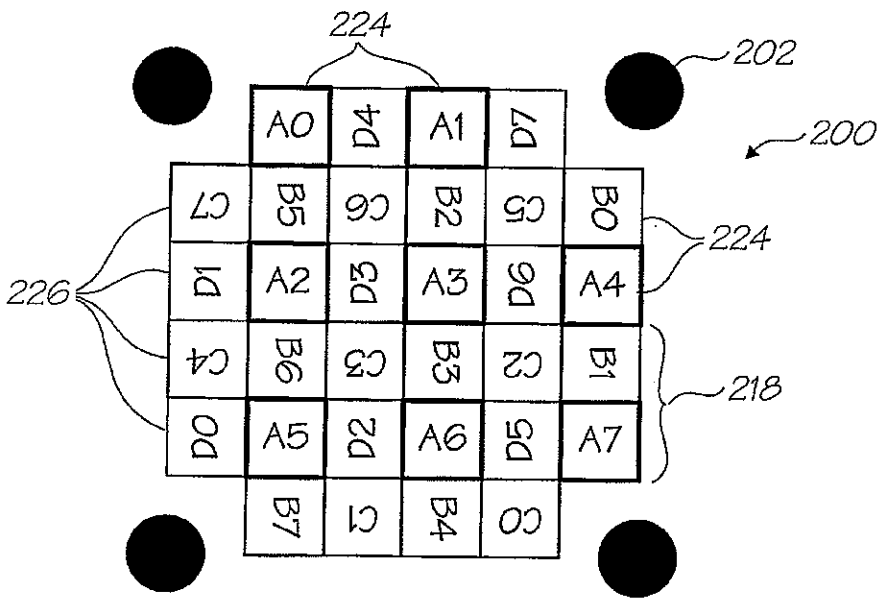

224
202
200
A0
D4
A1
D7
C7
B5
C6
B2
C5
B0
D1
A2
D3
A3
D6
A4
C4
B6
C3
B3
C2
B1
D0
A5
D2
A6
D5
A7
B7
C1
B4
C0
224
226
218

FIG. 8

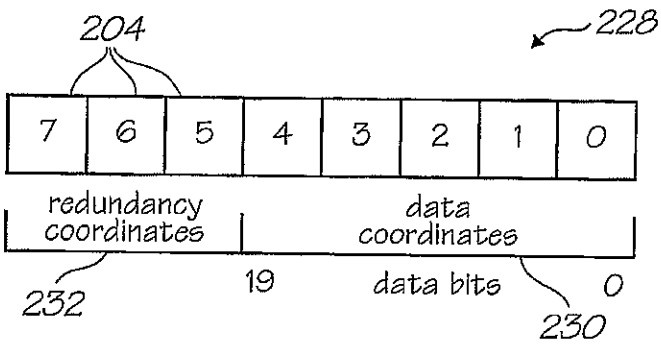

204
228
7
6
5
4
3
2
1
0
redundancy coordinates
data coordinates
232
19
data bits
0
230

FIG. 9

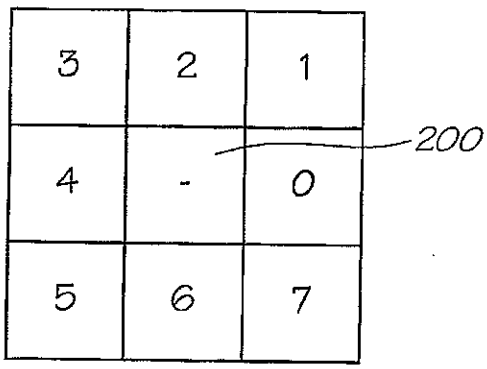

3
2
1
4
-
0
5
6
7
200

FIG. 10

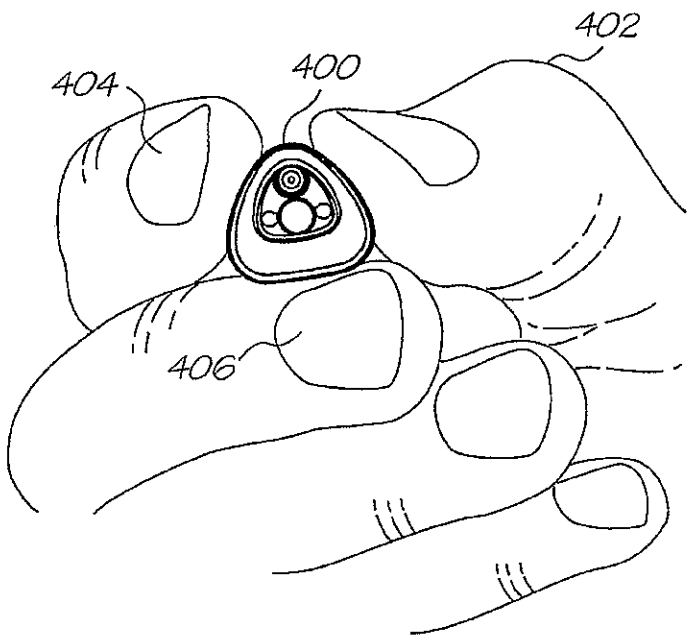


FIG. 11

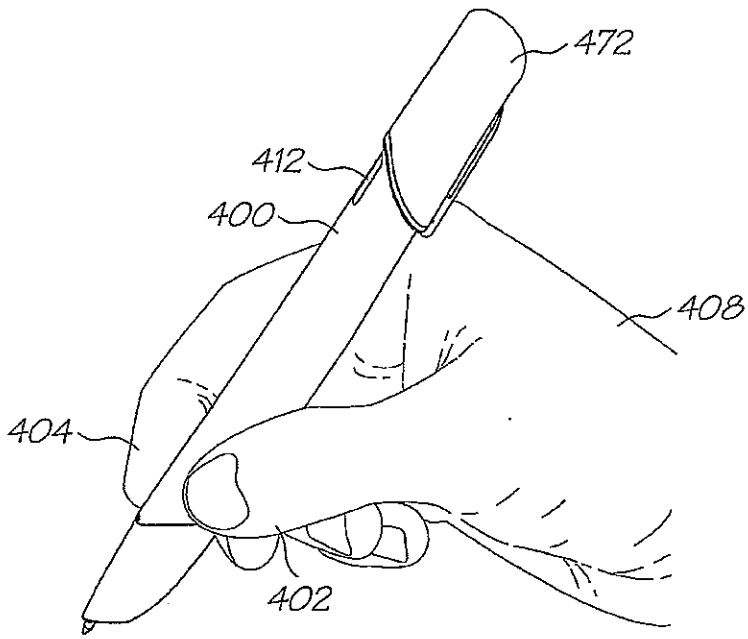


FIG. 12

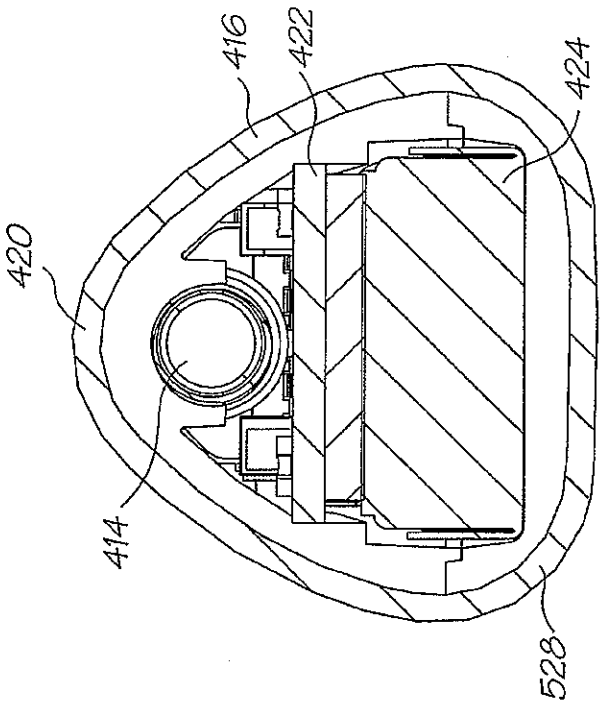


FIG. 13

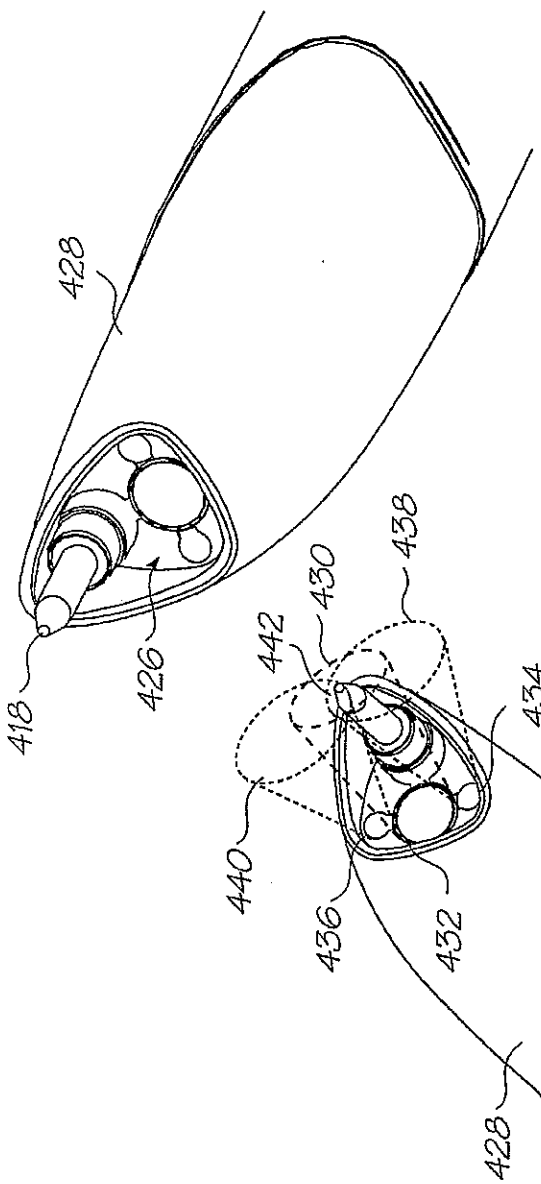


FIG. 14A

FIG. 14B

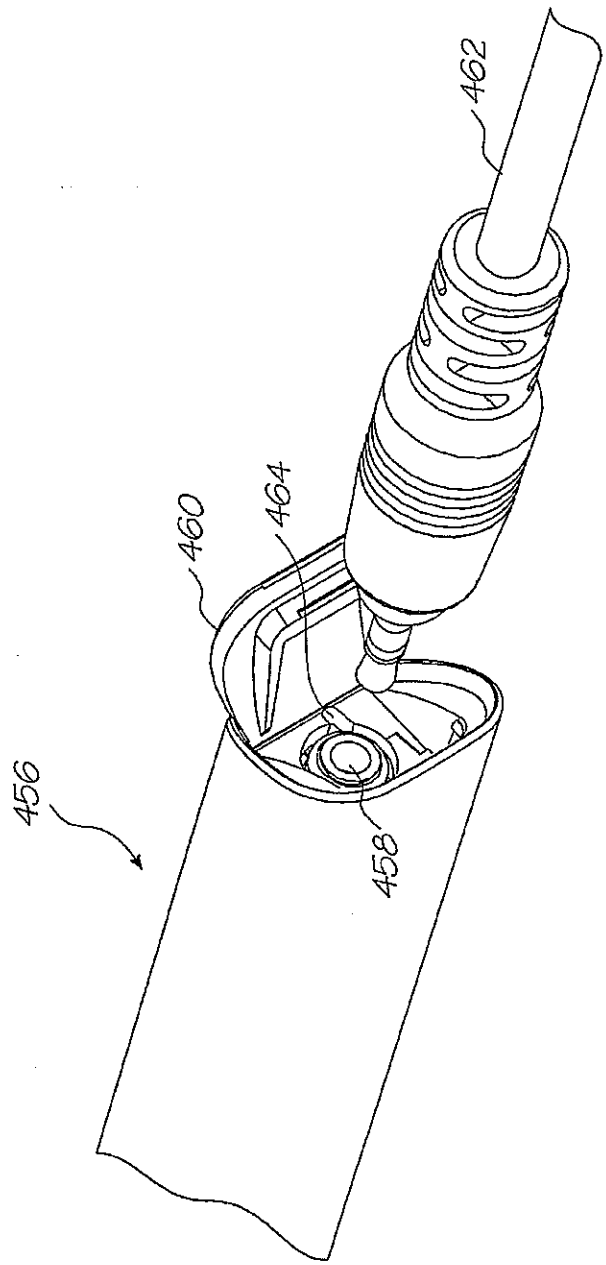


FIG. 15

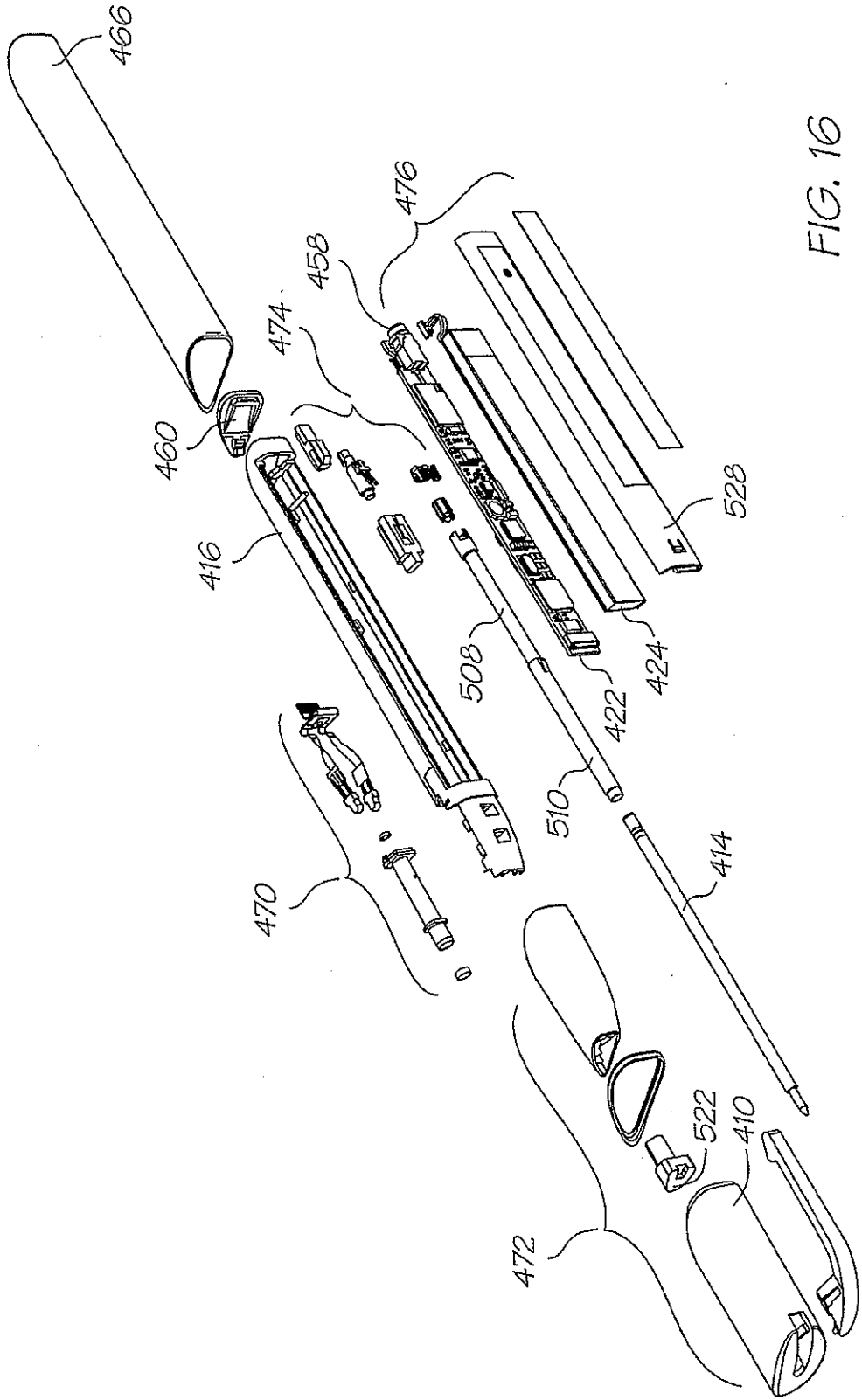


FIG. 16

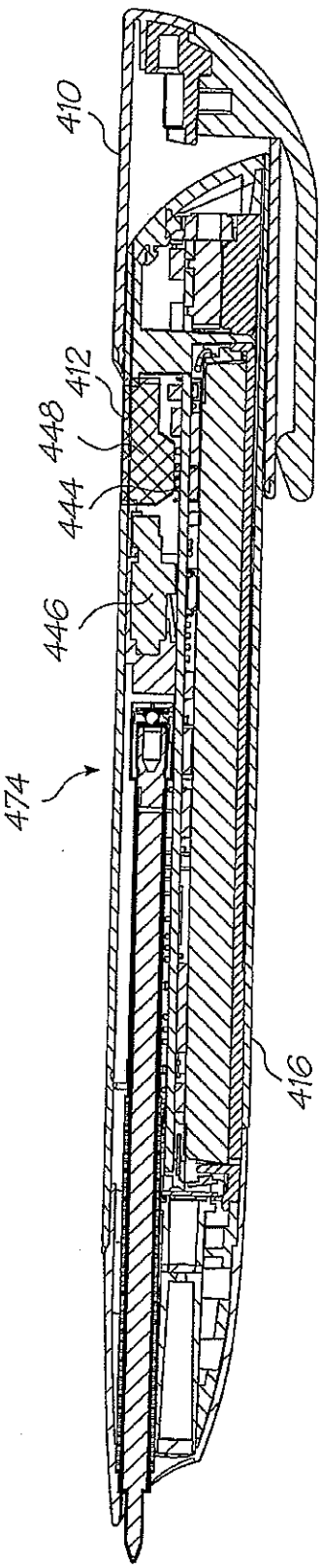

410
412
448
444
446
474
416

FIG. 17

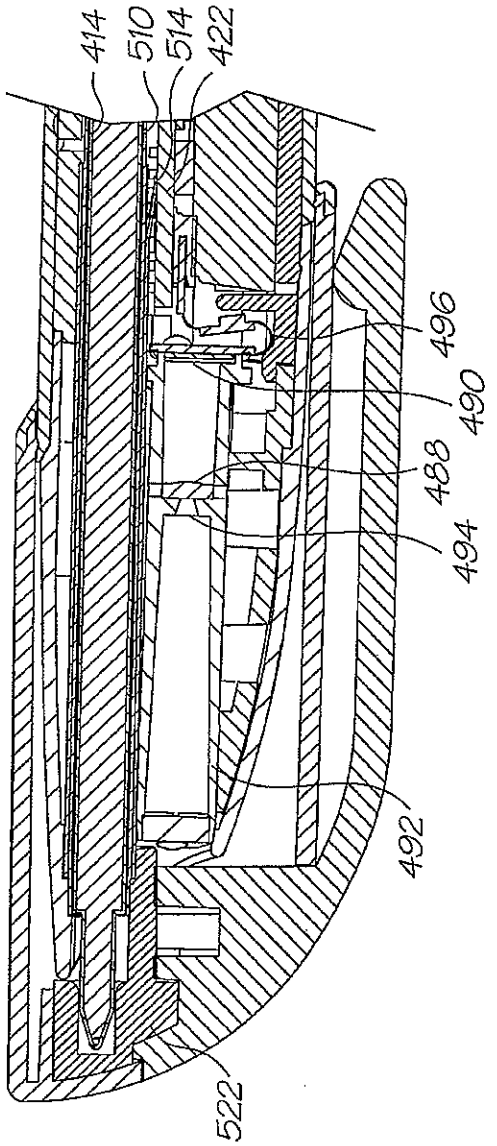

414
510
514
422
496
490
488
494
492
522

FIG. 18

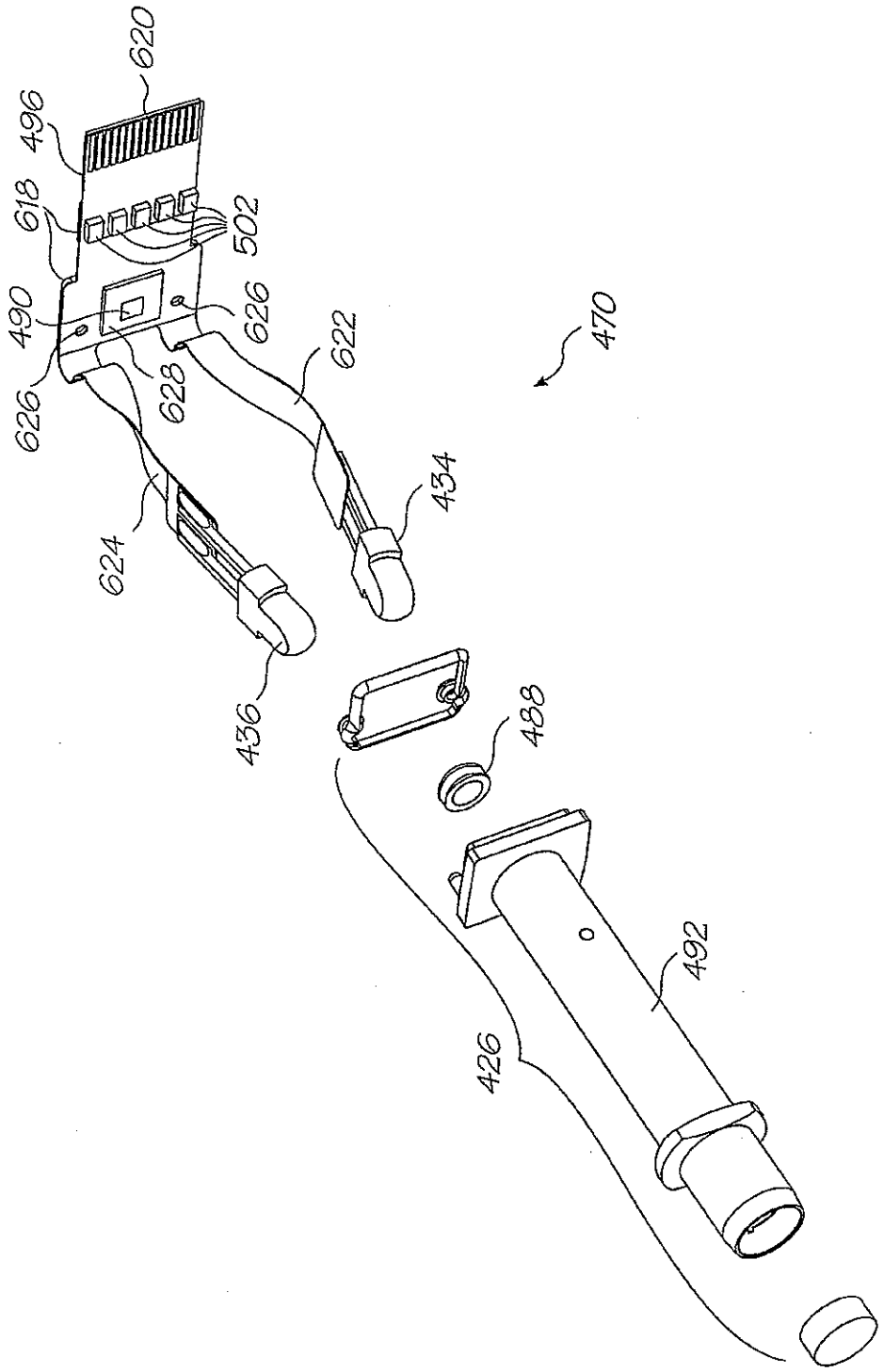


FIG. 19

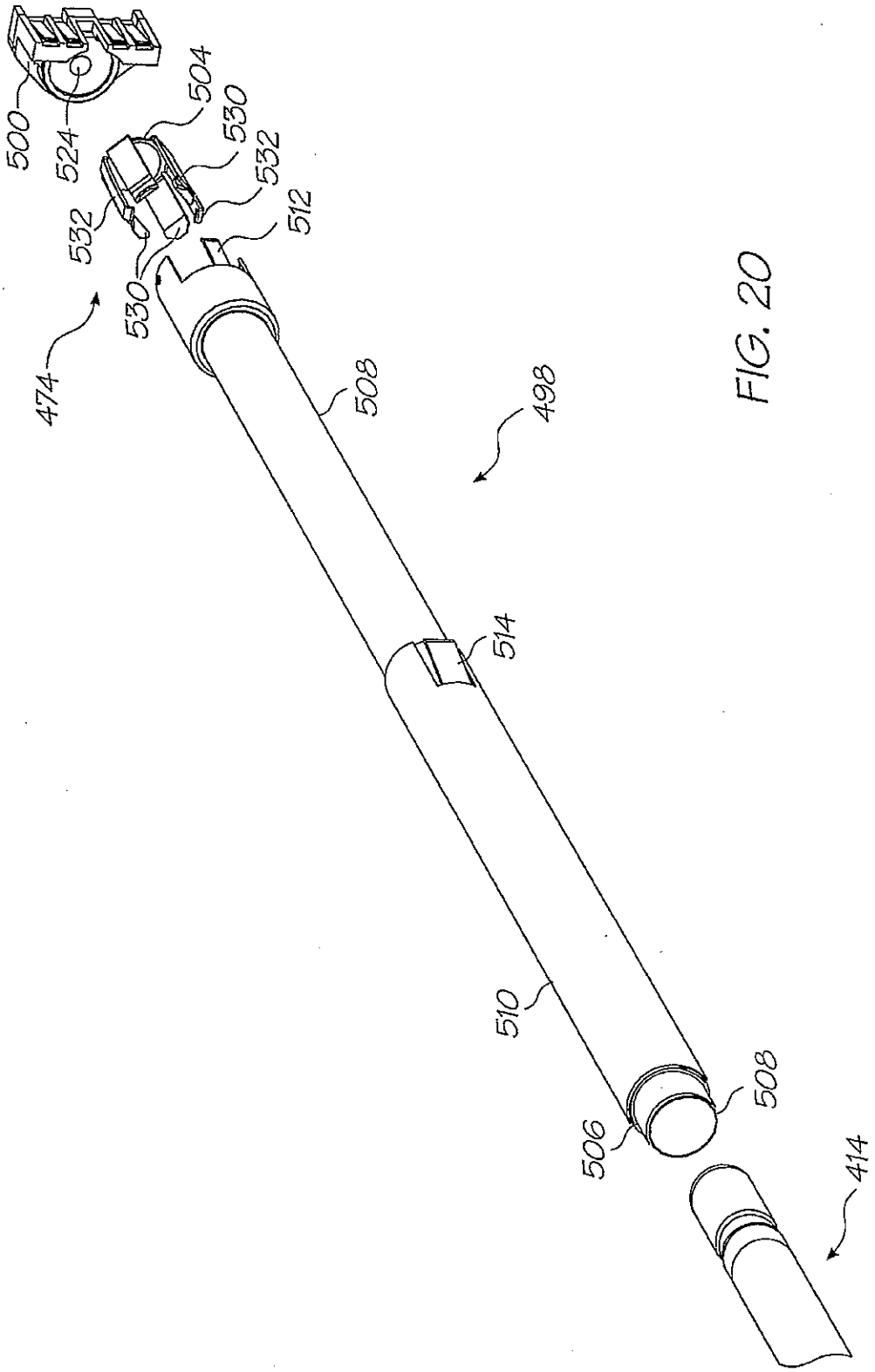


FIG. 20

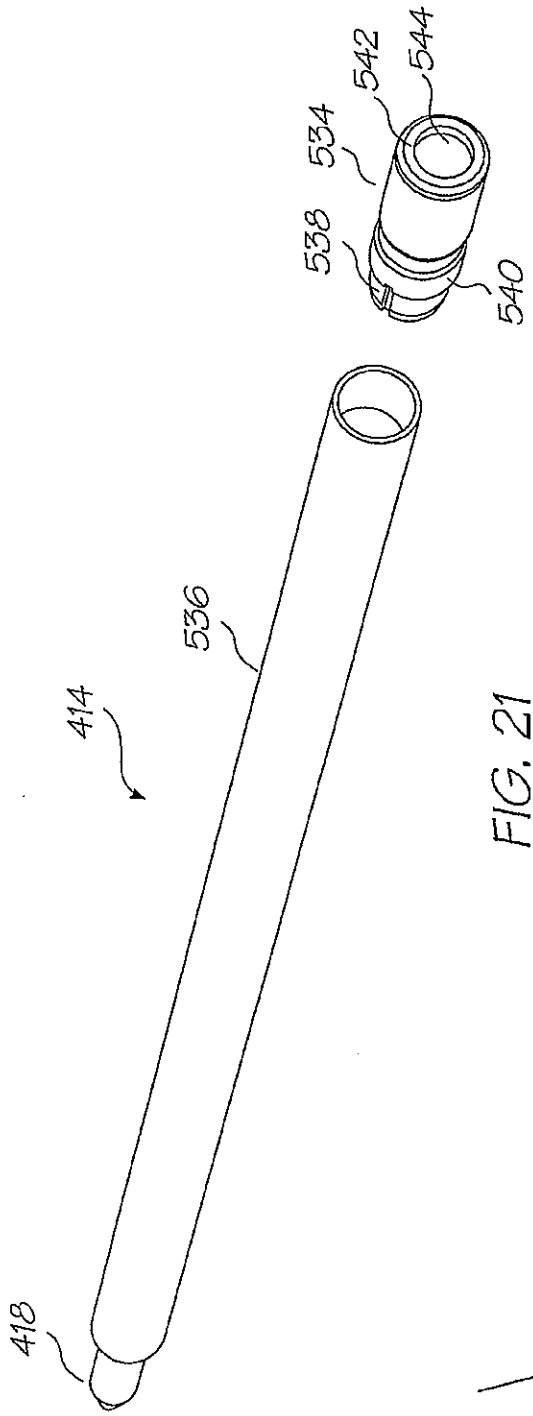


FIG. 21

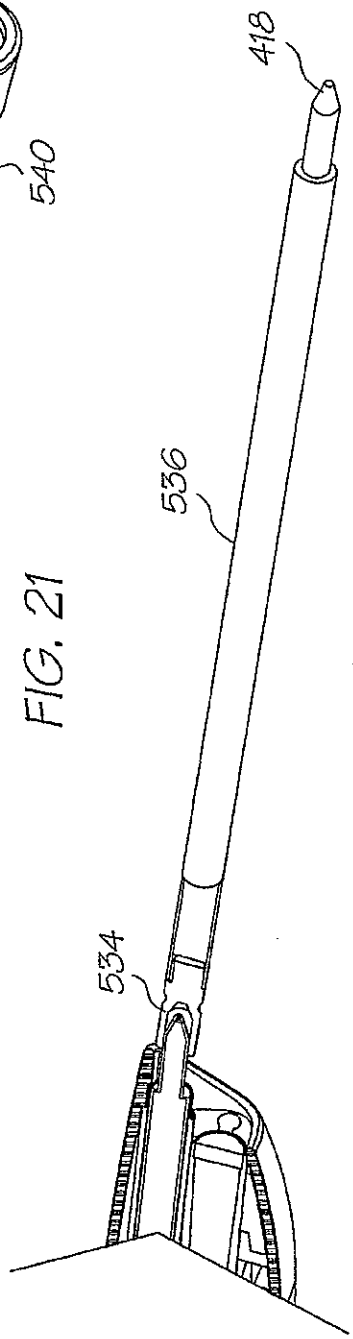


FIG. 22

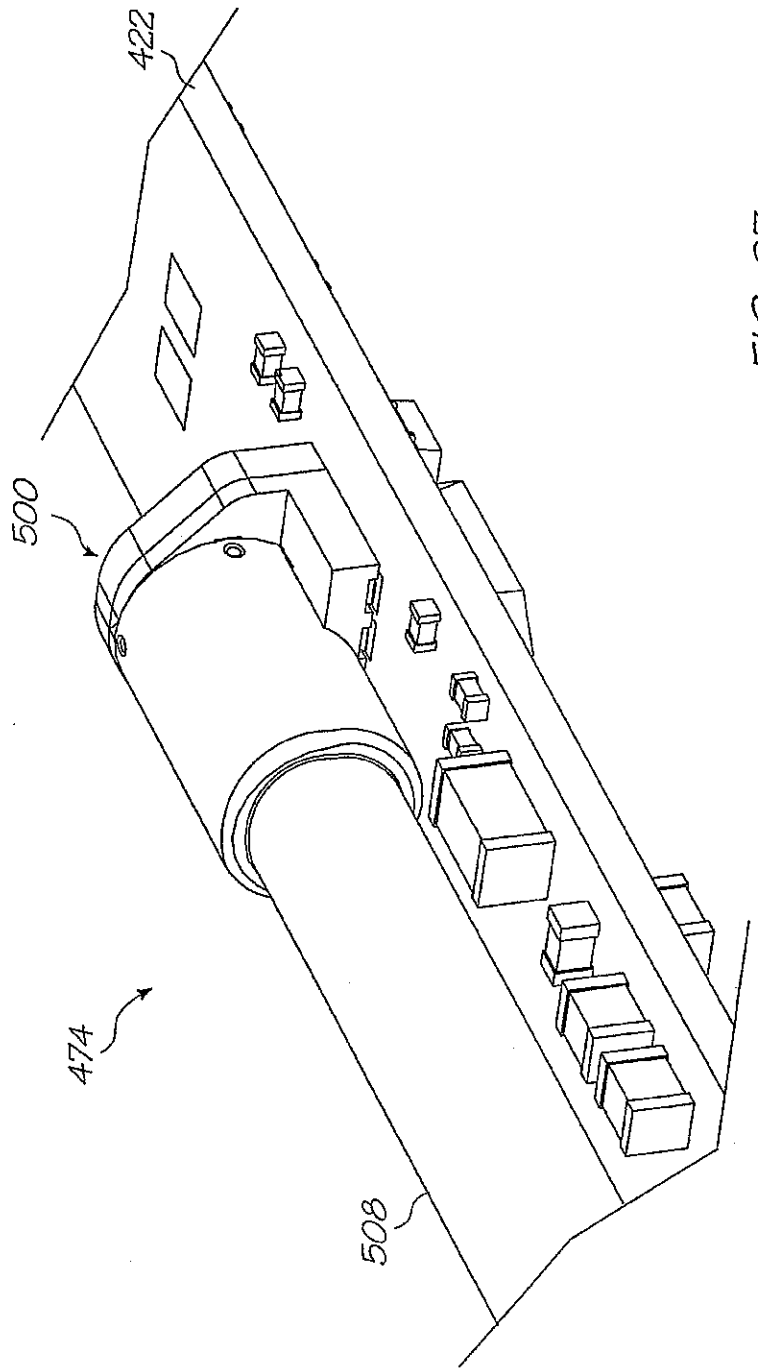


FIG. 23

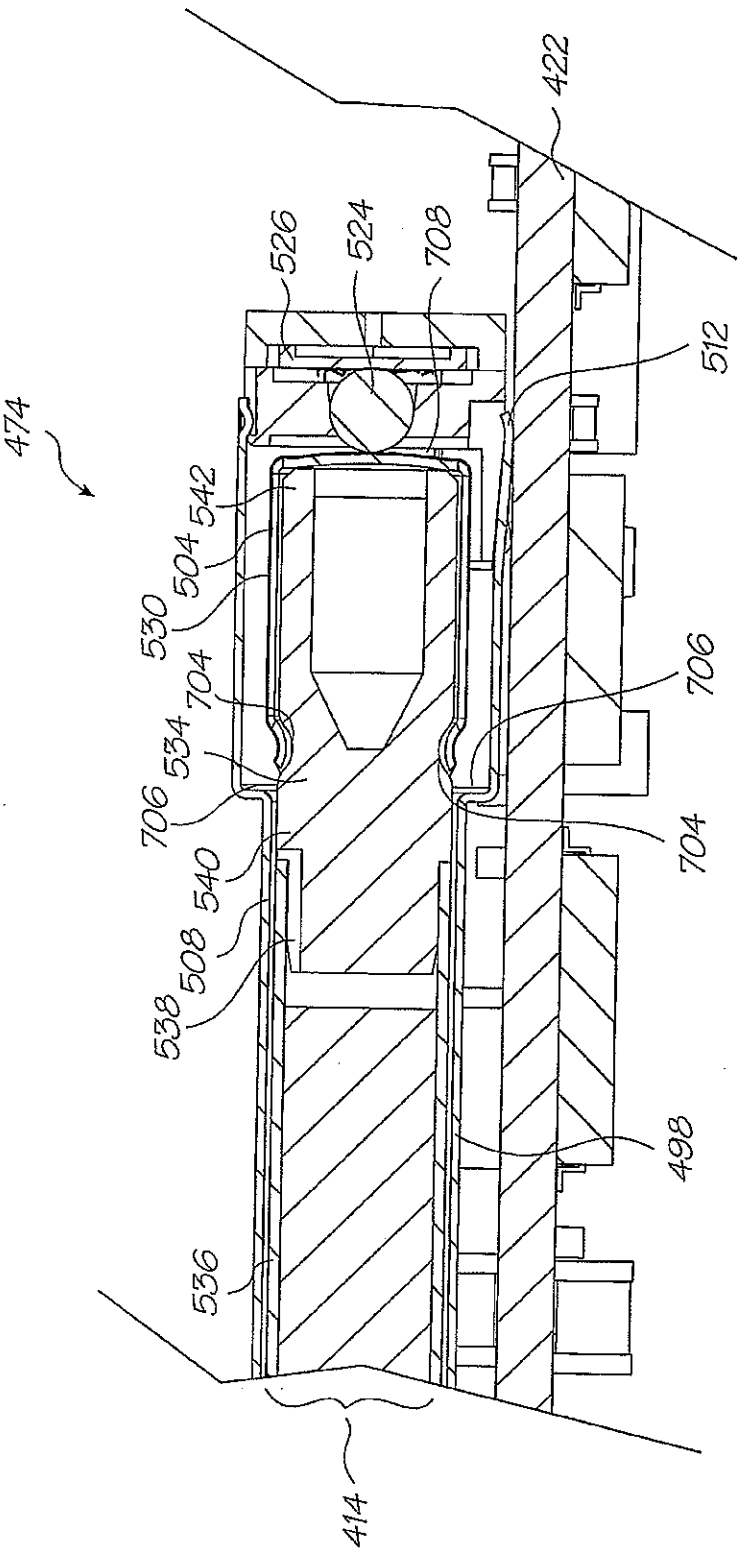

474
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FIG. 24

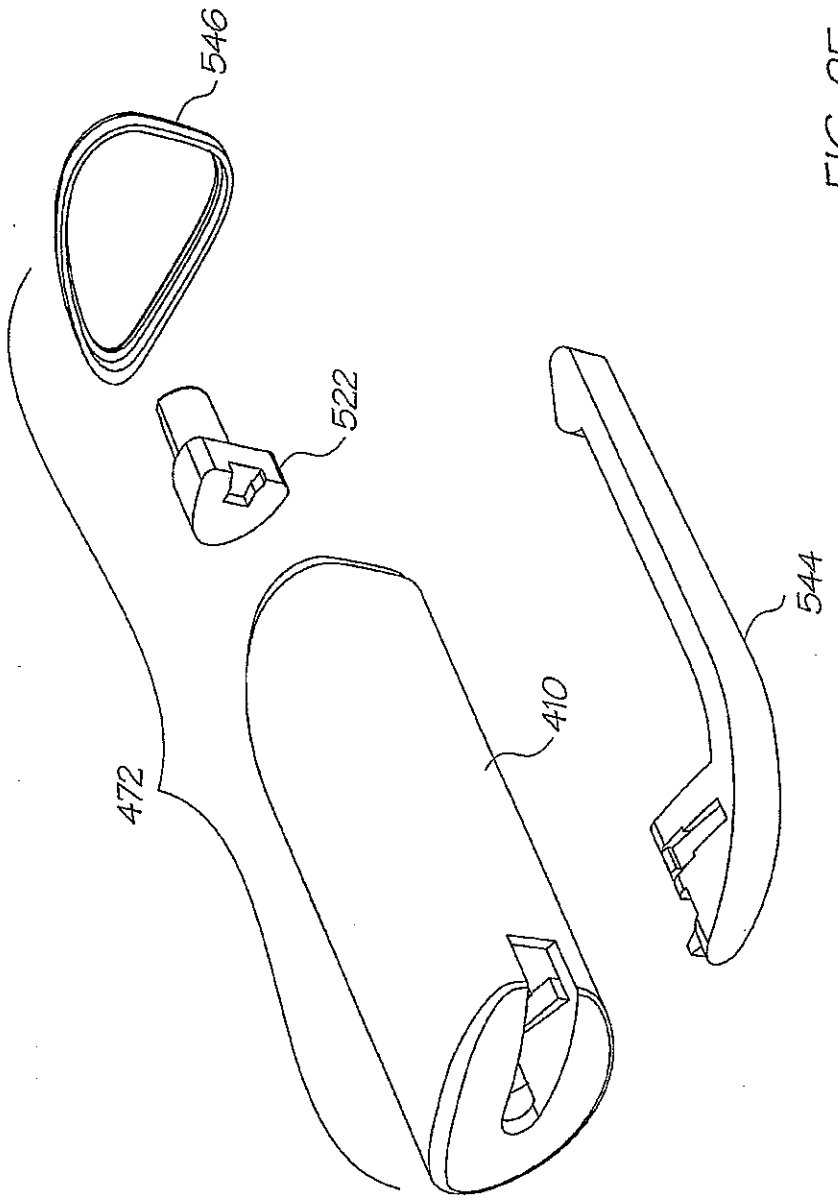


FIG. 25

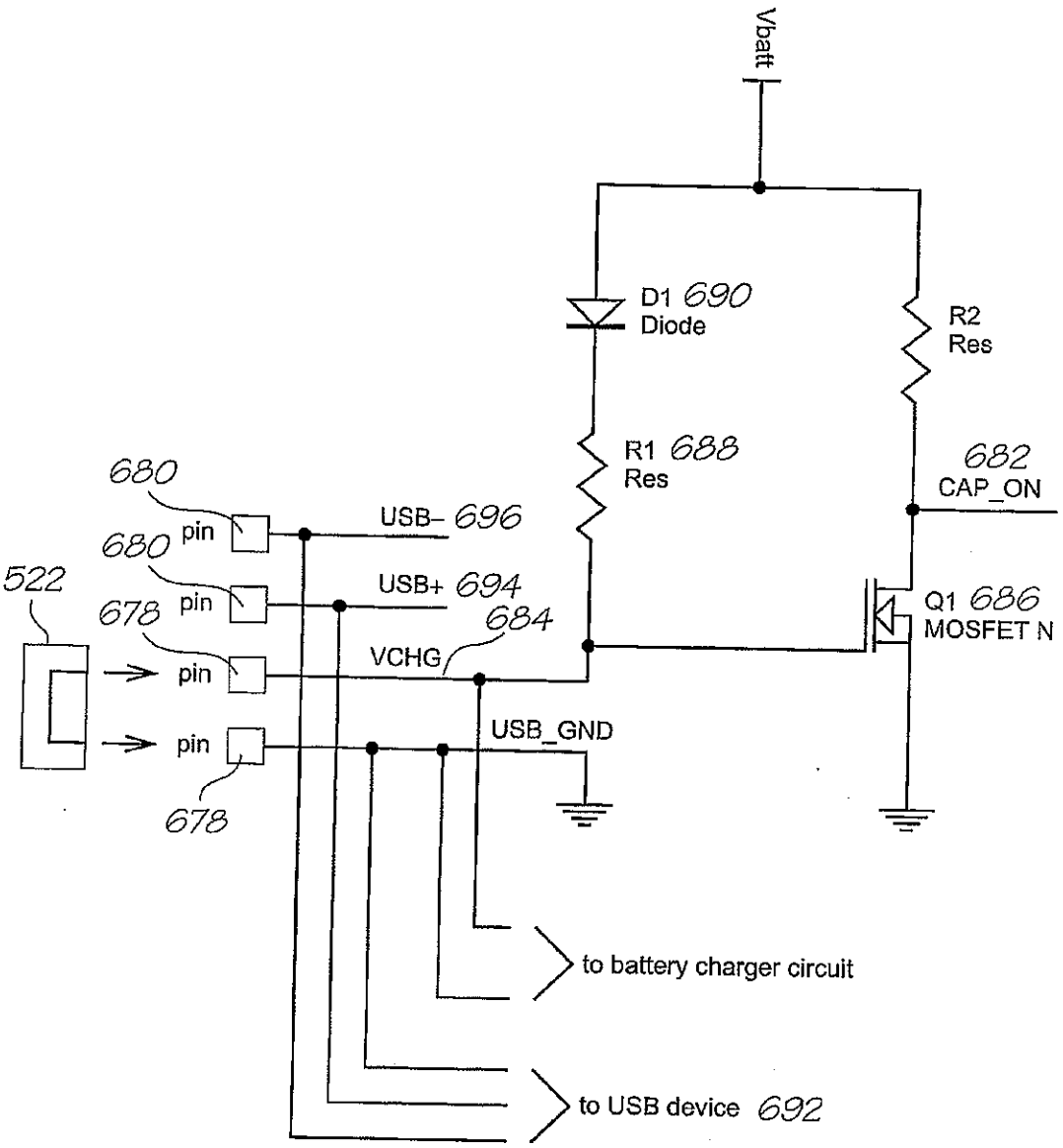

Vbatt
D1 690
Diode
R2
Res
R1 688
Res
682
CAP_ON
680
pin
USB– 696
680
pin
USB+ 694
522
678
pin
684
VCHG
Q1 686
MOSFET N
pin
USB_GND
678
to battery charger circuit
to USB device 692

FIG. 26

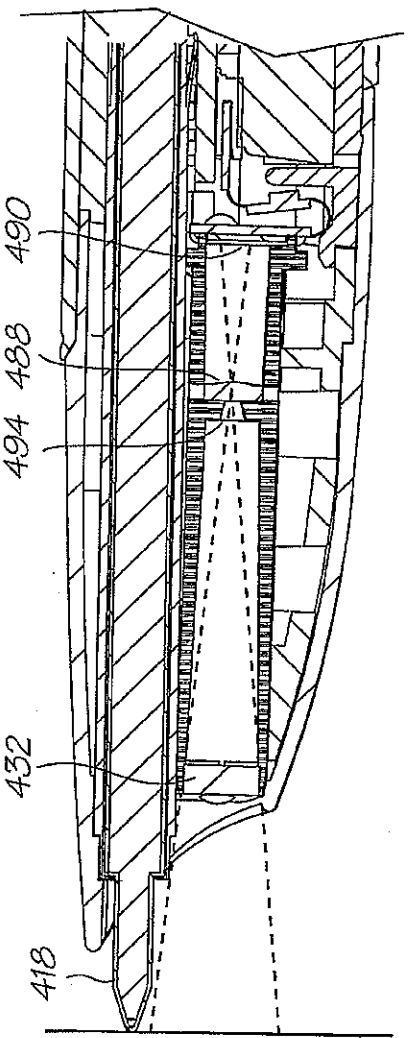


FIG. 27A

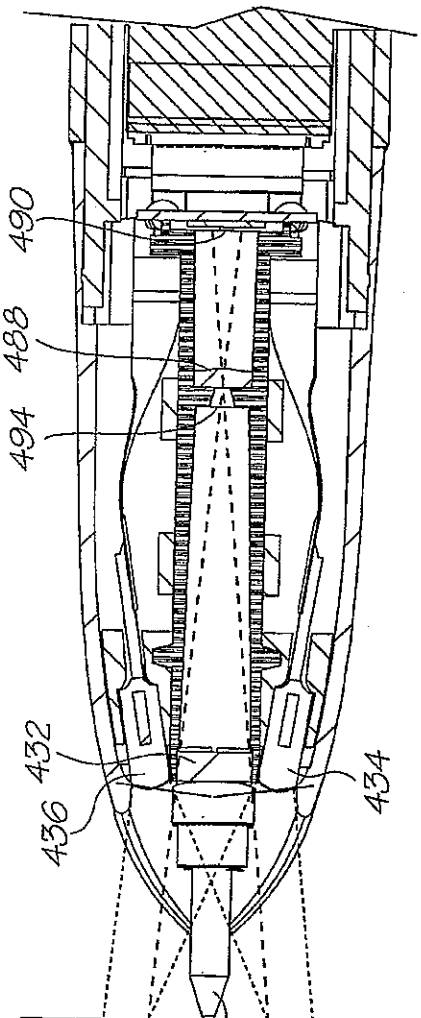


FIG. 27B

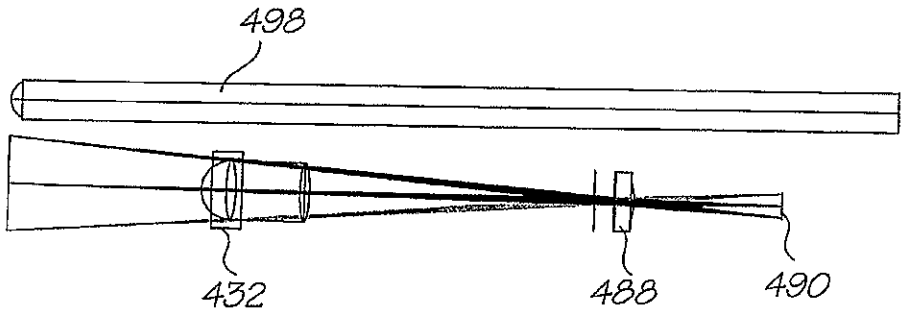


FIG. 28

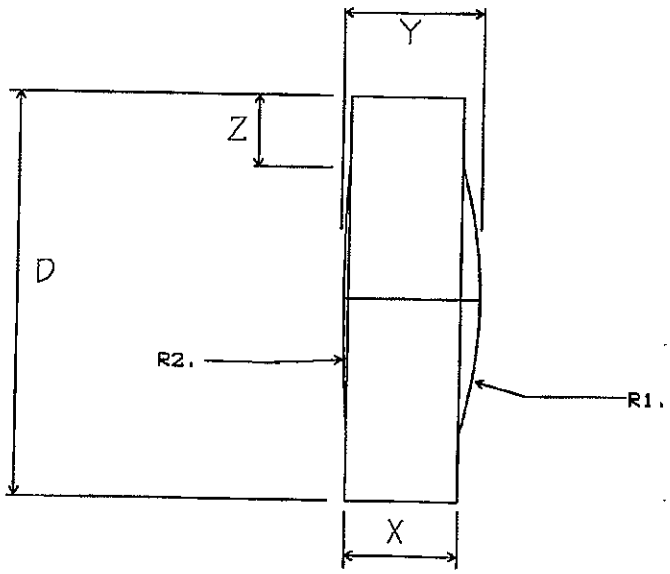


FIG. 29

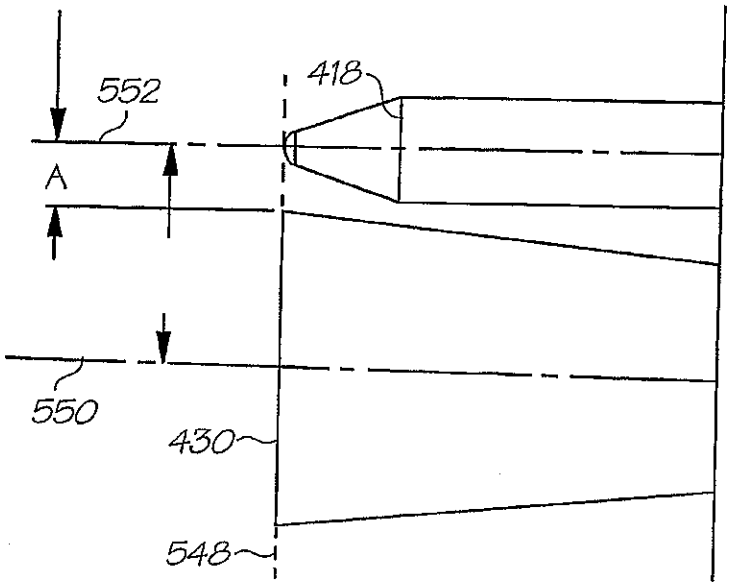


FIG. 30

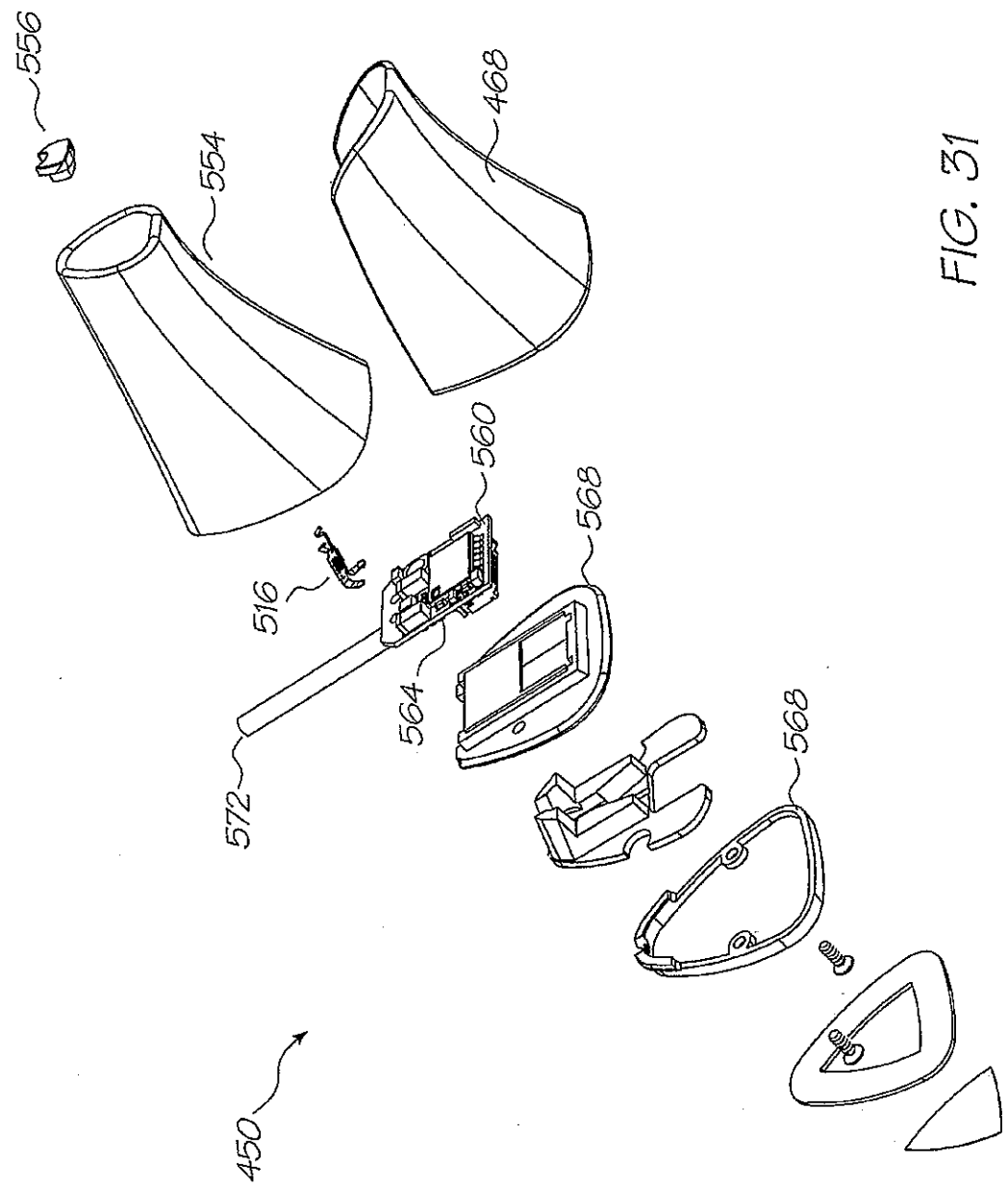


FIG. 31

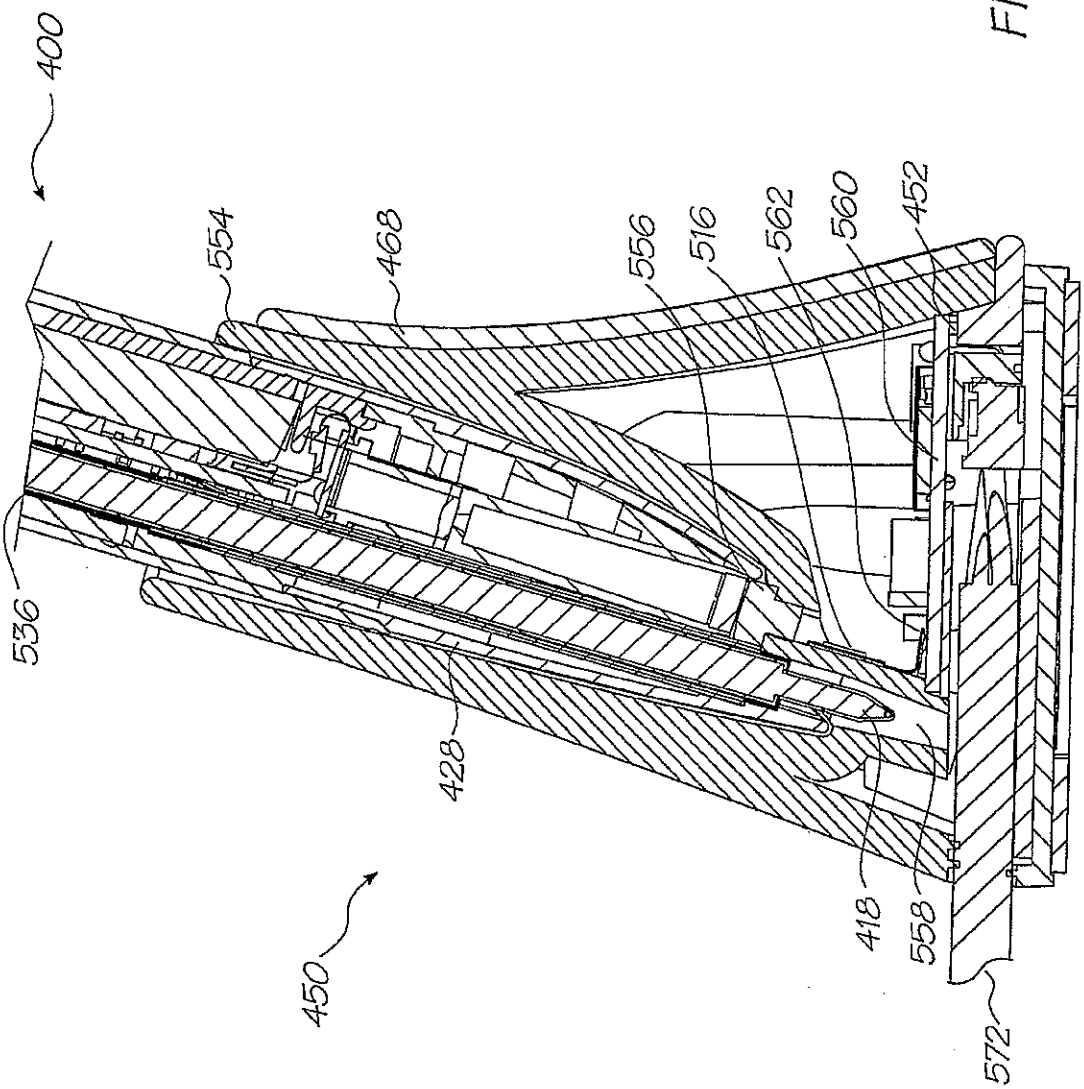


FIG. 32

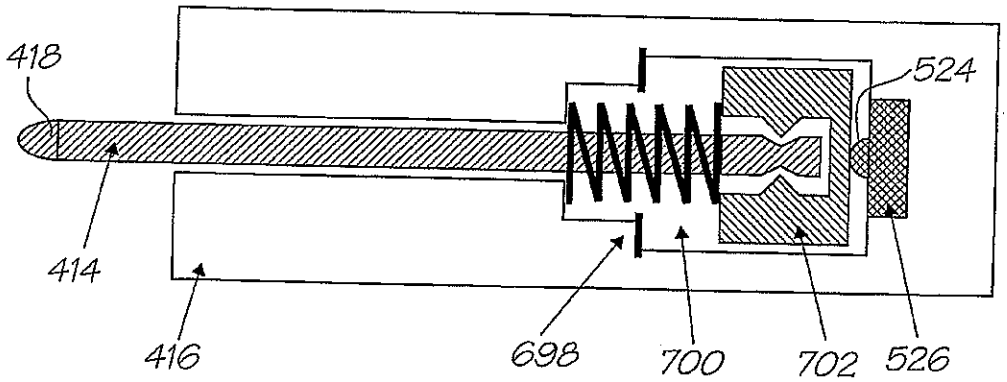

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FIG. 33

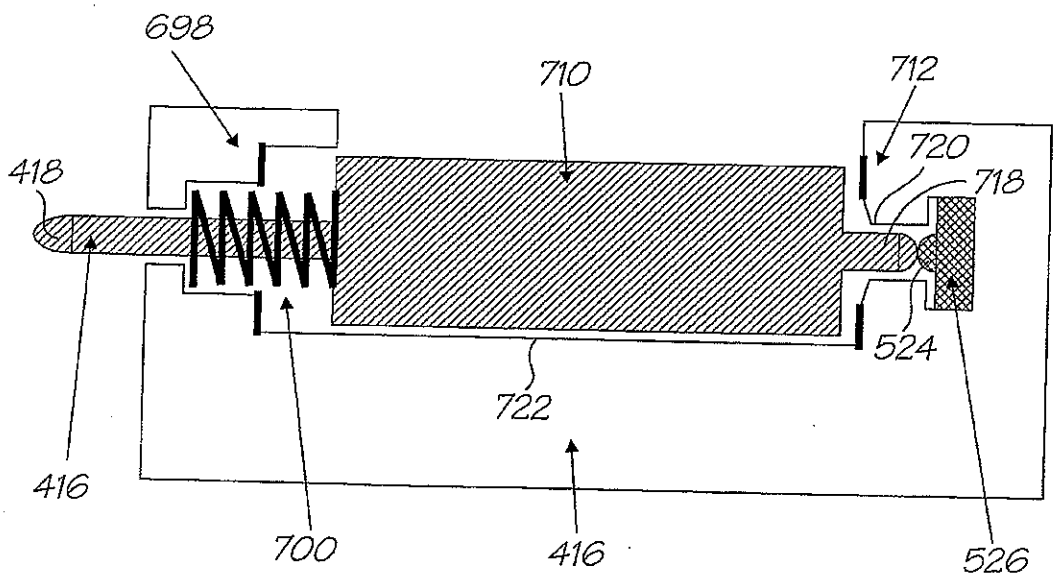

698
710
712
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418
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722
416
700
416
526

FIG. 34

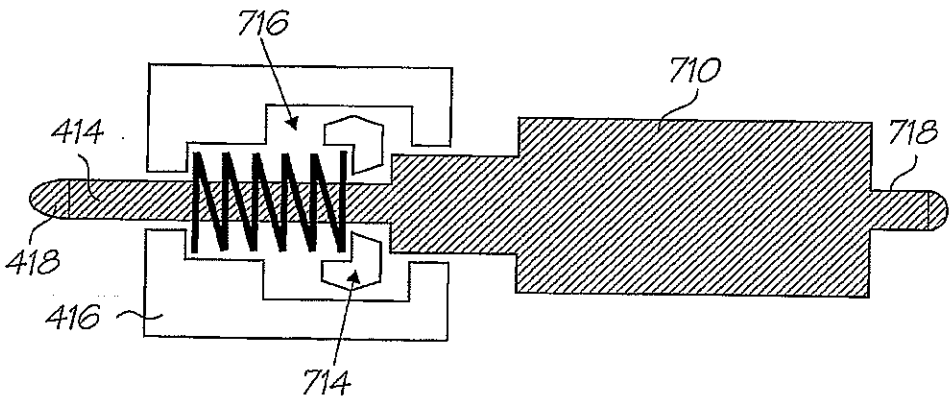

716
710
414
718
418
416
714

FIG. 35

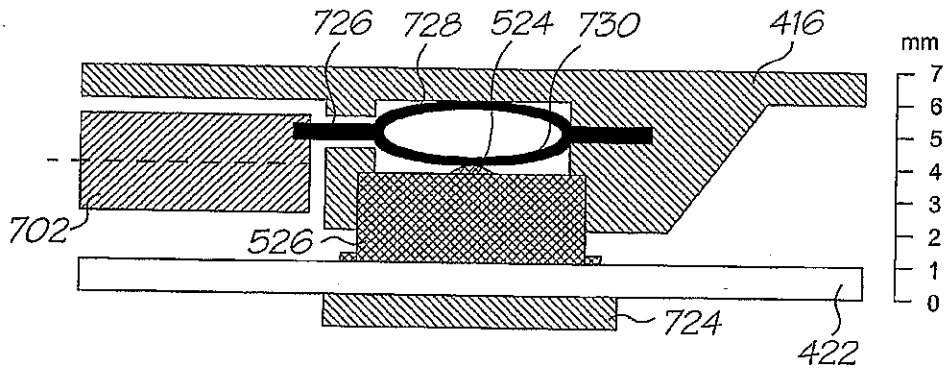

726
728
524
730
416
mm
7
6
5
4
3
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702
526
724
422

FIG. 36

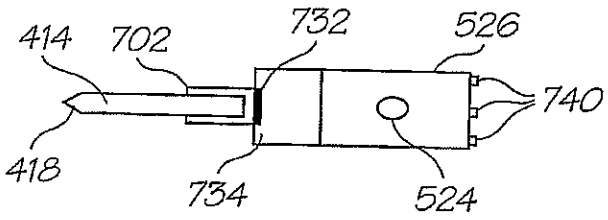


FIG. 37A

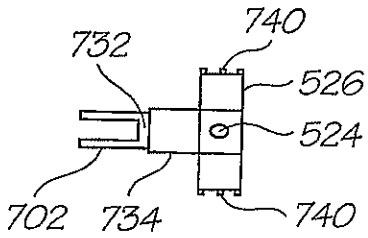


FIG. 38

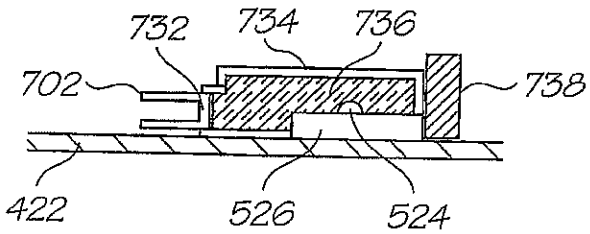


FIG. 37B

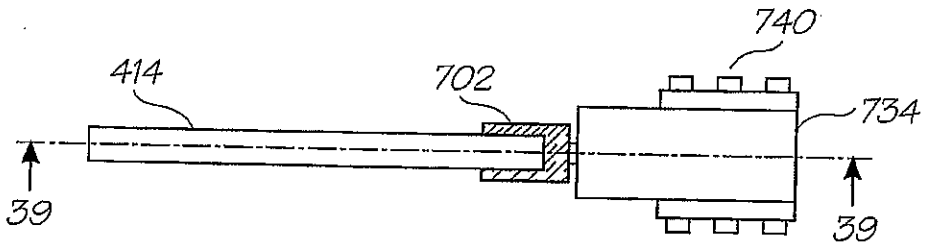


FIG. 39A

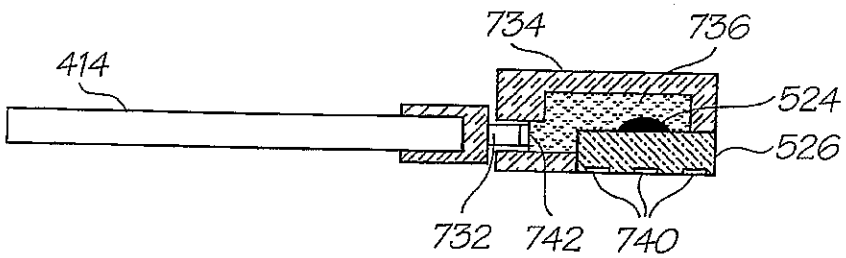


FIG. 39B

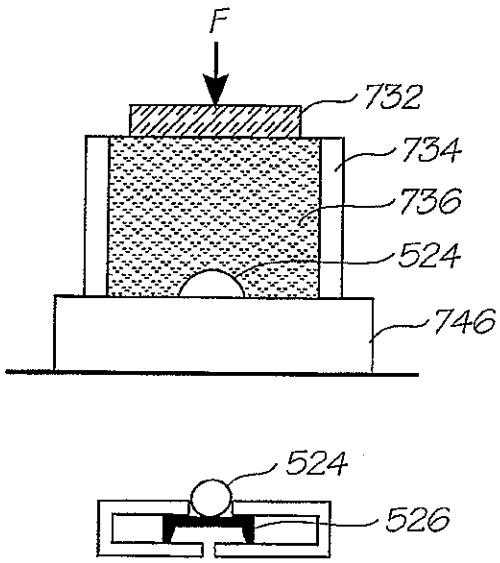


FIG. 40

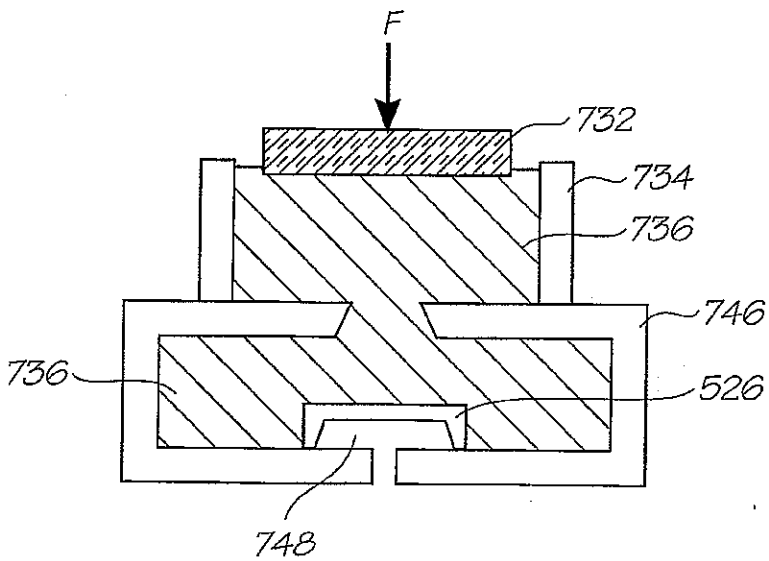


FIG. 41

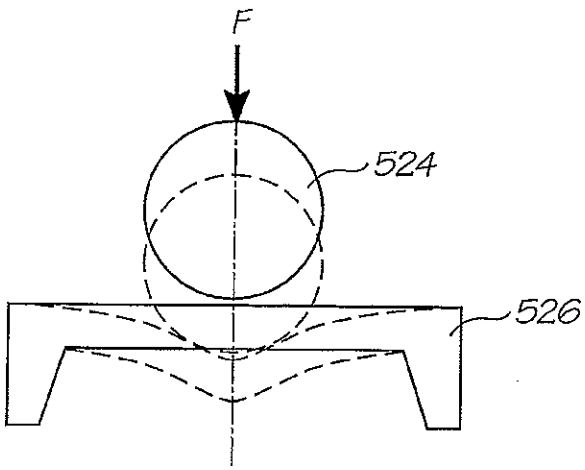


FIG. 42

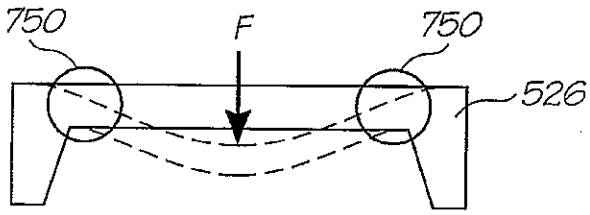


FIG. 43

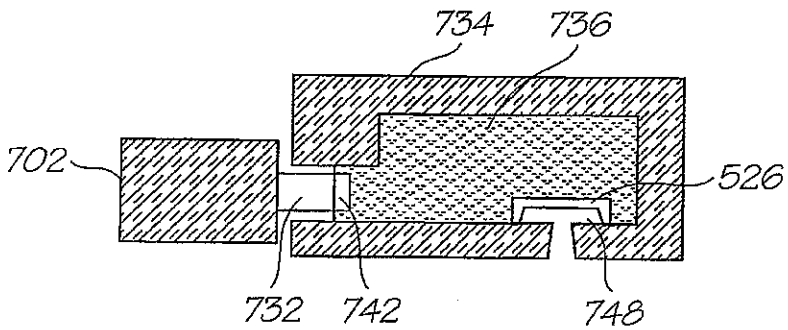


FIG. 44

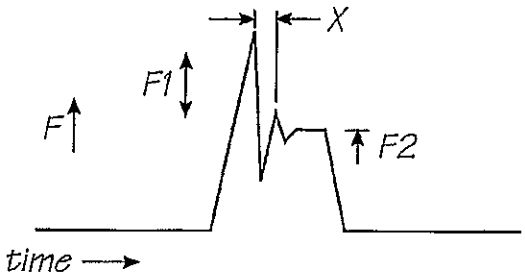


FIG. 45

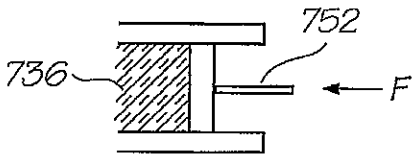


FIG. 46A

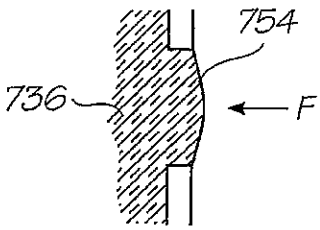


FIG. 46B

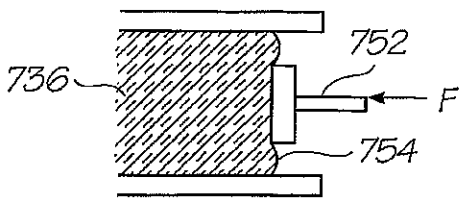


FIG. 46C

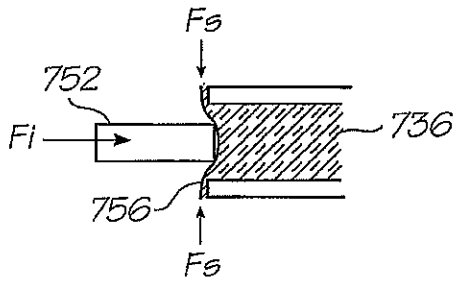


FIG. 47A

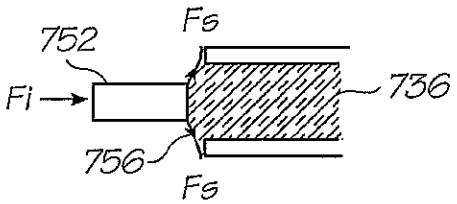


FIG. 47B

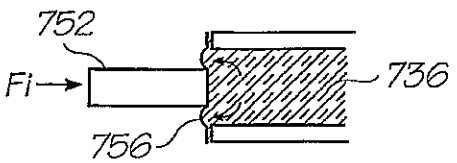


FIG. 47C

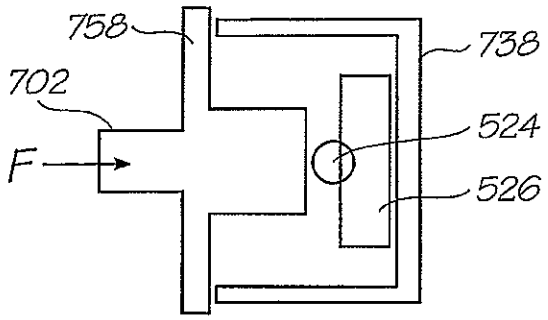


FIG. 48

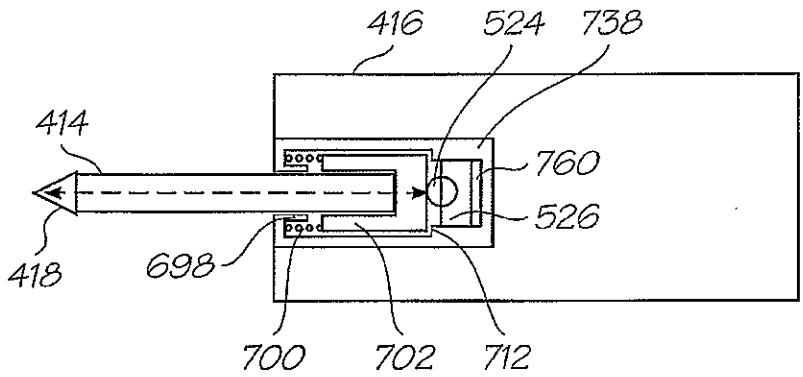


FIG. 49

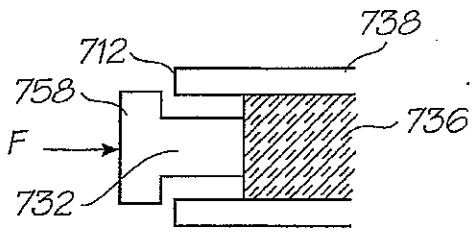


FIG. 50

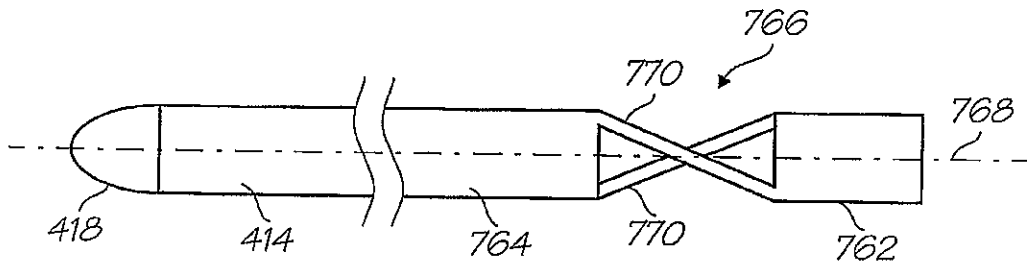


FIG. 51

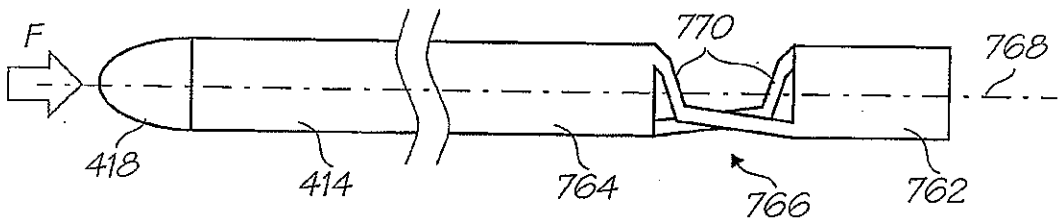


FIG. 52

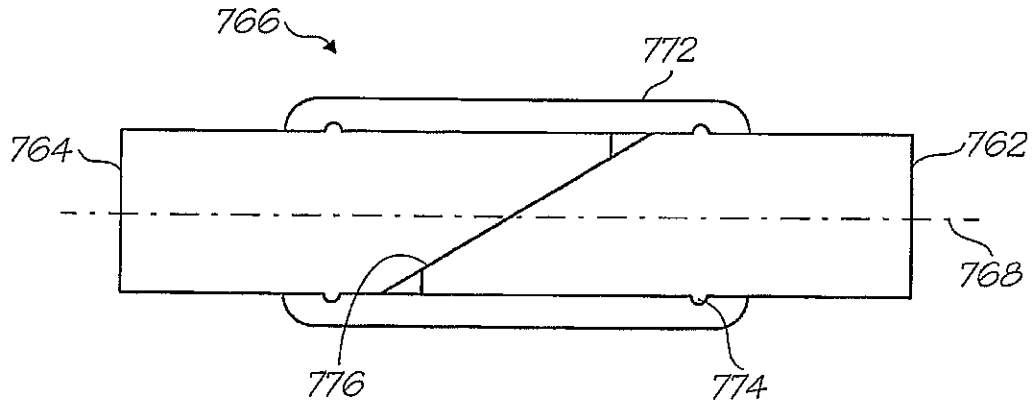


FIG. 53

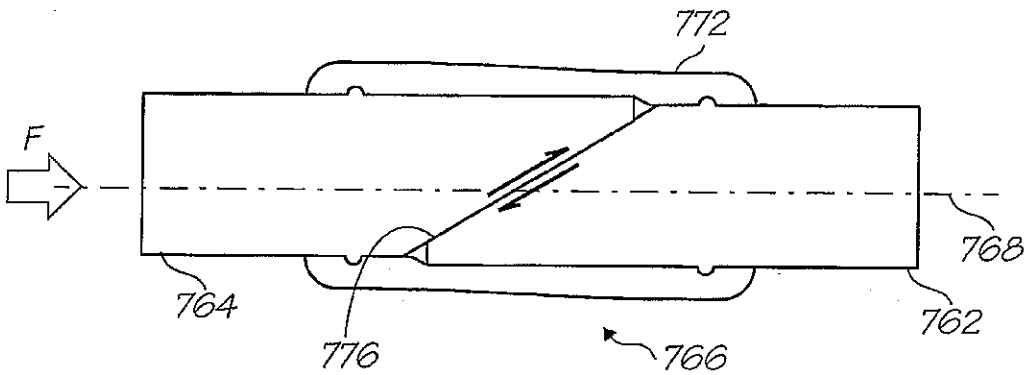


FIG. 54

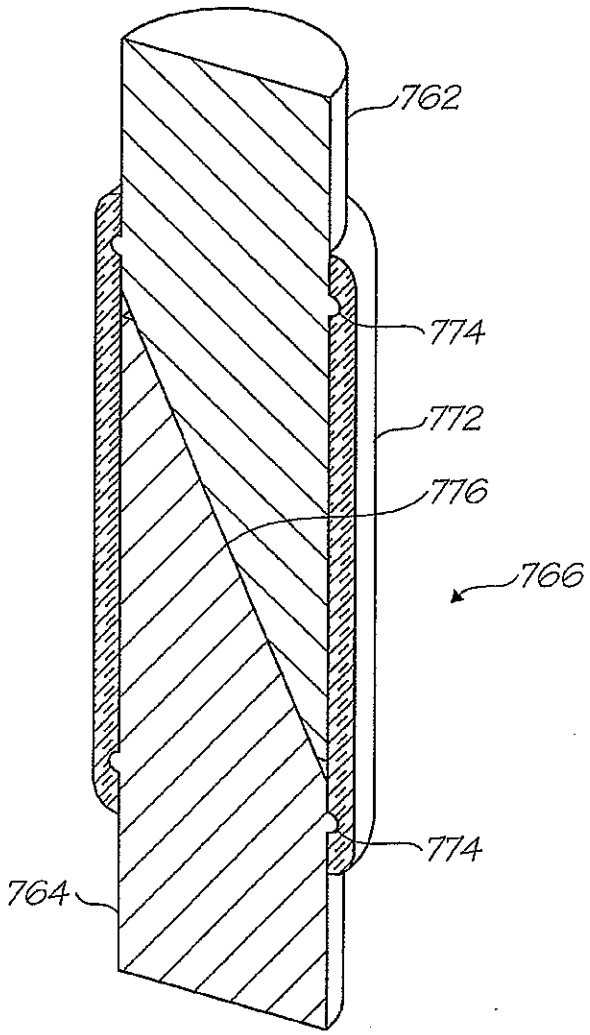


FIG. 55

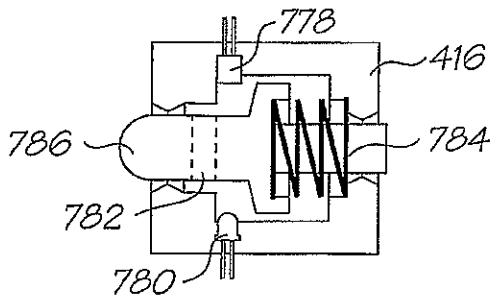


FIG. 56A

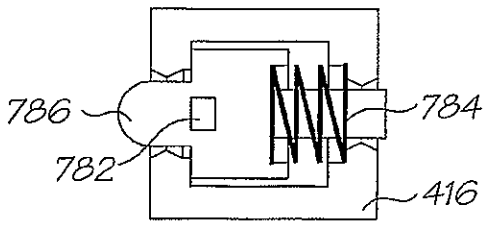


FIG. 56B

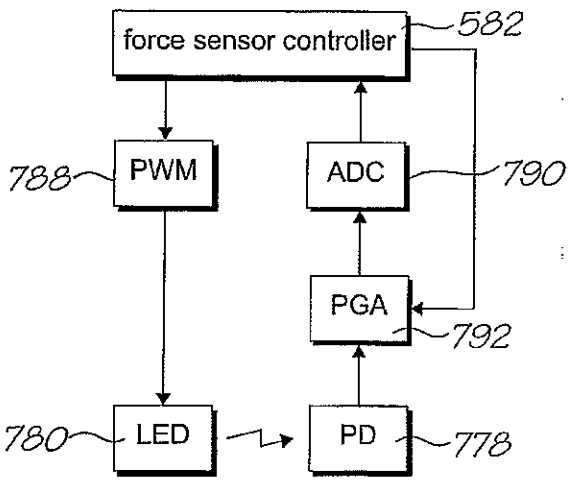


FIG. 57

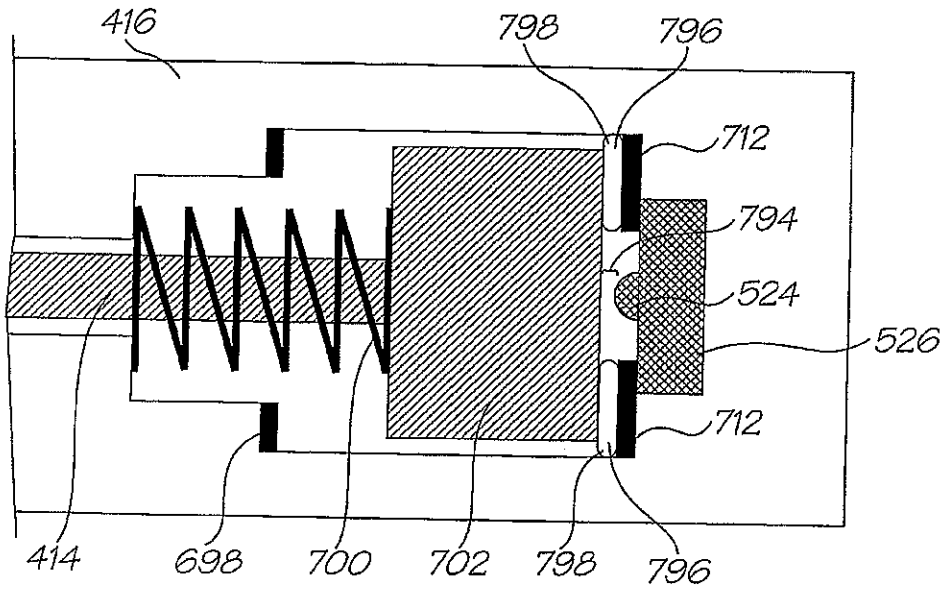

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FIG. 58

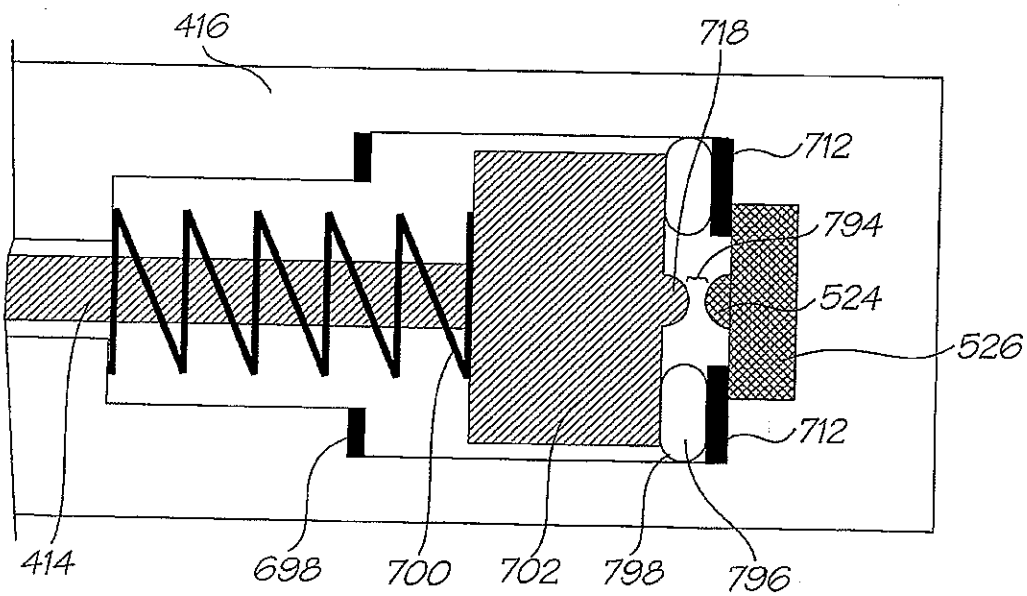

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FIG. 59

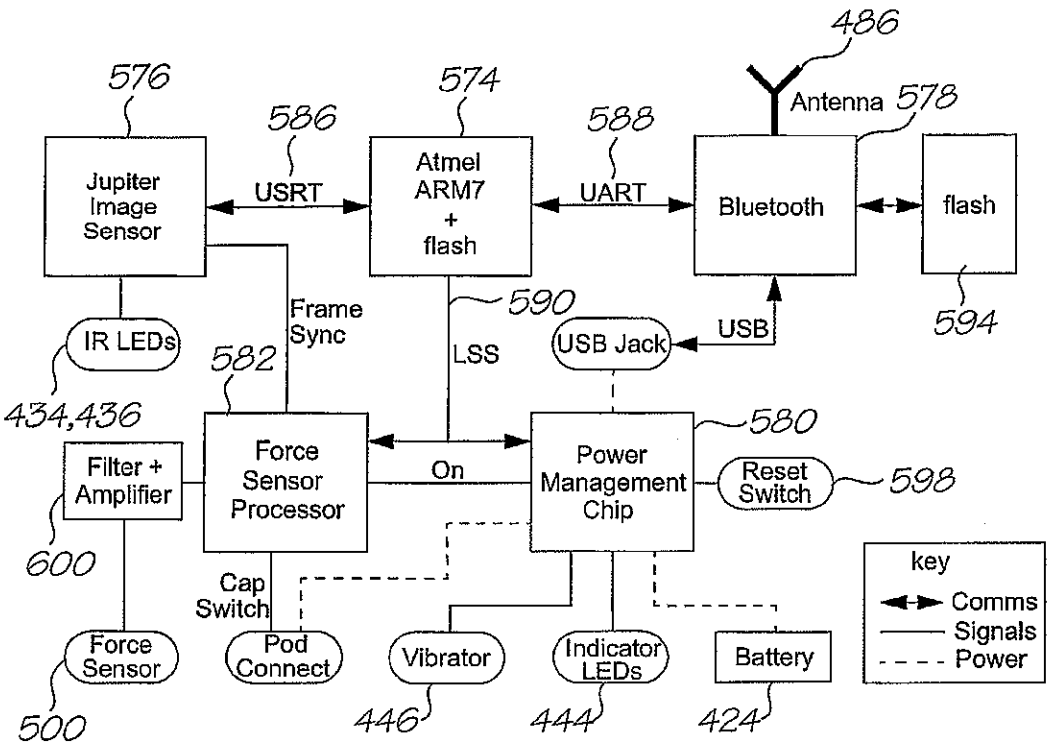

576
586
574
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486
Antenna
578
Jupiter Image Sensor
USRT
Atmel ARM7 + flash
UART
Bluetooth
flash
590
Frame Sync
LSS
USB Jack
USB
594
IR LEDs
582
434,436
580
Force Sensor Processor
On
Power Management Chip
Reset Switch
598
Filter + Amplifier
600
Cap Switch
key
Comms
Signals
Power
Force Sensor
Pod Connect
Vibrator
Indicator LEDs
Battery
500
446
444
424

FIG. 60

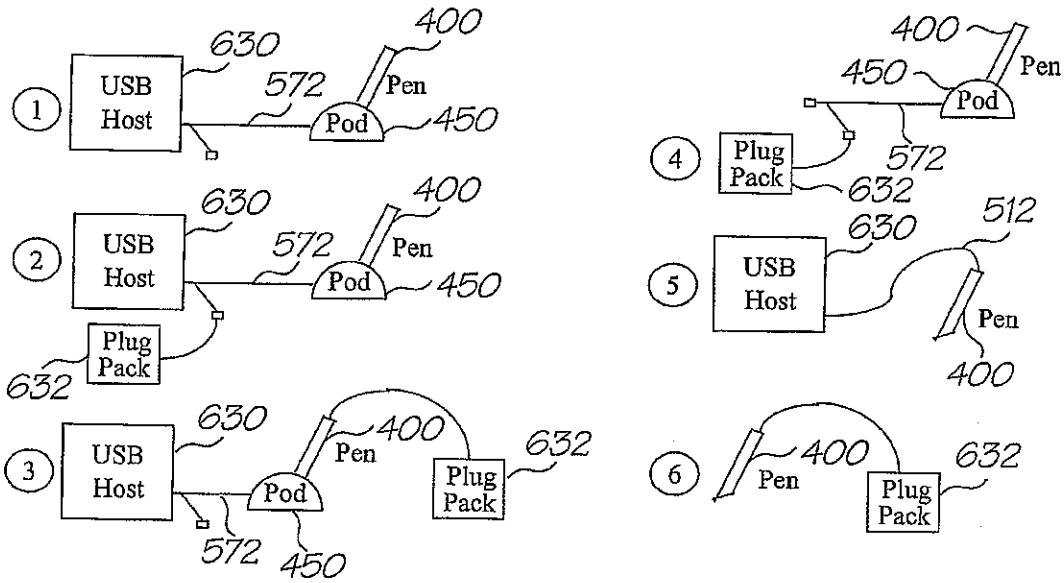

1
USB Host
630
572
400
Pen
Pod
450
2
USB Host
630
572
400
Pen
Pod
450
Plug Pack
632
3
USB Host
630
400
Pen
632
Plug Pack
Pod
572
450
4
Plug Pack
632
400
450
Pen
Pod
572
5
USB Host
630
512
Pen
400
6
400
Pen
632
Plug Pack
Tethered pod cable with two connectors, USB A and 4-way jack
Power cable, plug pack to 4-way jack
USB cable, A to 4-way jack

FIG. 61

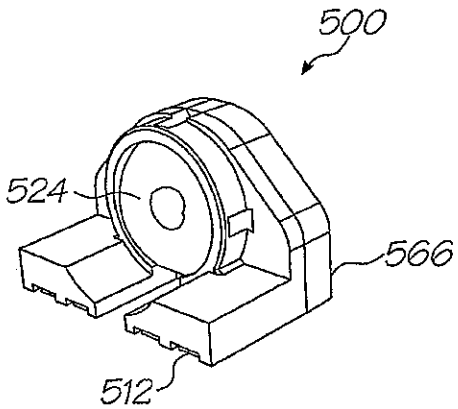


FIG. 62D

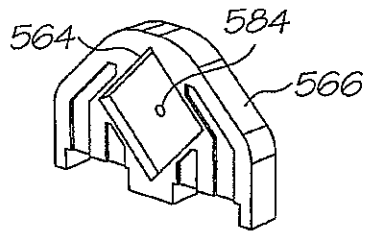


FIG. 62B

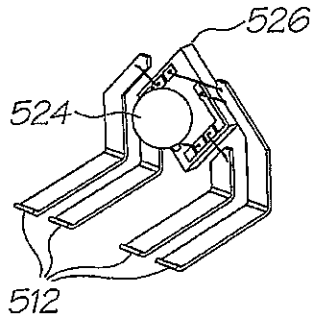


FIG. 62A

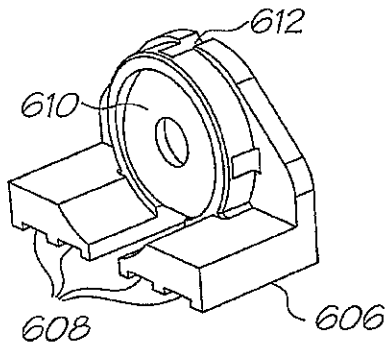


FIG. 62C

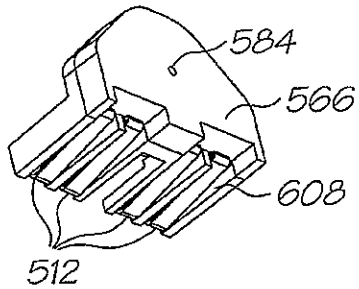


FIG. 62E

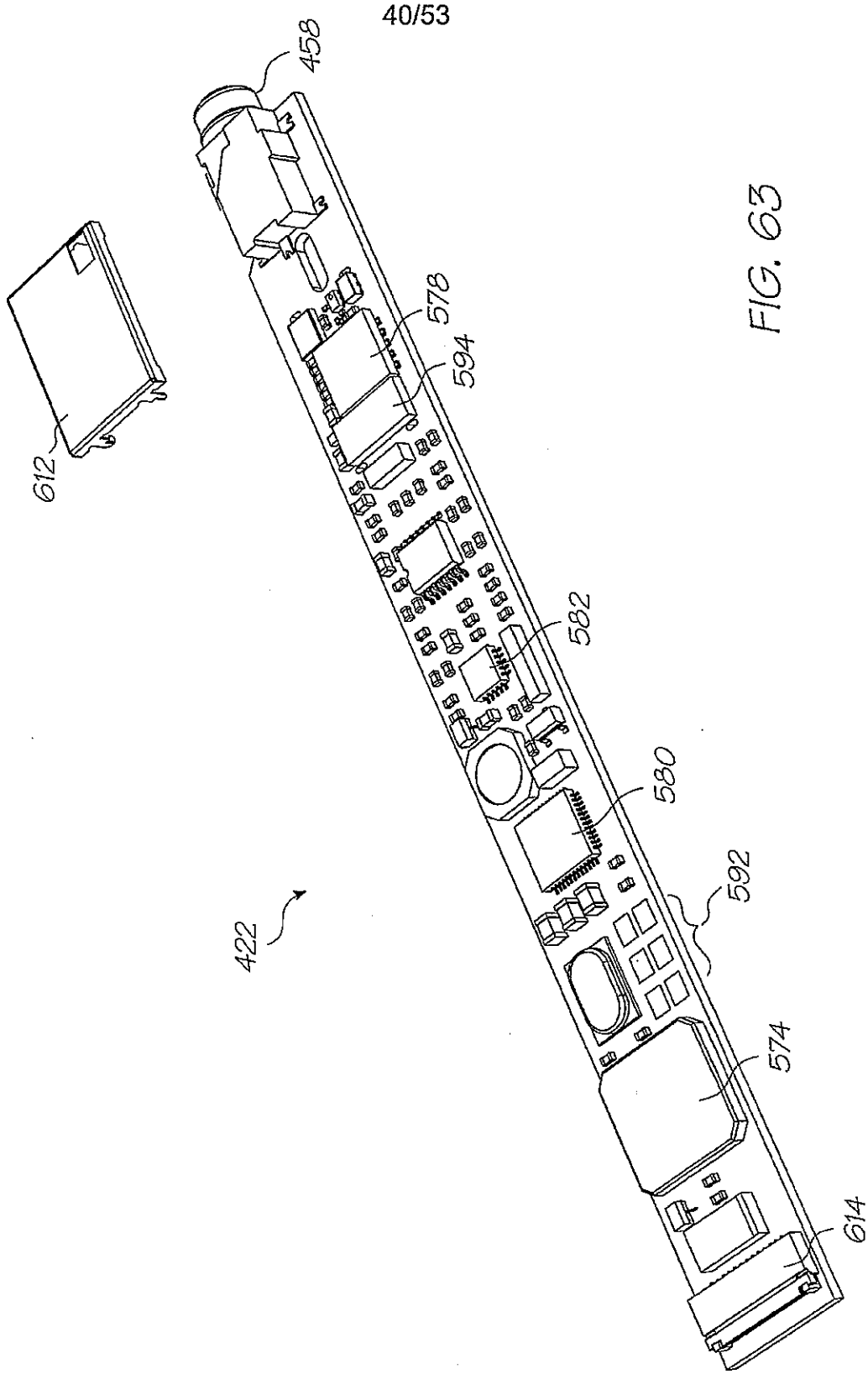


FIG. 63

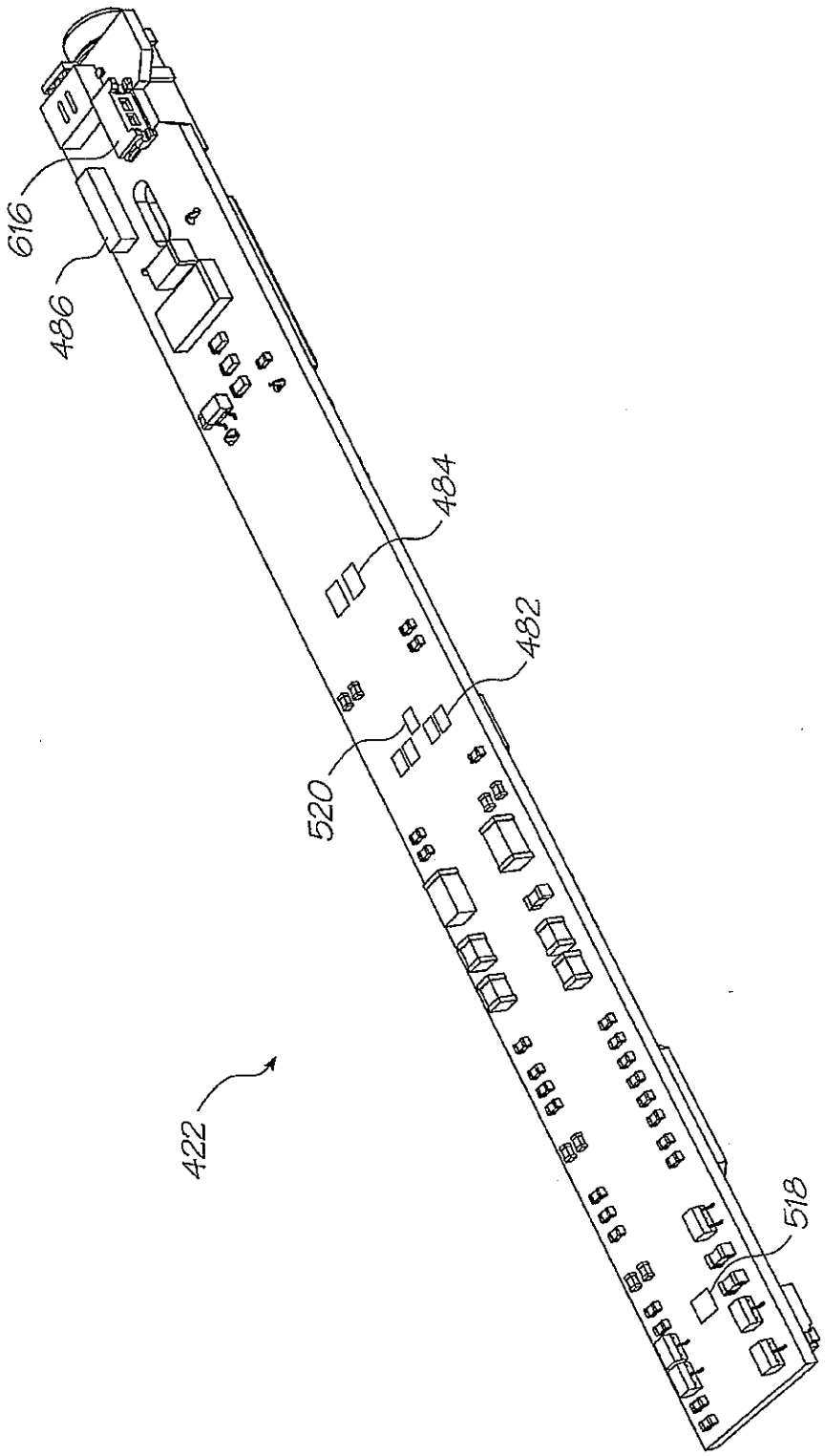


FIG. 64

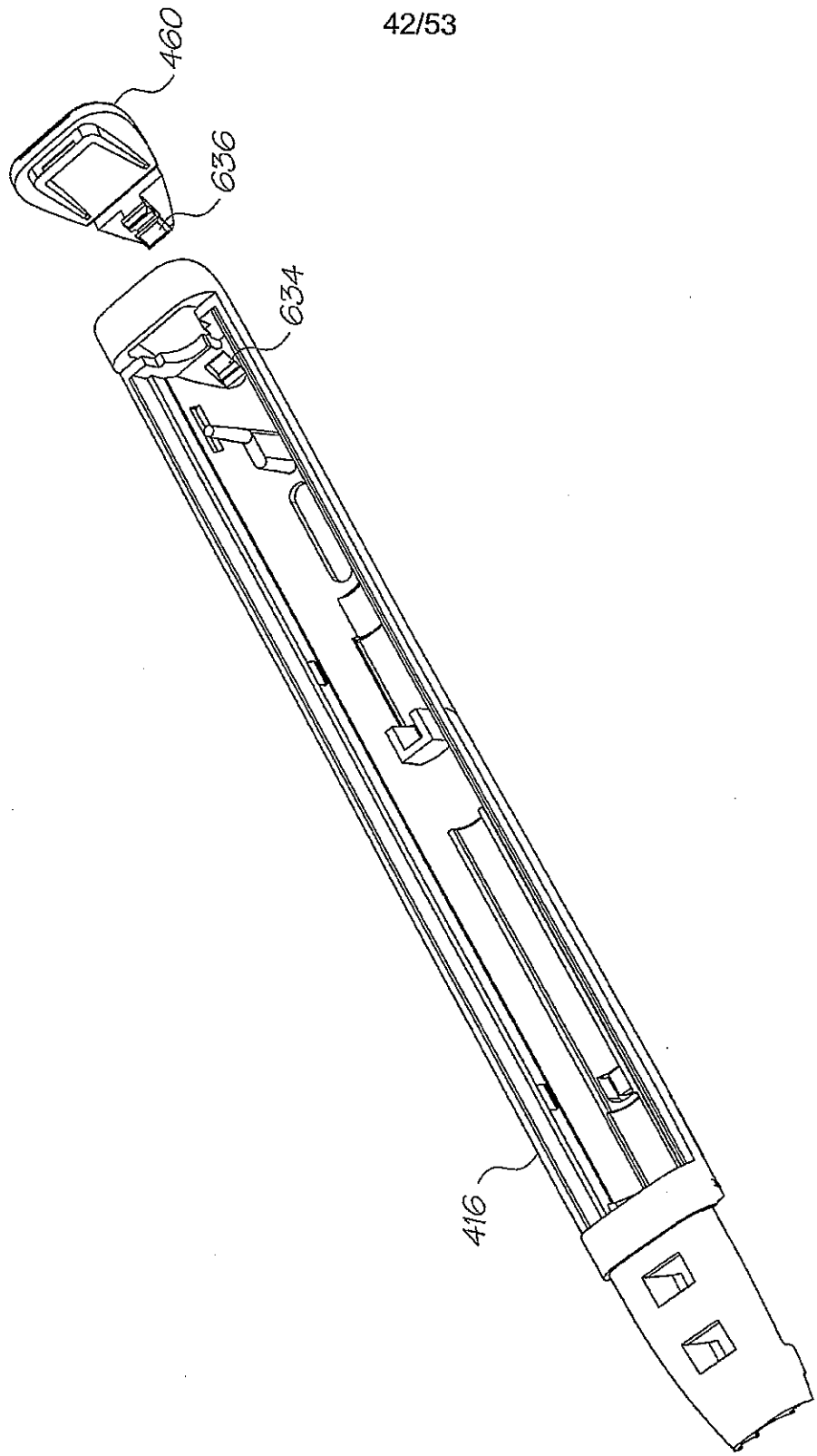


FIG. 65

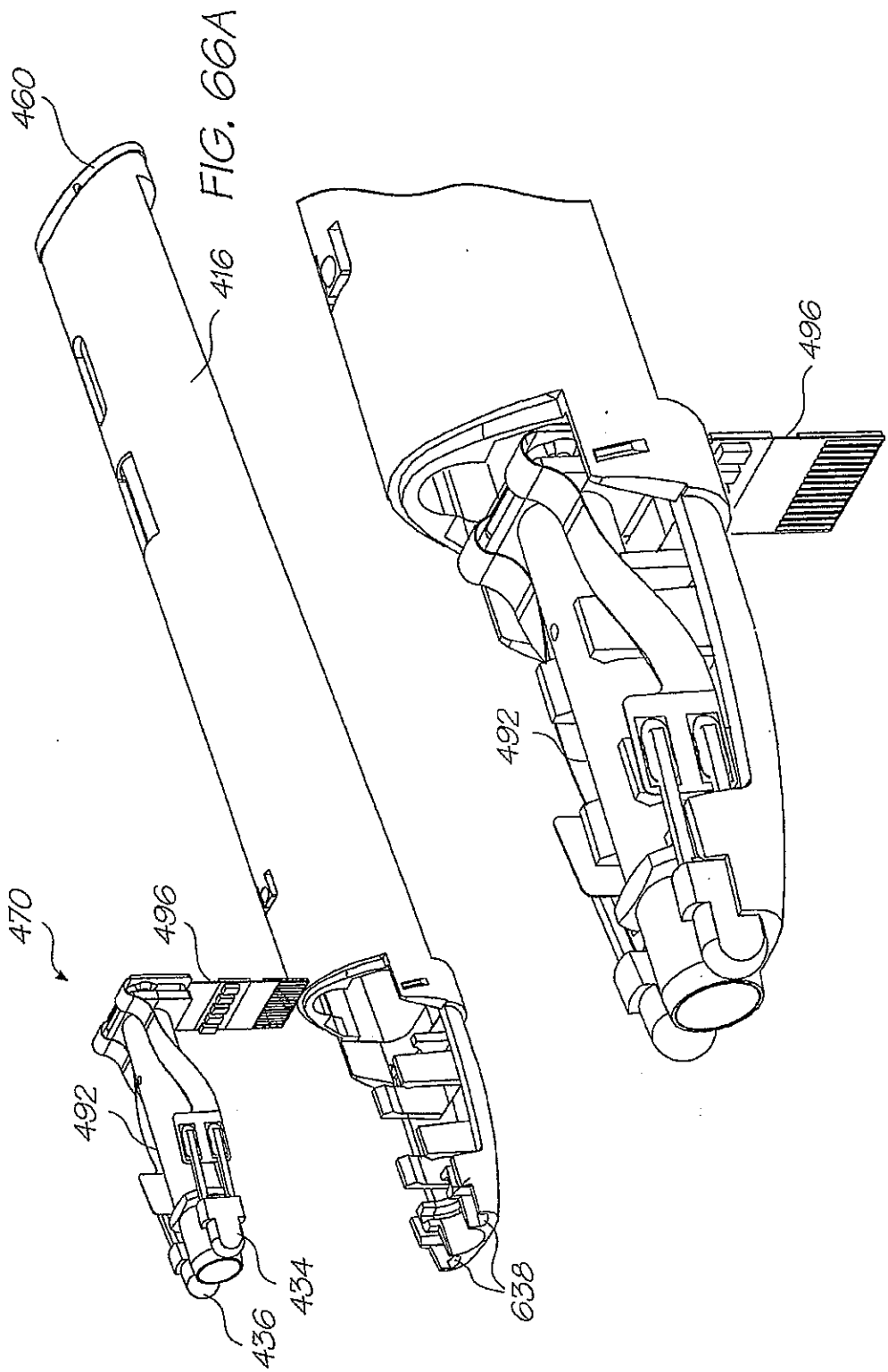


FIG. 66A

FIG. 66B

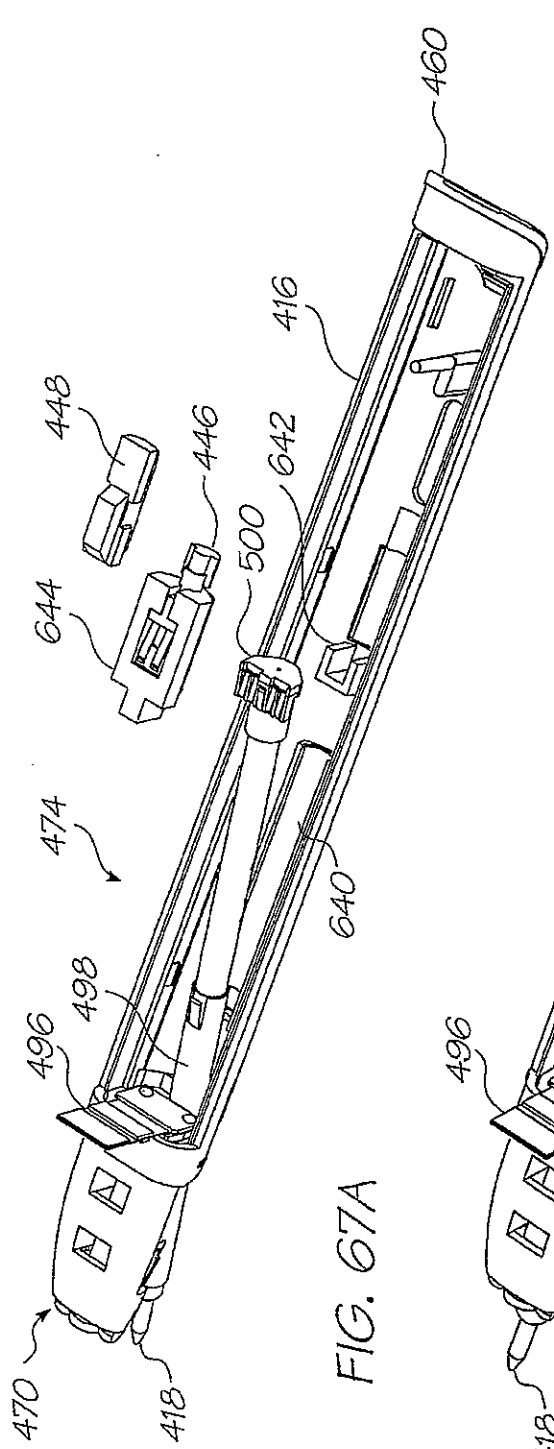


FIG. 67A

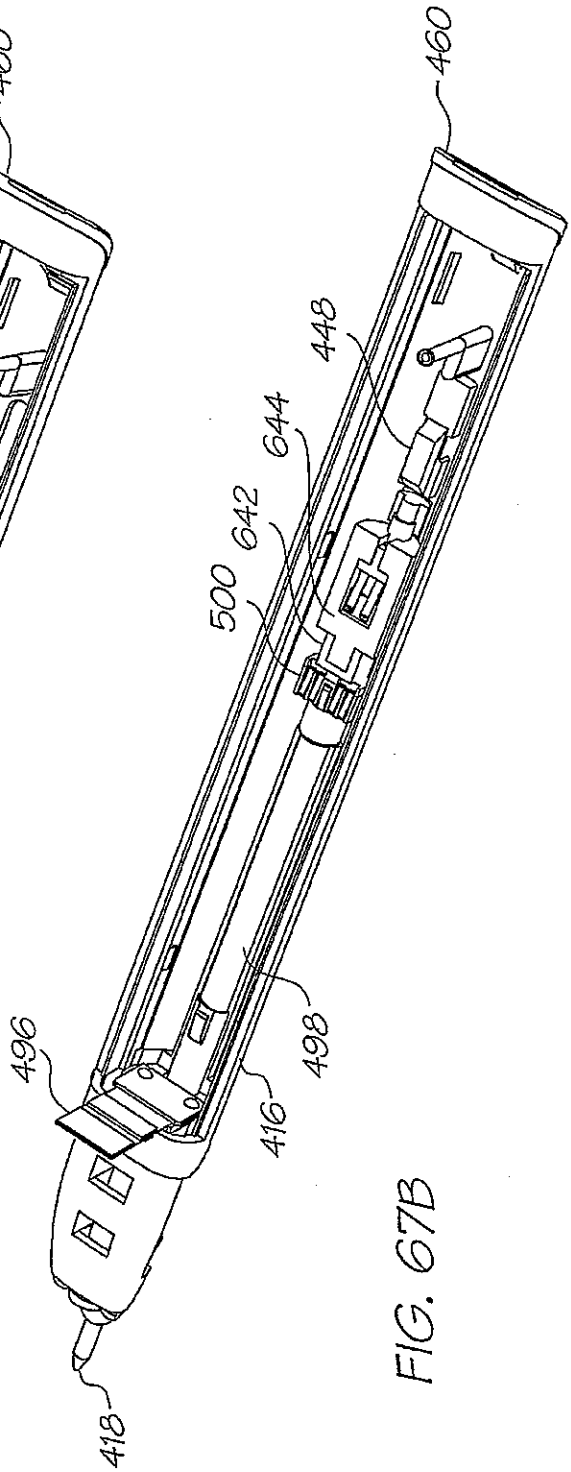


FIG. 67B

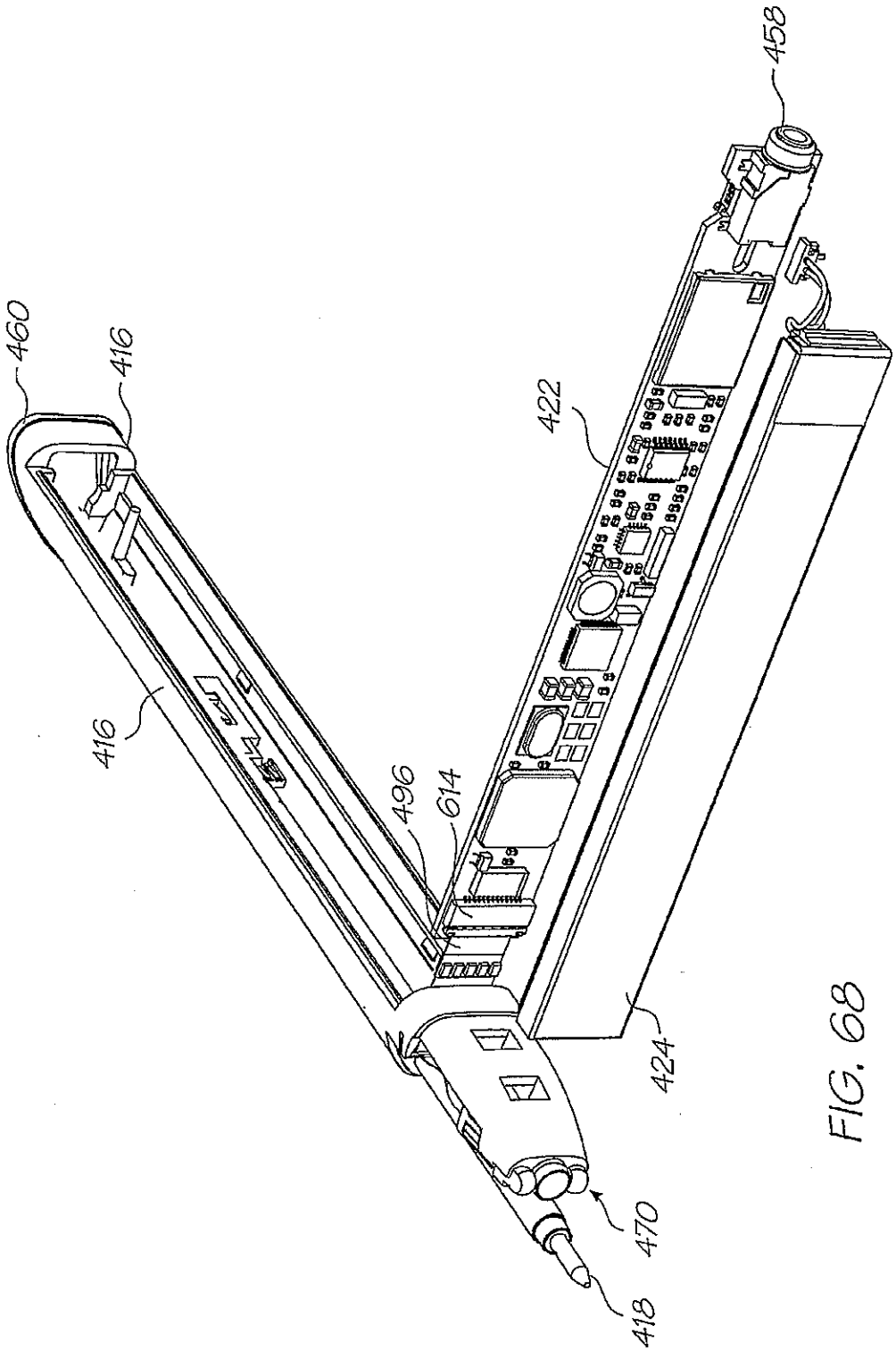


FIG. 68

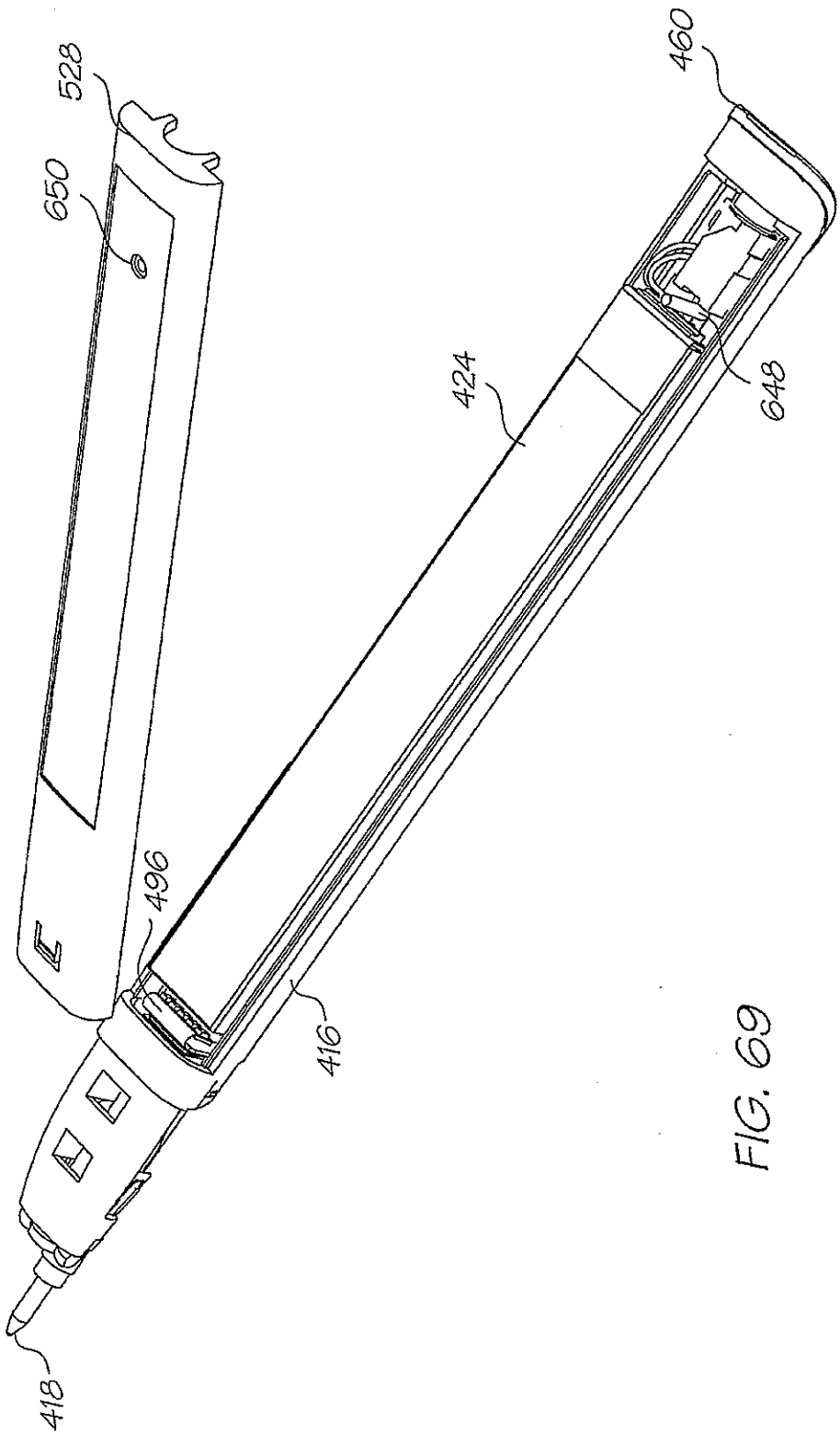


FIG. 69

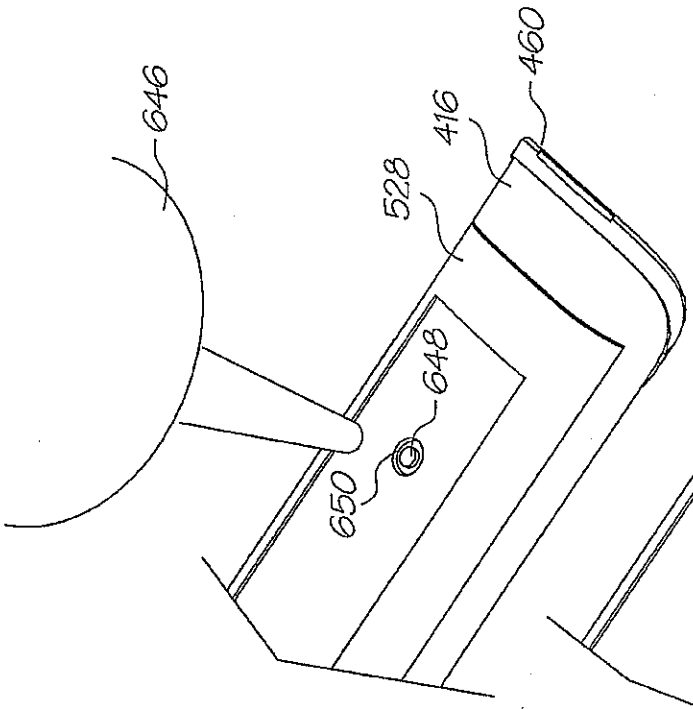


FIG. 70A

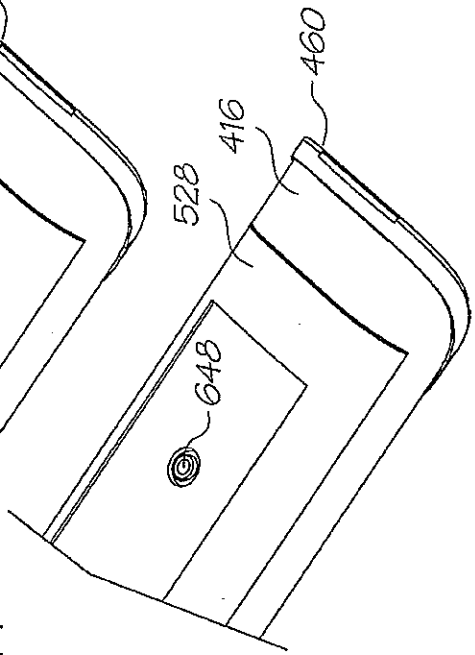


FIG. 70B

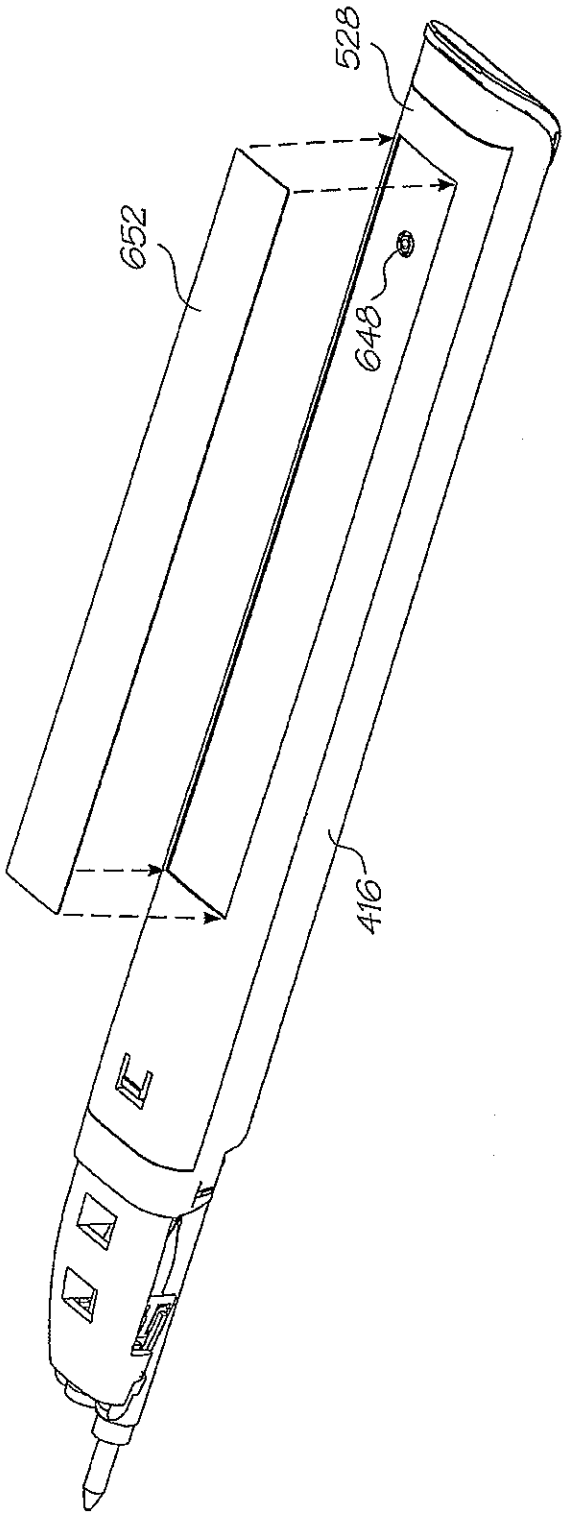


FIG. 71

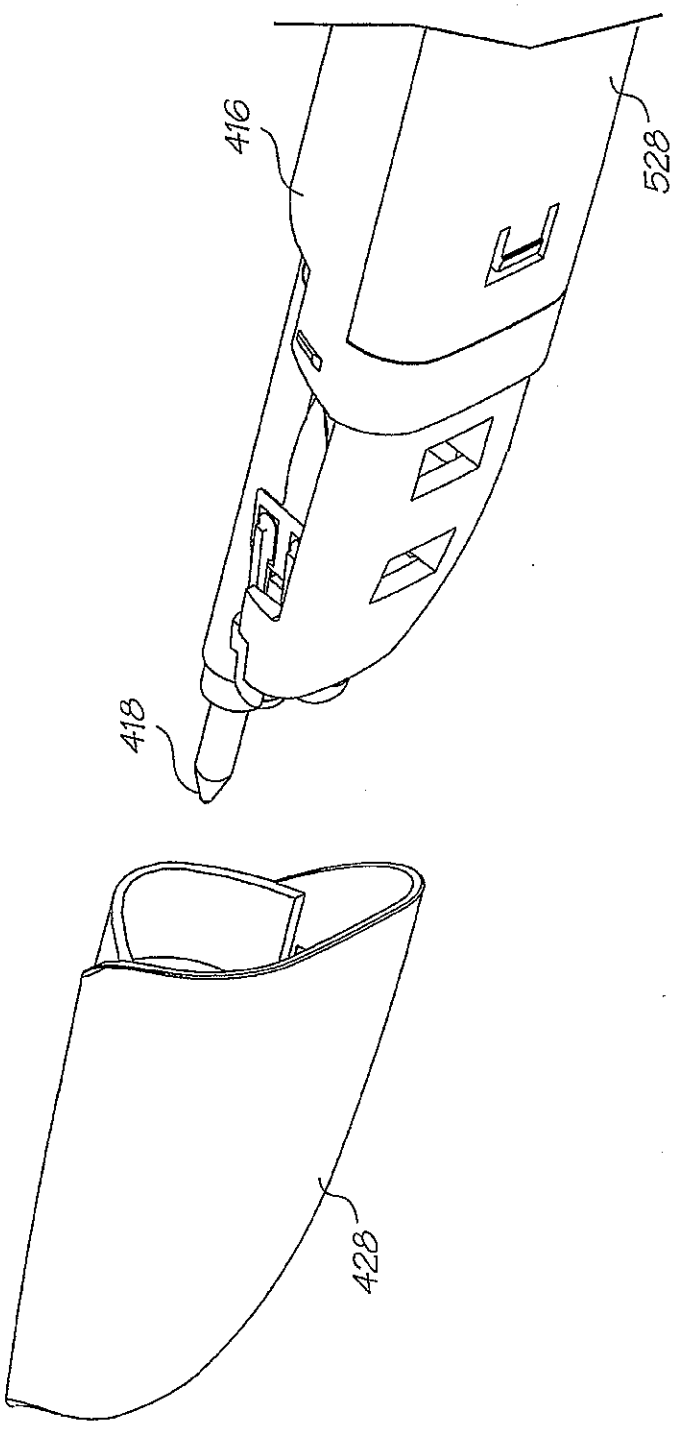


FIG. 72

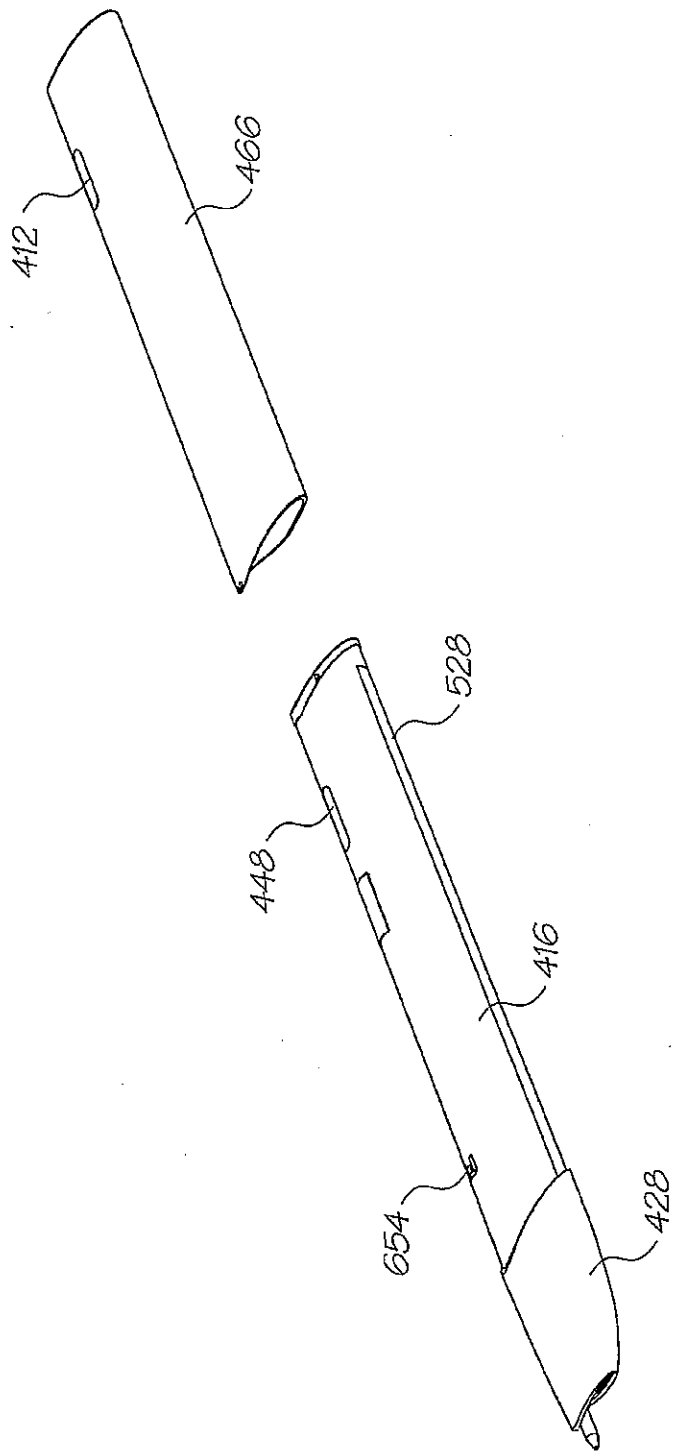


FIG. 73

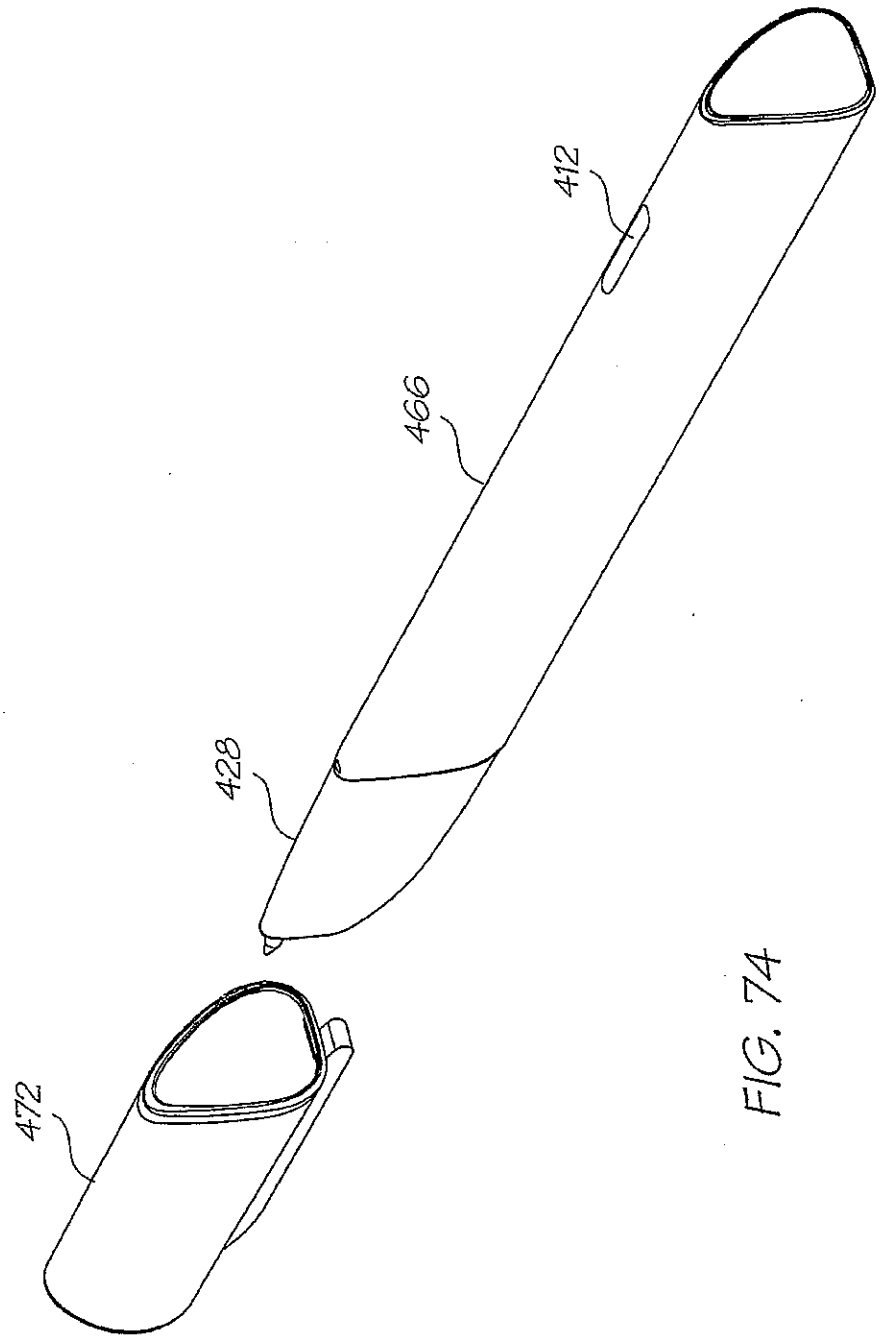


FIG. 74

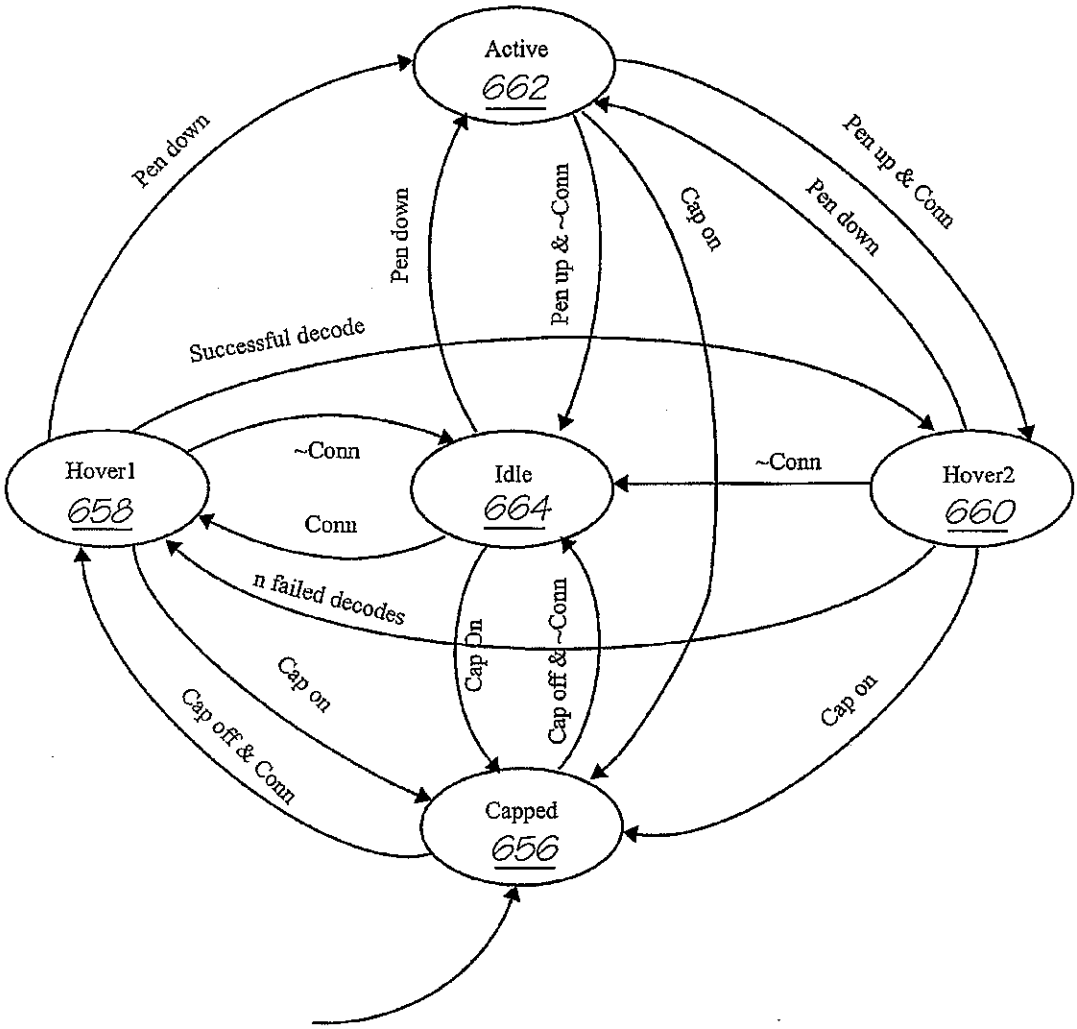

Active
662
Pen down
Pen down
Pen up & ~Conn
Cap on
Pen up & Conn
Pen down
Successful decode
Hover1
658
~Conn
Conn
Idle
664
~Conn
Hover2
660
n failed decodes
Cap on
Cap off & Conn
Cap On
Cap off & ~Conn
Cap on
Capped
656

FIG. 75

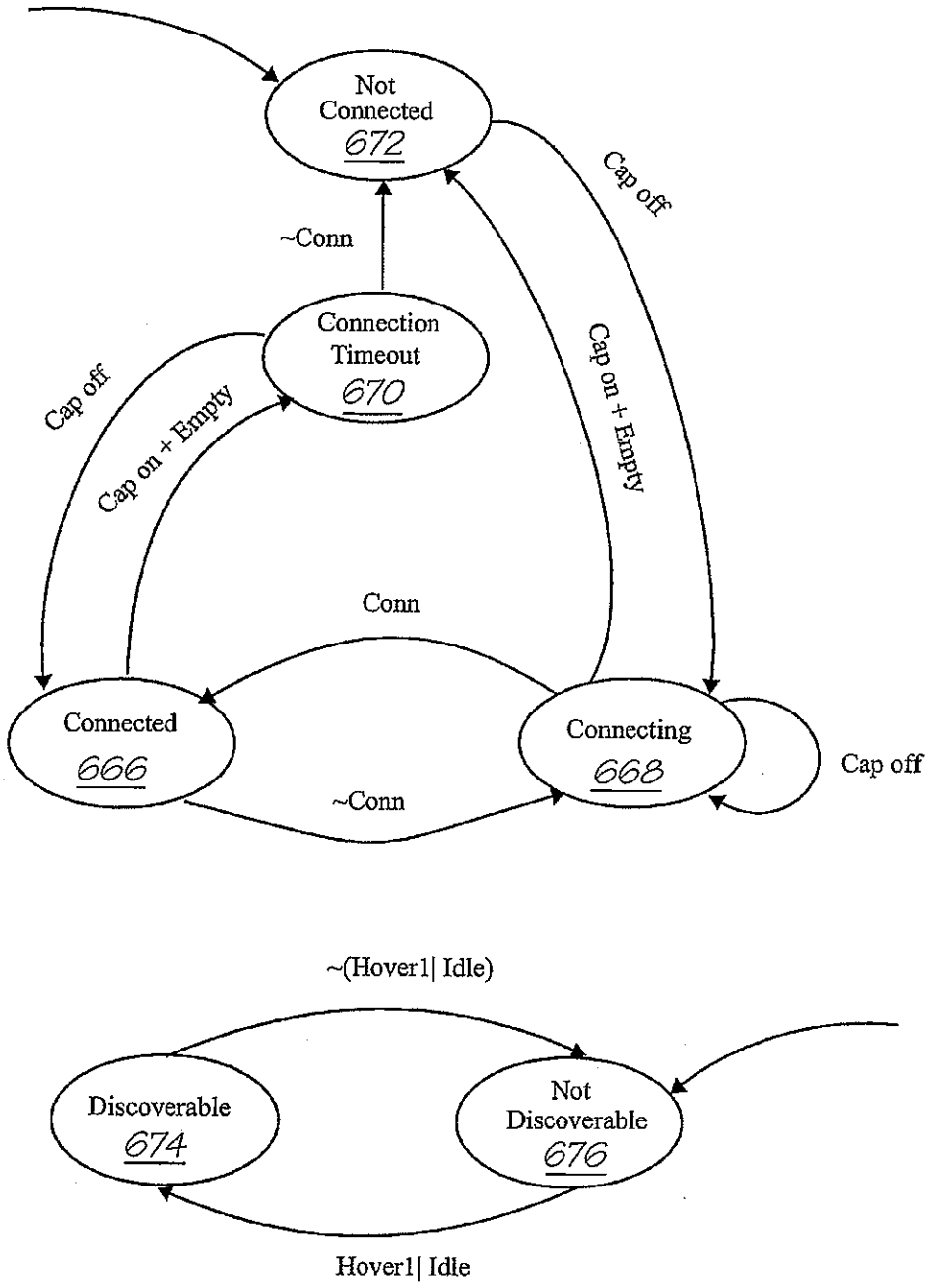

Not Connected 672
Cap off
~Conn
Connection Timeout 670
Cap off
Cap on + Empty
Cap on + Empty
Conn
Connected 666
Connecting 668
Cap off
~Conn
~(Hover1| Idle)
Discoverable 674
Not Discoverable 676
Hover1| Idle

FIG. 76