

FIG. 1

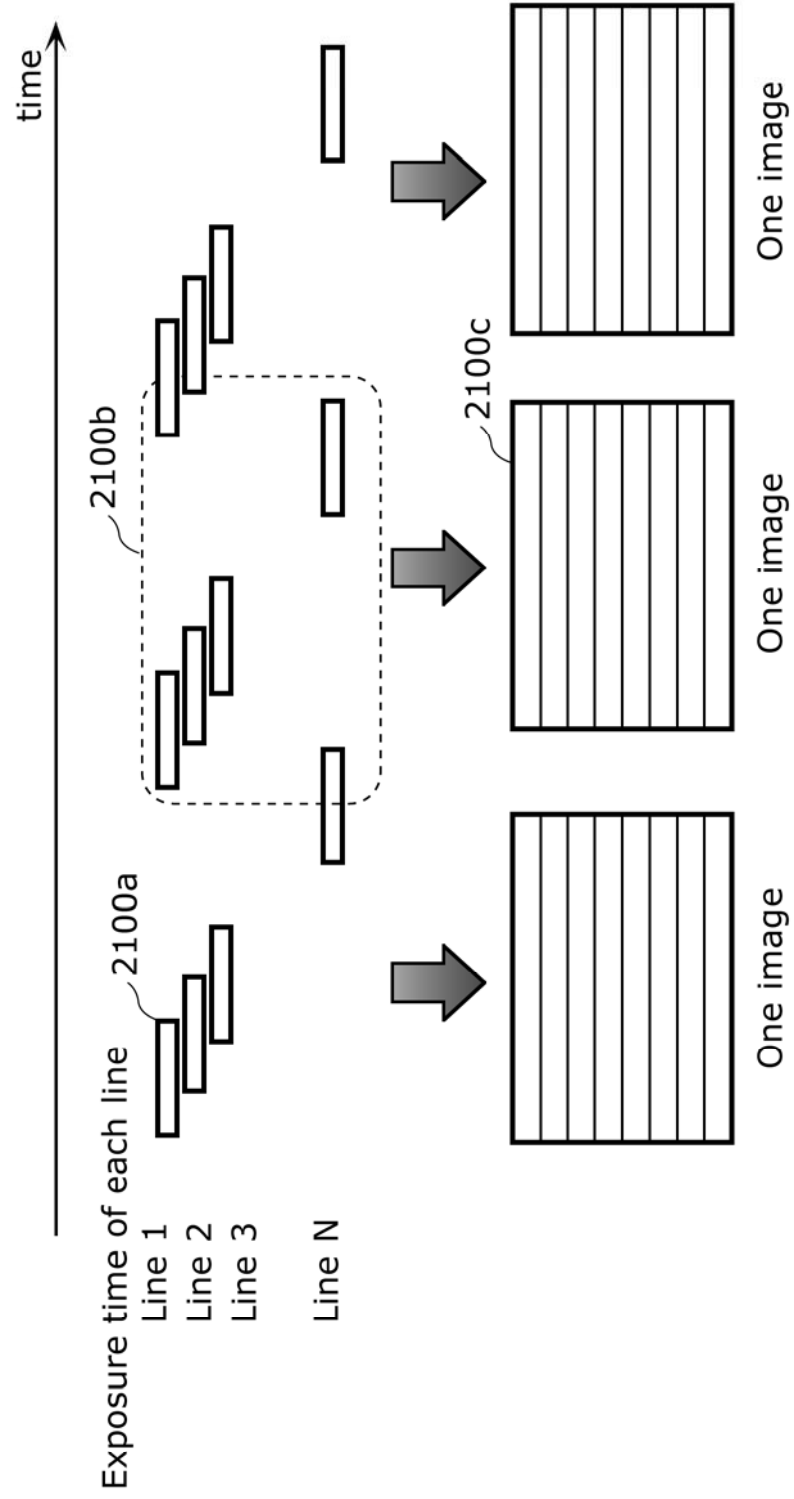


FIG. 2

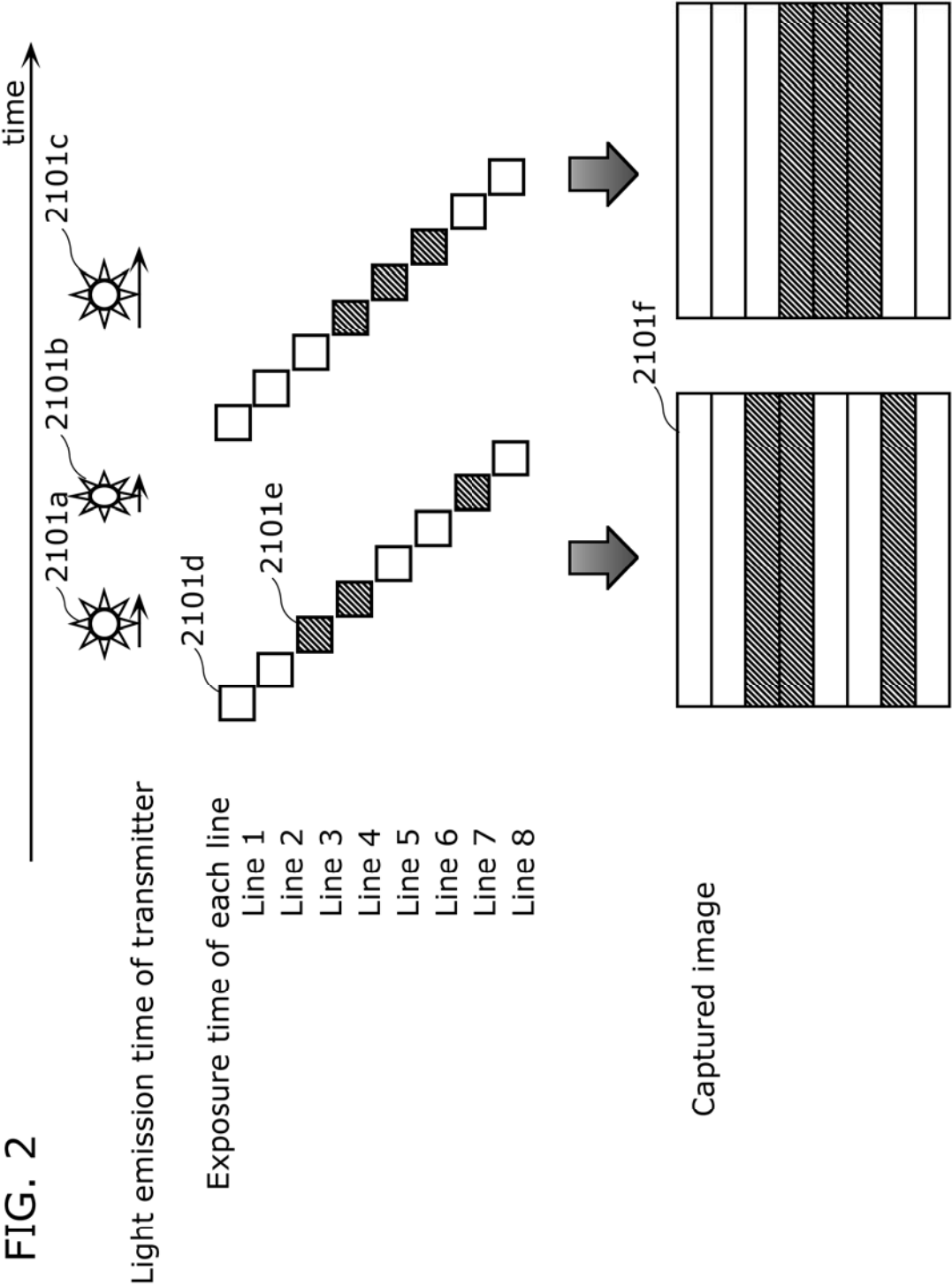


FIG. 3

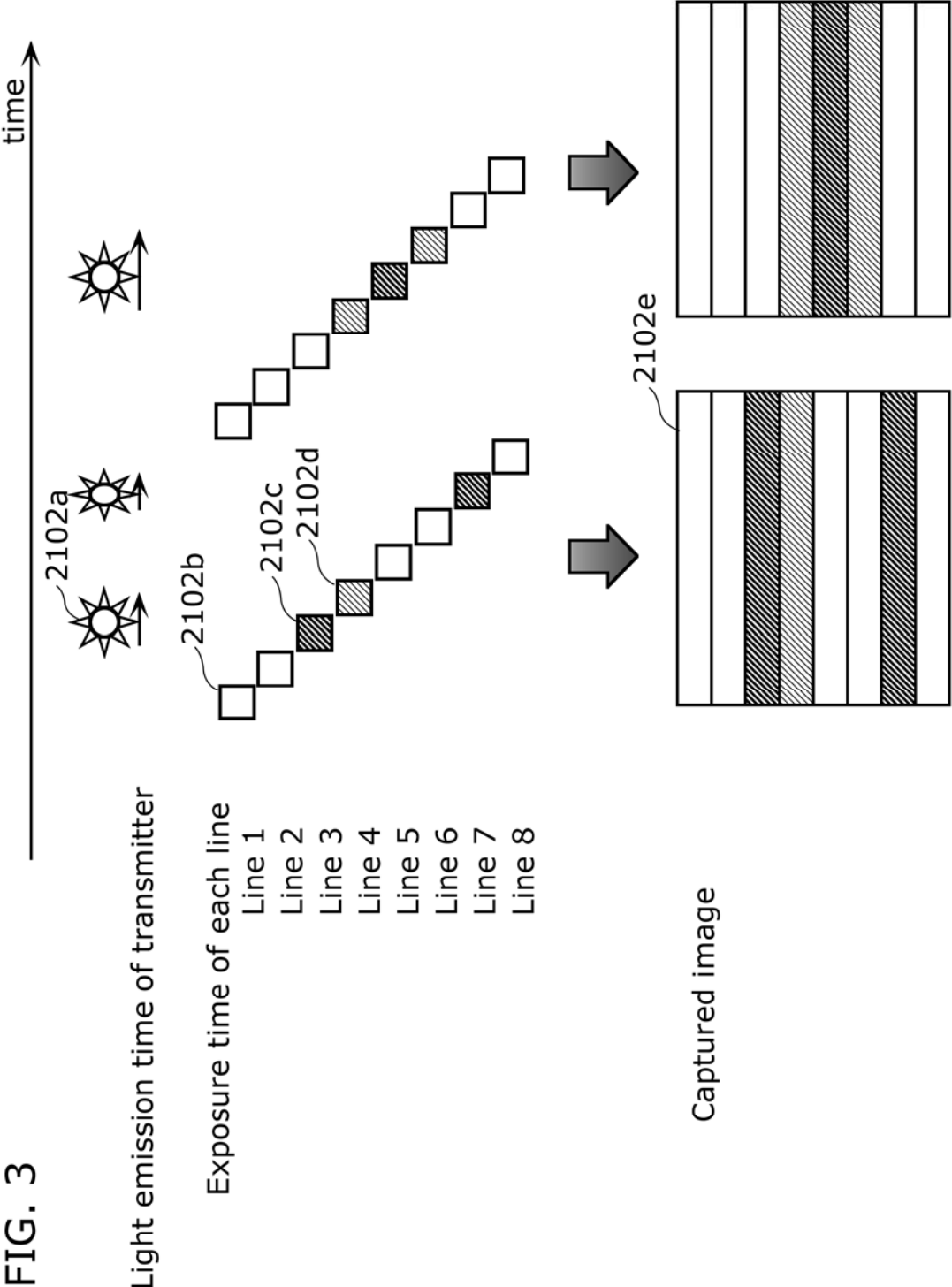


FIG. 4A

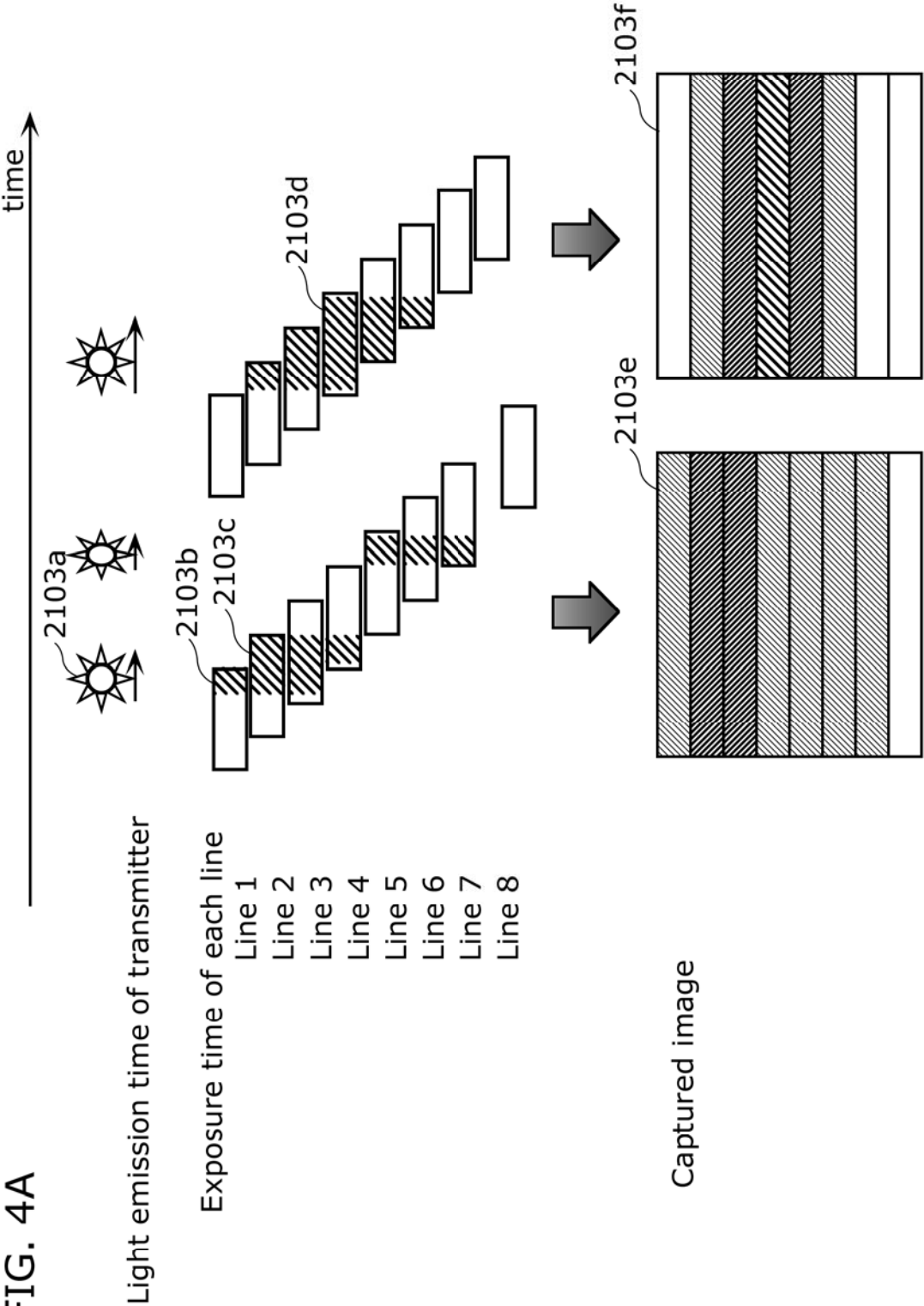


FIG. 4B

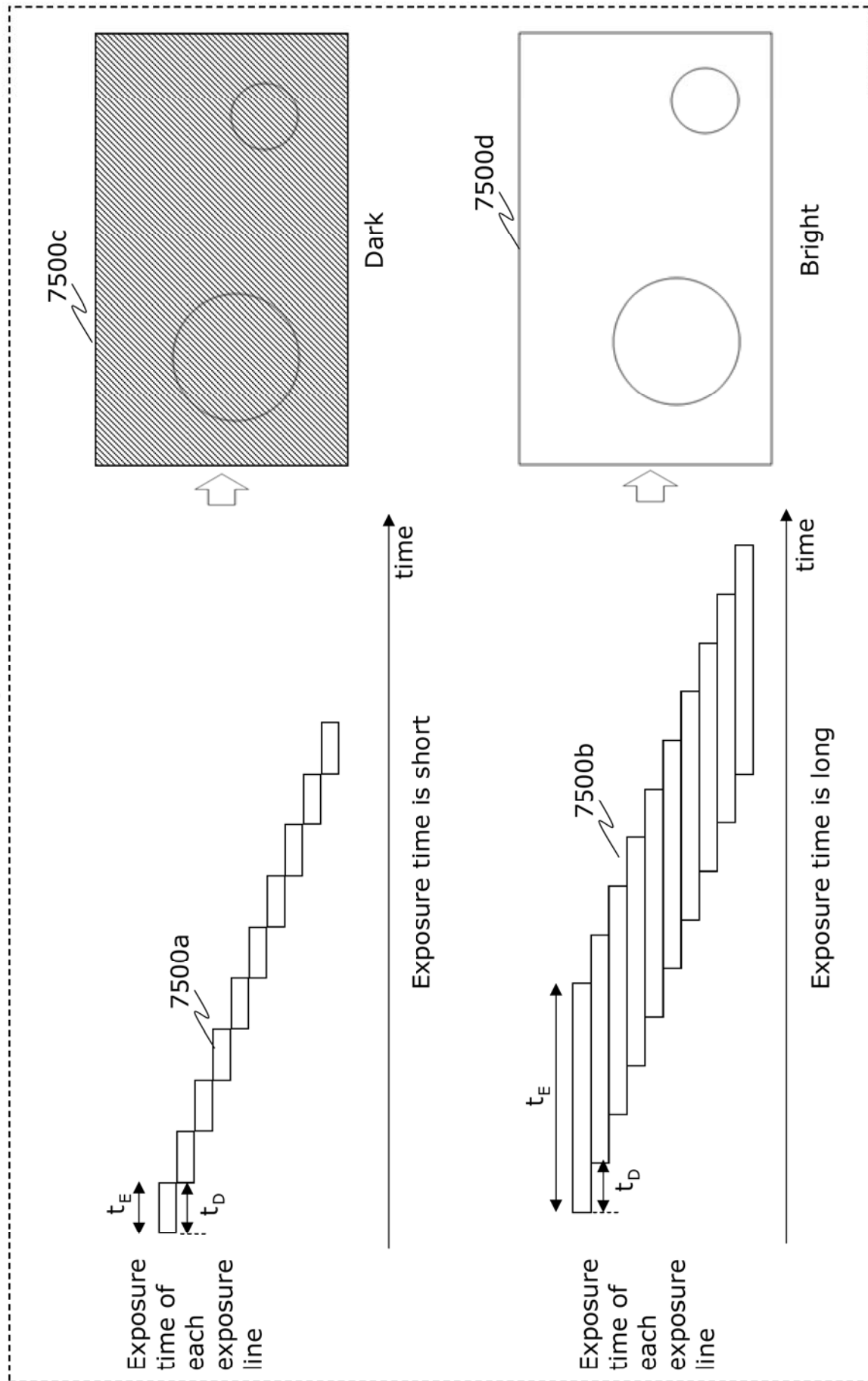


FIG. 4C

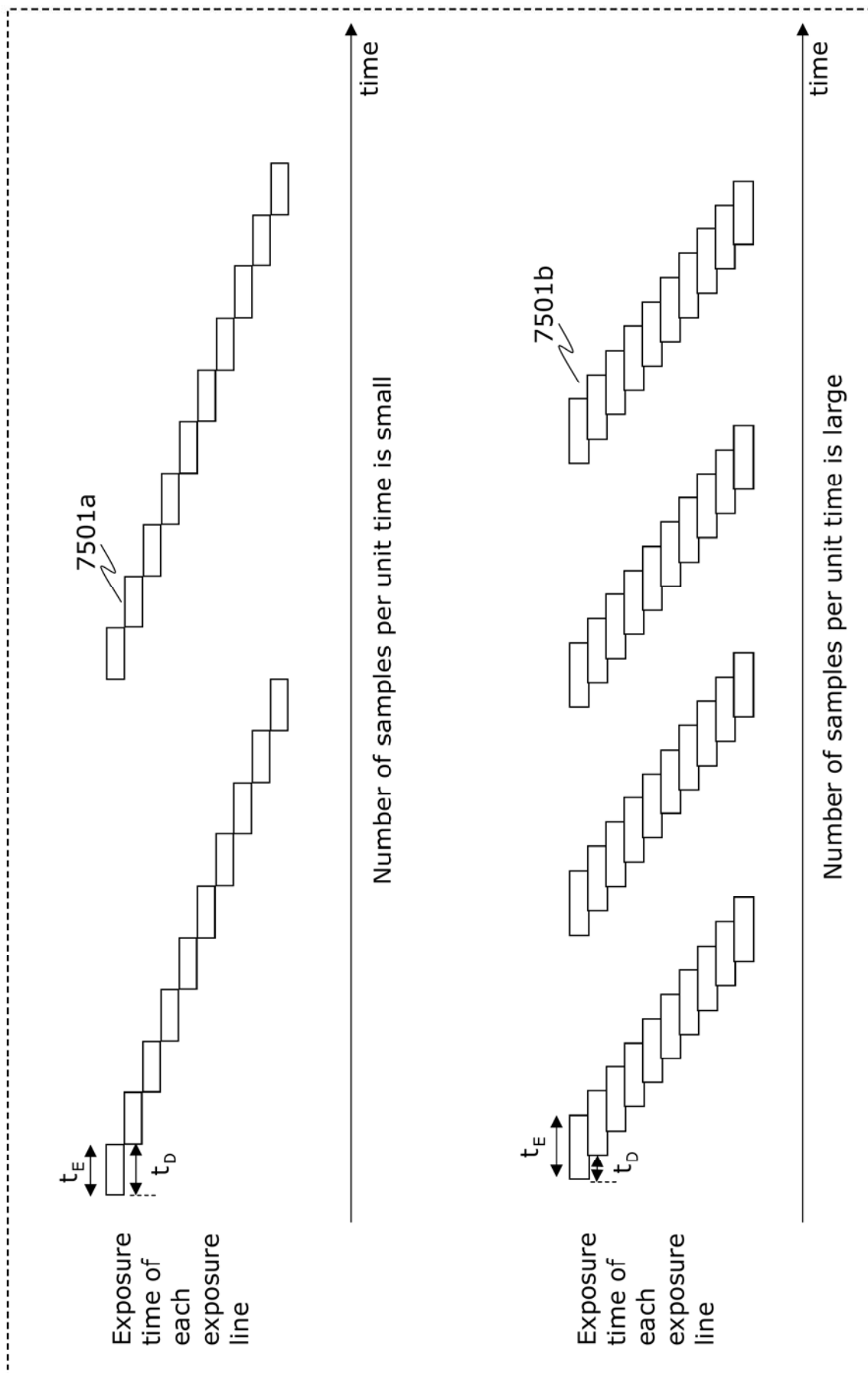


FIG. 4D

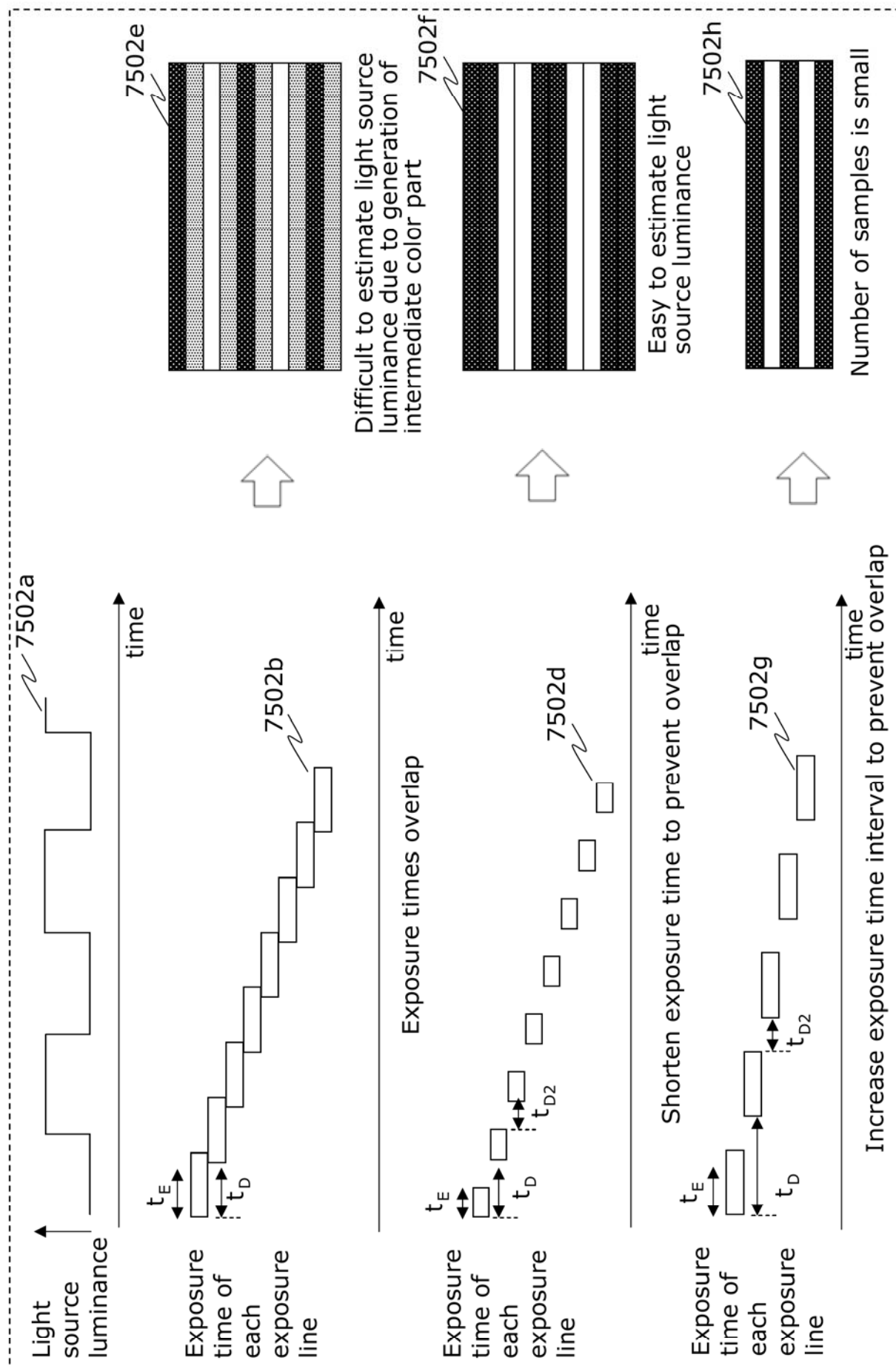


FIG. 4E

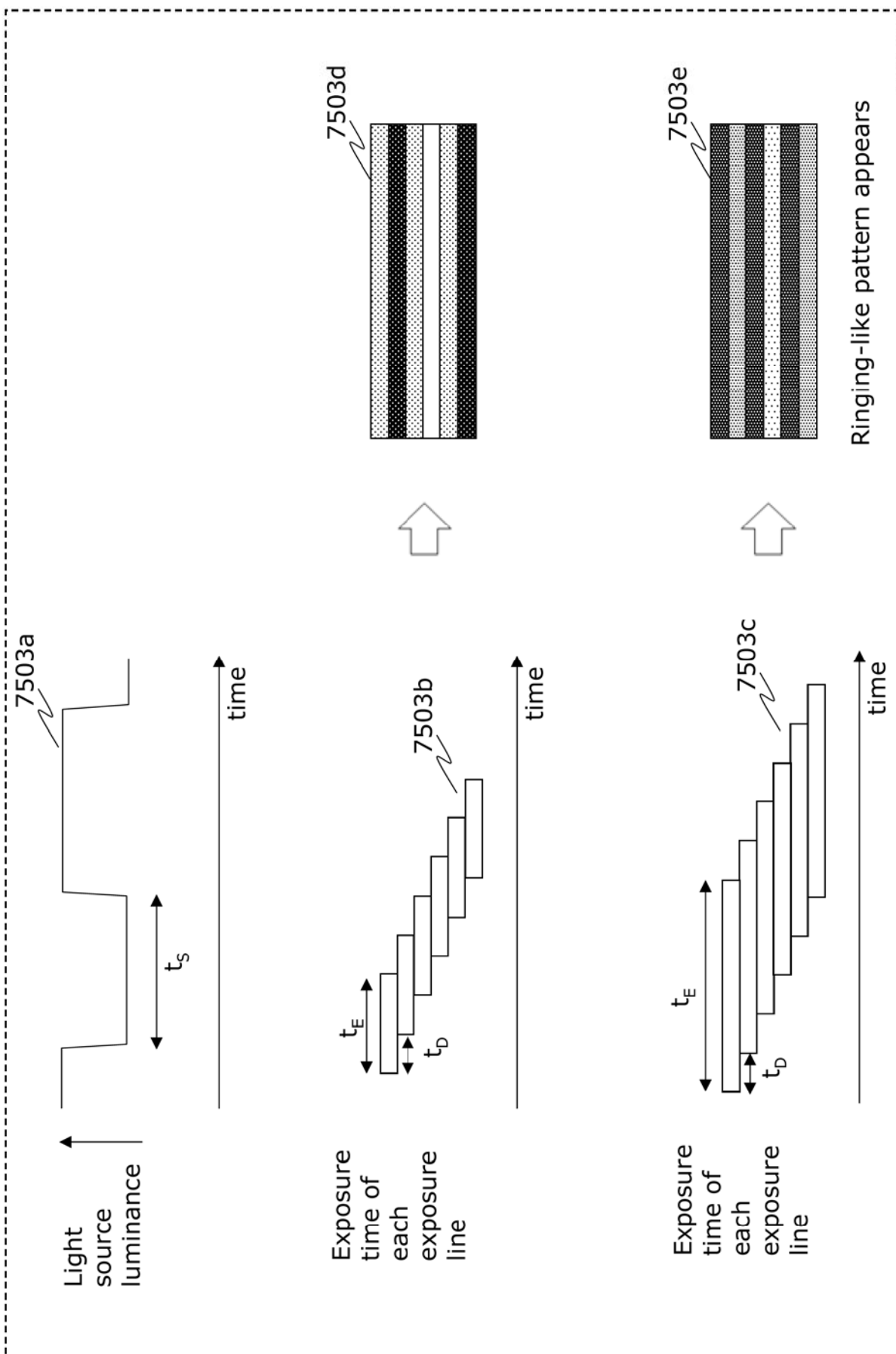


FIG. 4F

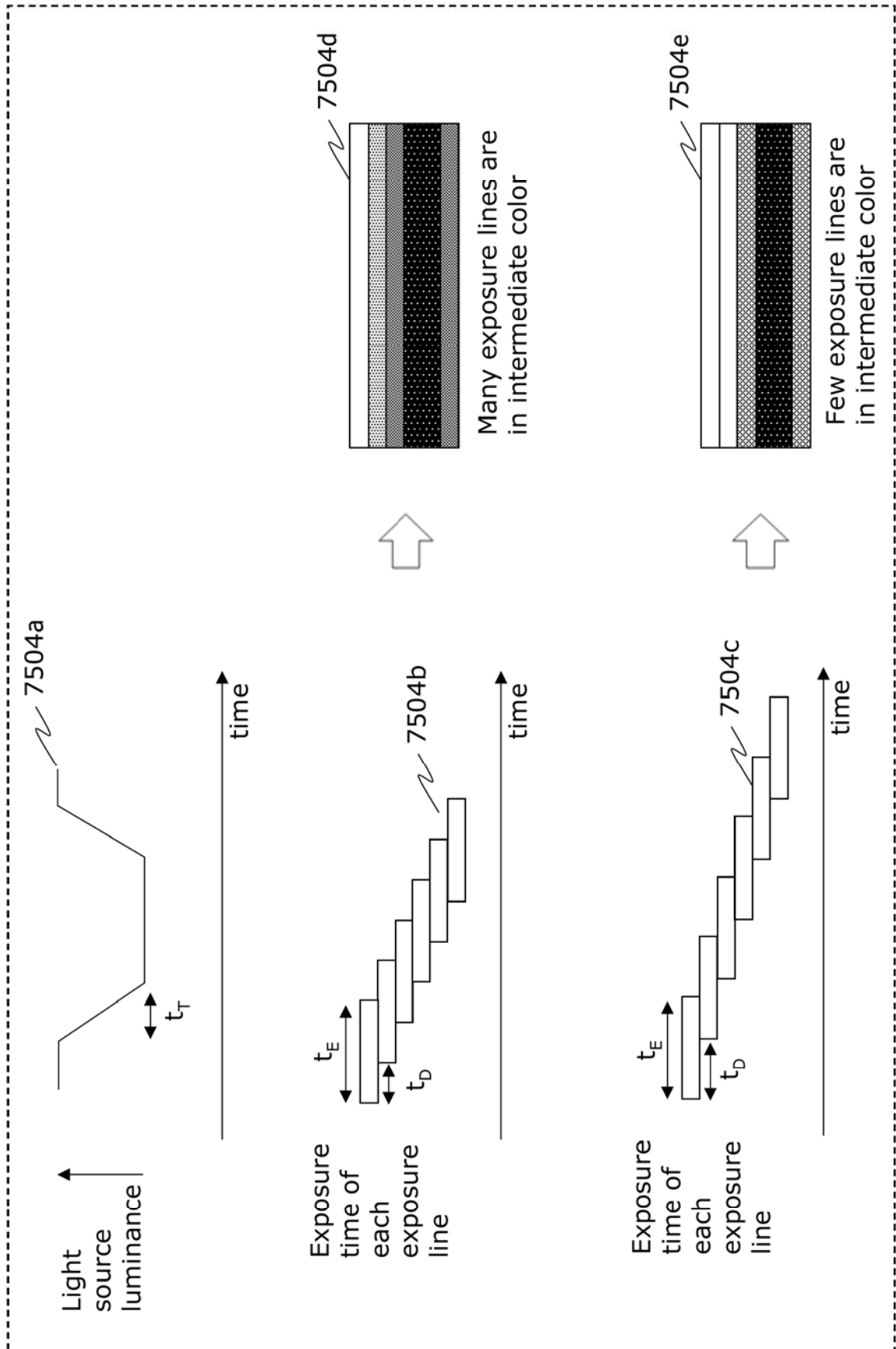


FIG. 4G

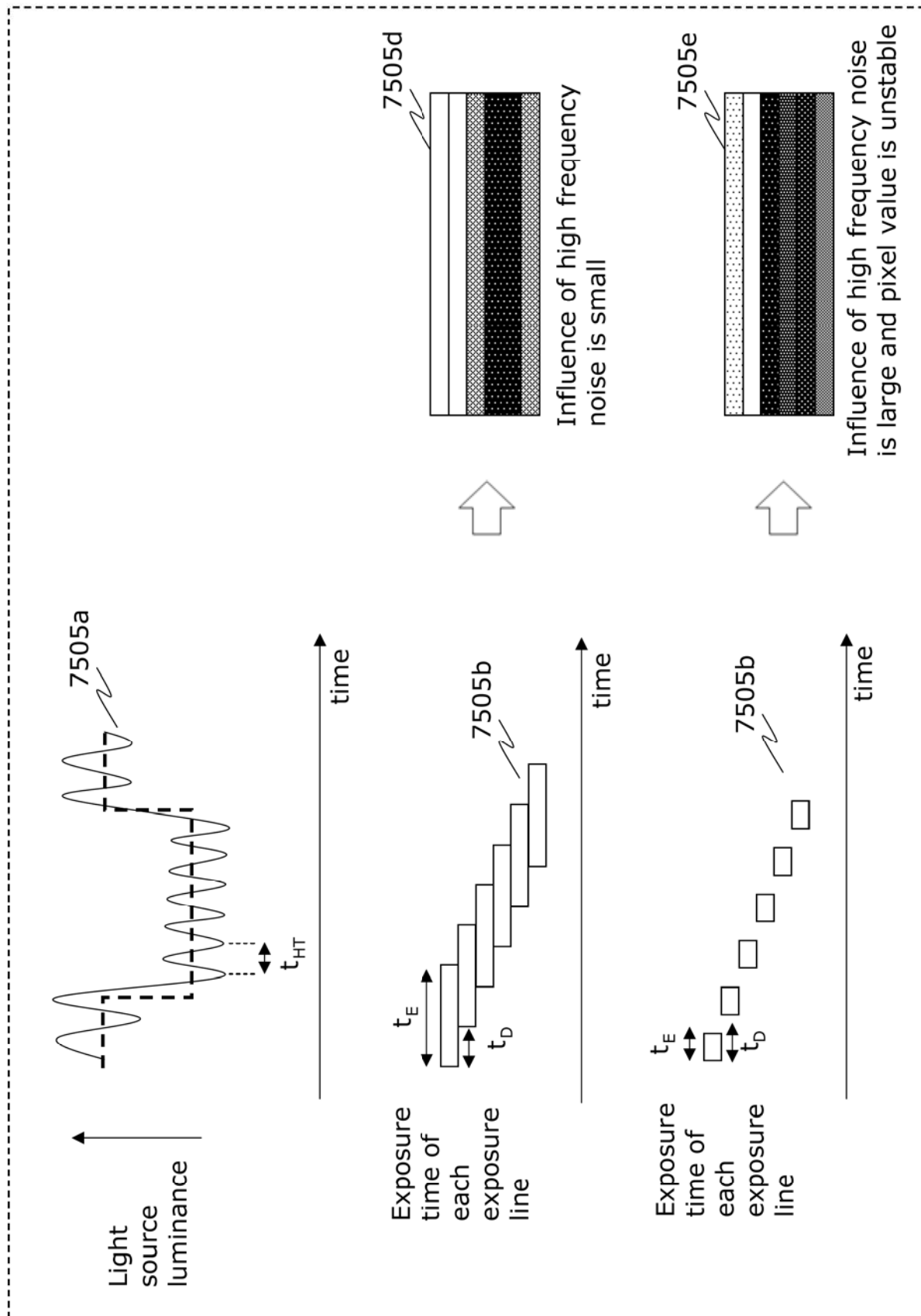


FIG. 4H

When $t_{HT} = 20$ microseconds

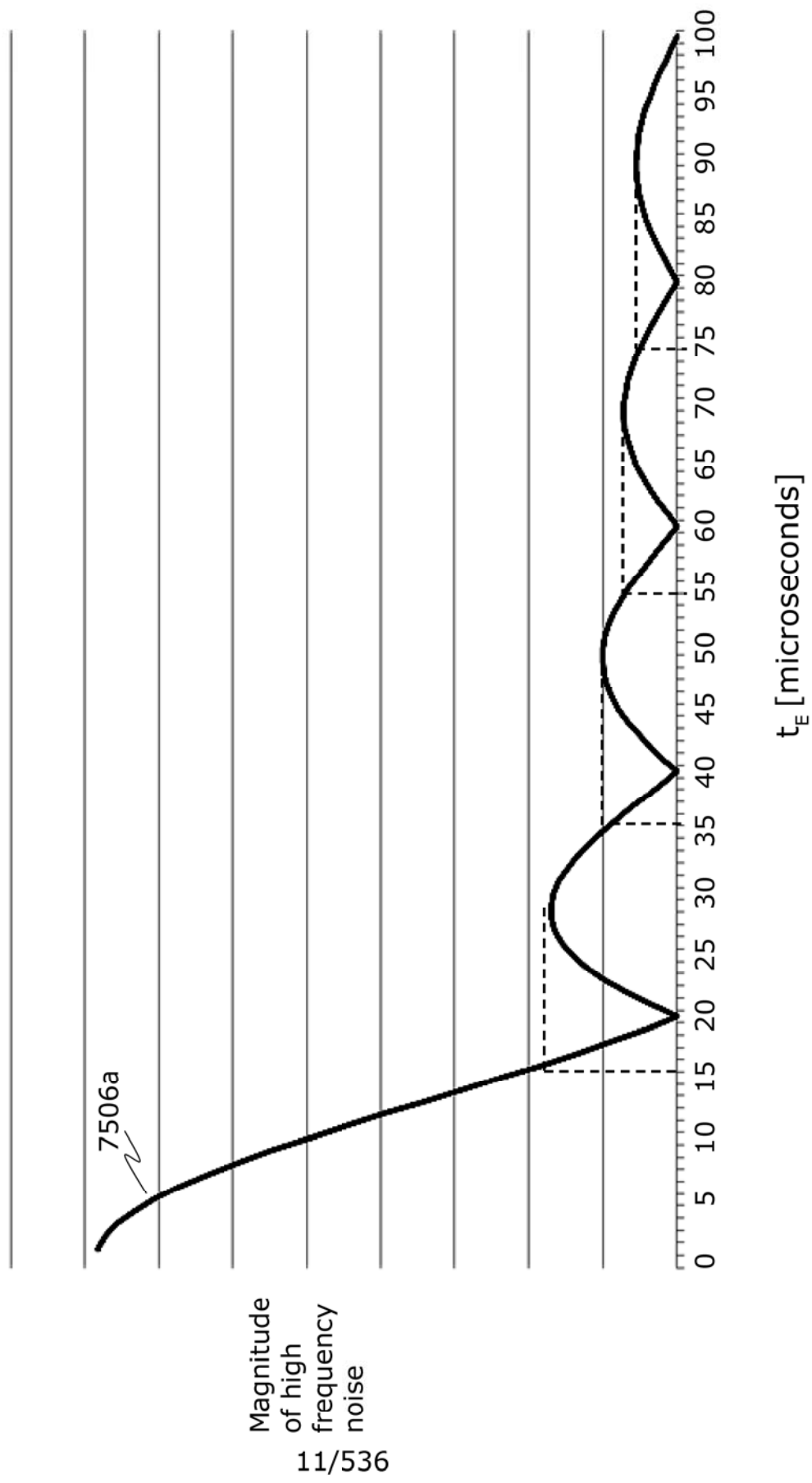


FIG. 4I

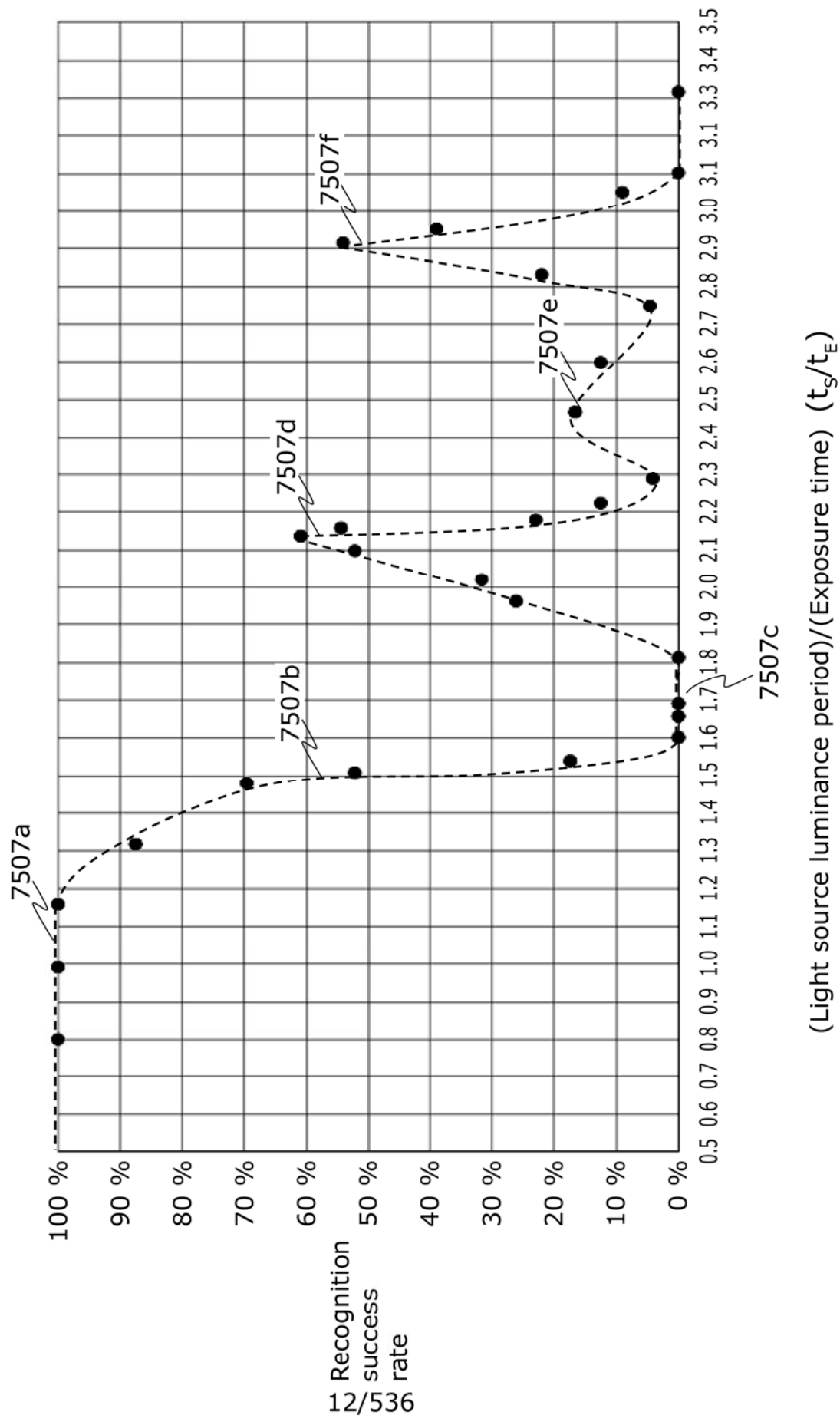


FIG. 5

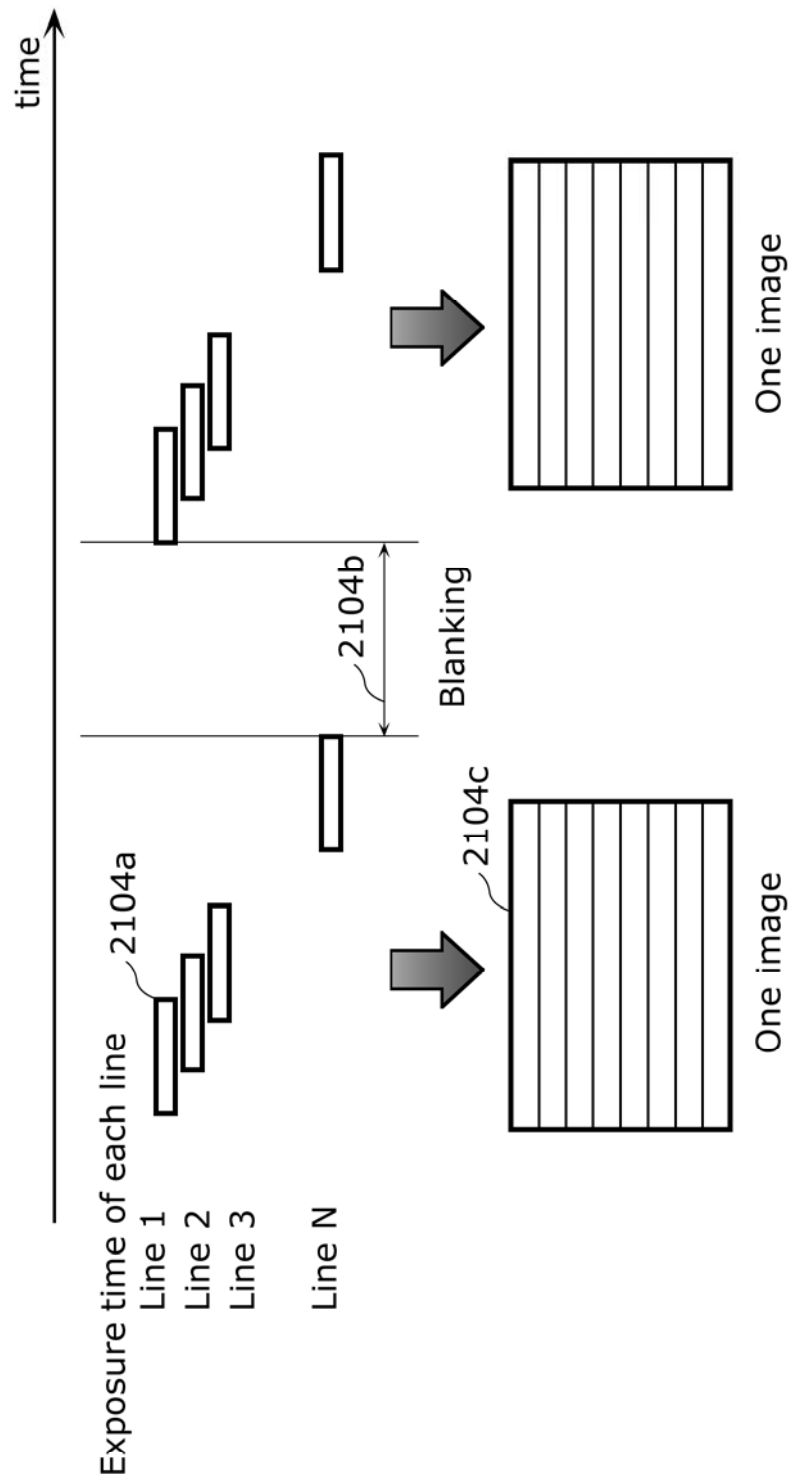


FIG. 6

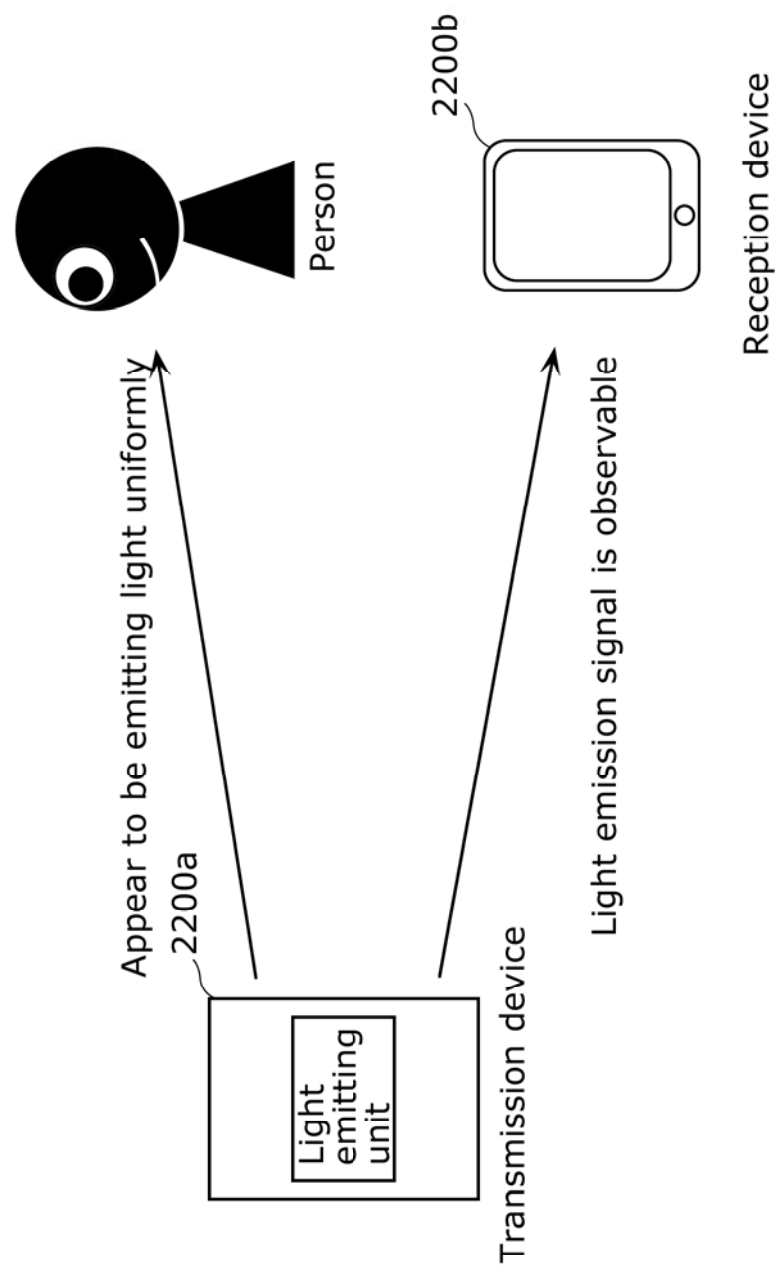


FIG. 7

2200.1a

Transmission signal	Modulated signal
0	01
1	10

FIG. 8

2200.2a

Transmission signal	Modulated signal
00 (0)	0111
01 (1)	1011
10 (2)	1101
11 (3)	1110

FIG. 9

2200.3a

Transmission signal	Modulated signal
000 (0)	01111111
001 (1)	10111111
010 (2)	11011111
011 (3)	11101111
100 (4)	11110111
101 (5)	11111011
110 (6)	11111101
111 (7)	11111110

FIG. 10

2200.4a

Transmission signal	Modulated signal
00 (0)	1000
01 (1)	0100
10 (2)	0010
11 (3)	0001

FIG. 11

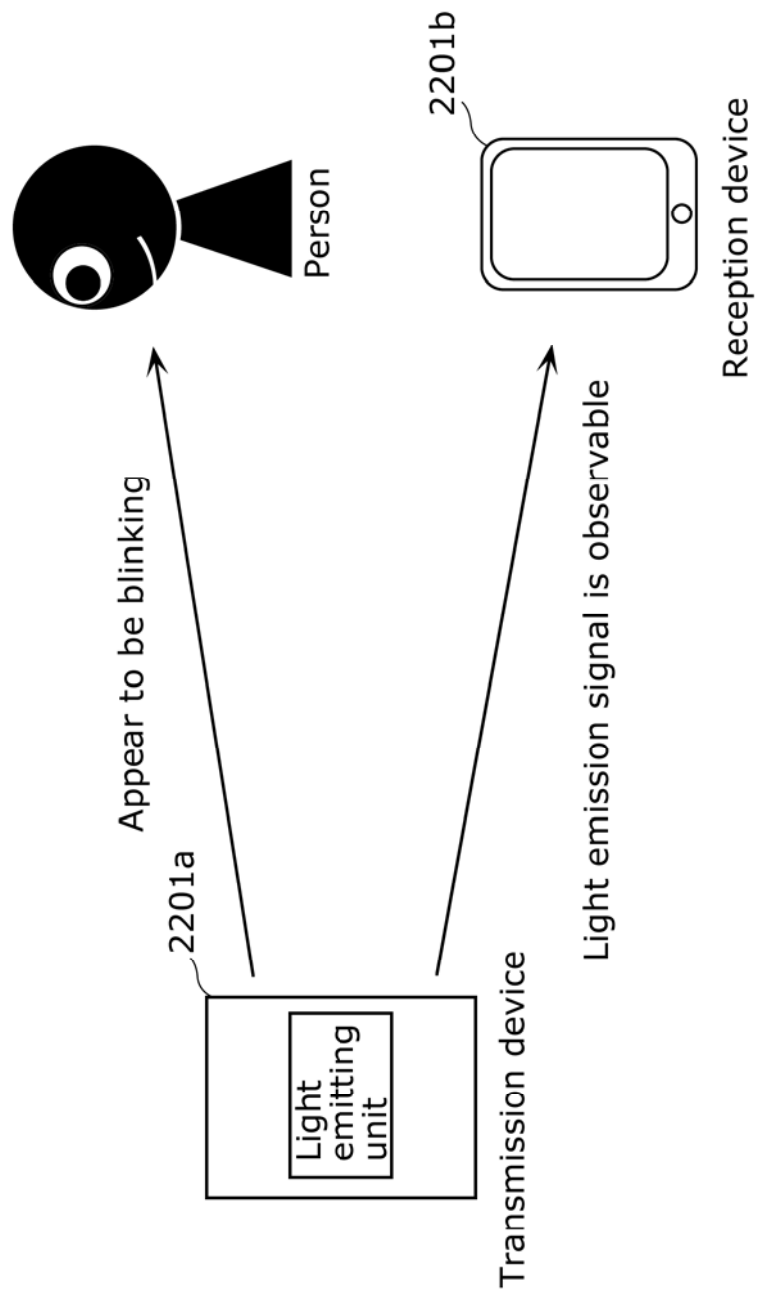


FIG. 12

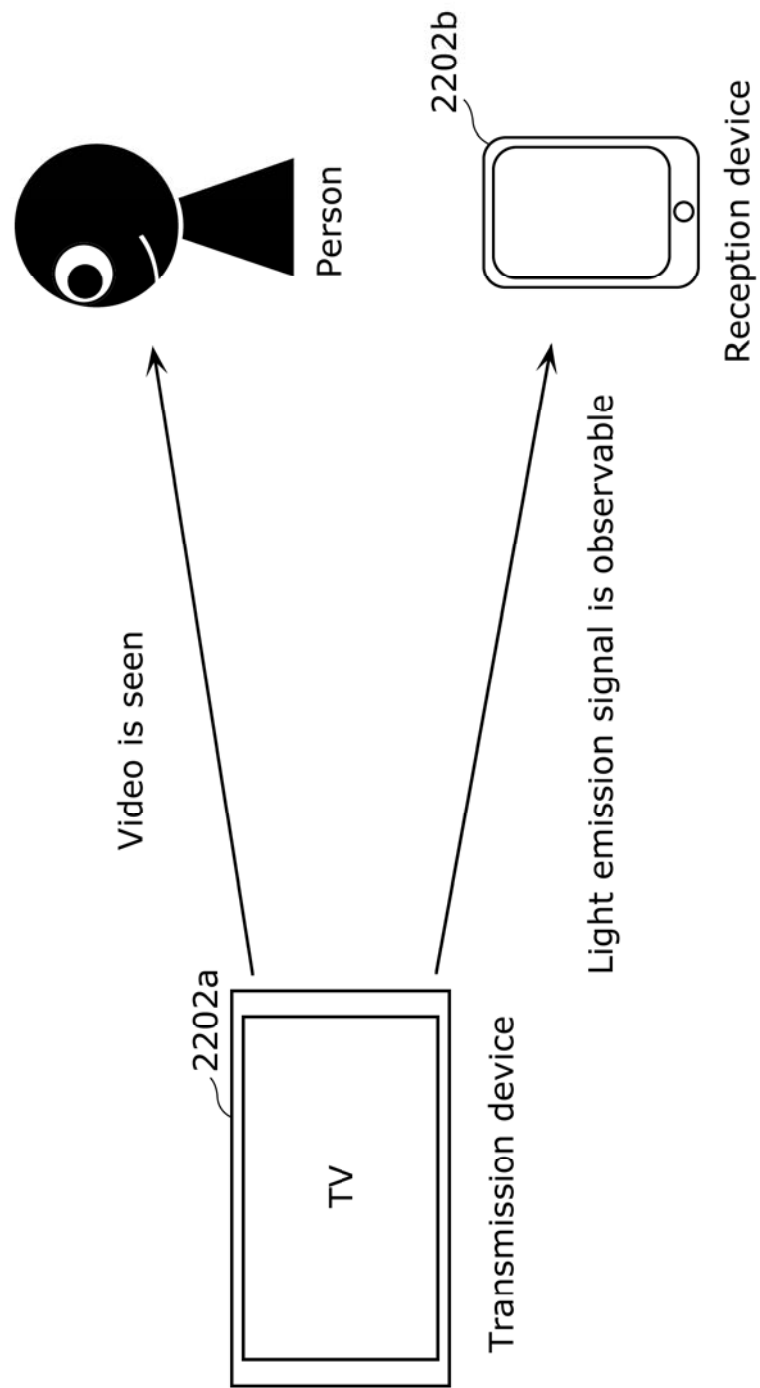


FIG. 13

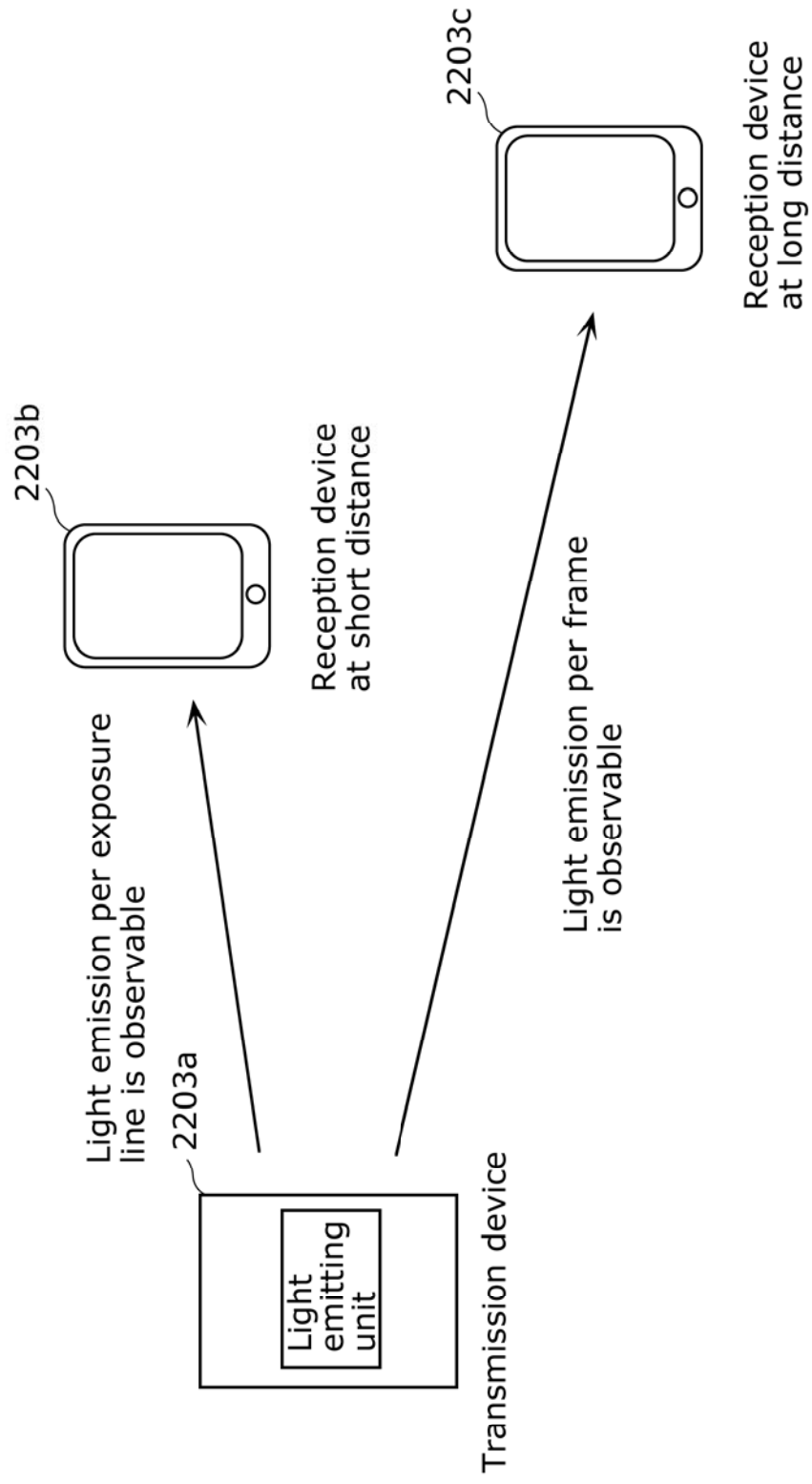


FIG. 14

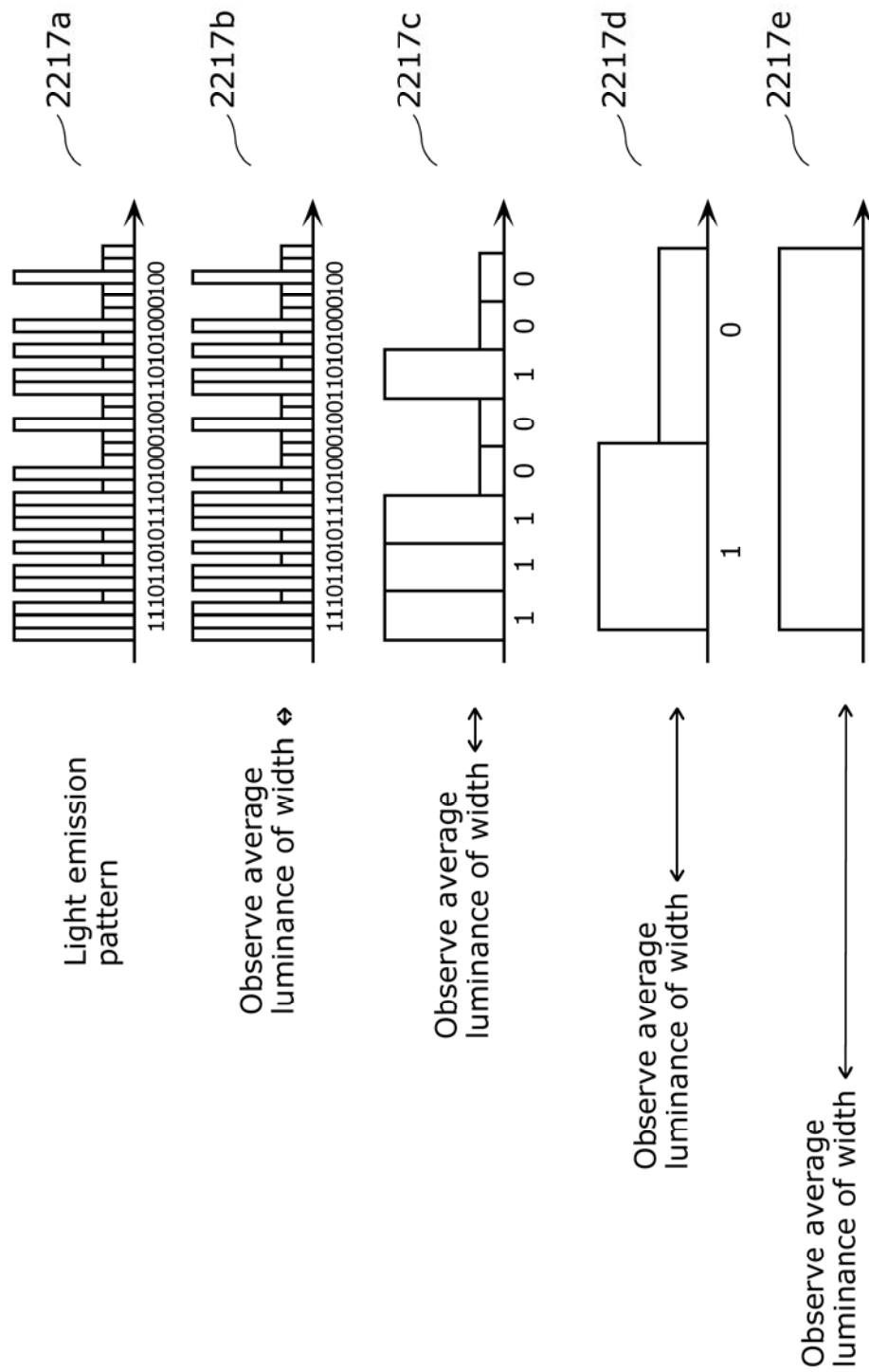


FIG. 15

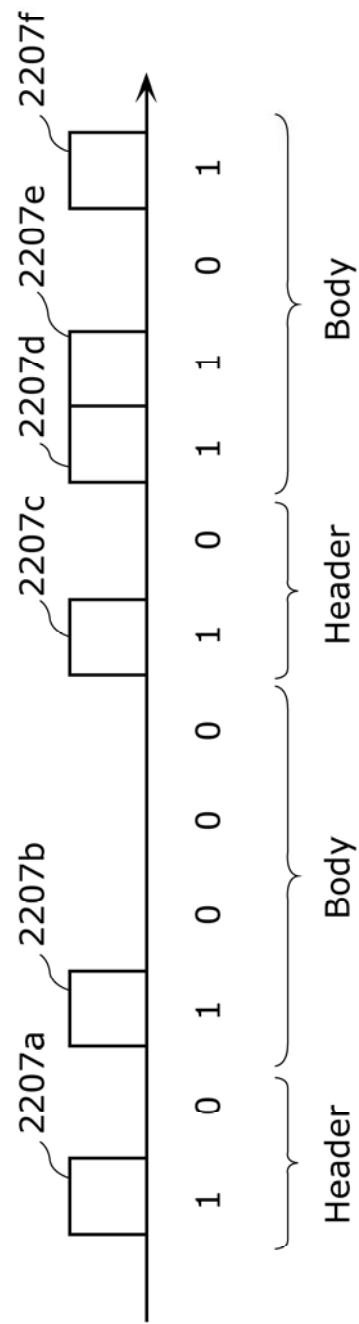


FIG. 16



FIG. 17



FIG. 18

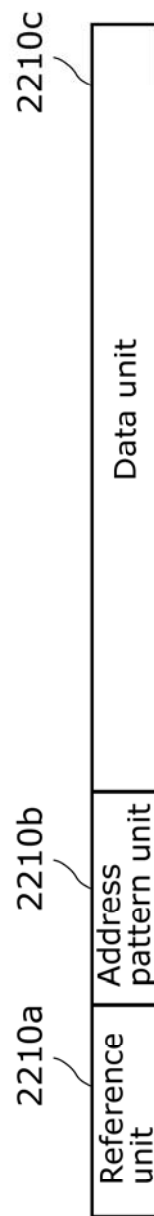


FIG. 19

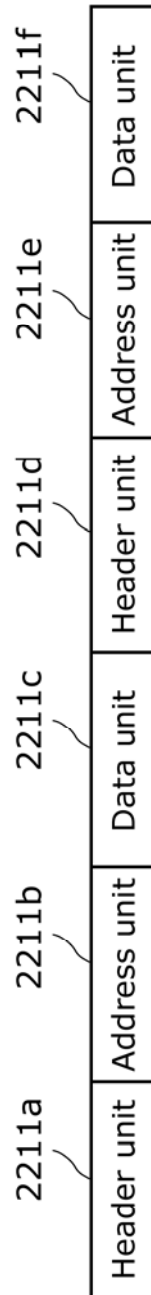


FIG. 20

Transmission information	Priority
Information 1	3 (High)
Information 2	2 (Normal)
Information 3	1 (Low)

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Transmission order 1

Information	Information	Information	Information	Information	Information	Information	Information
1	1	1	1	1	2	2	3

Transmission order 2

[illegible]

Time

FIG. 21

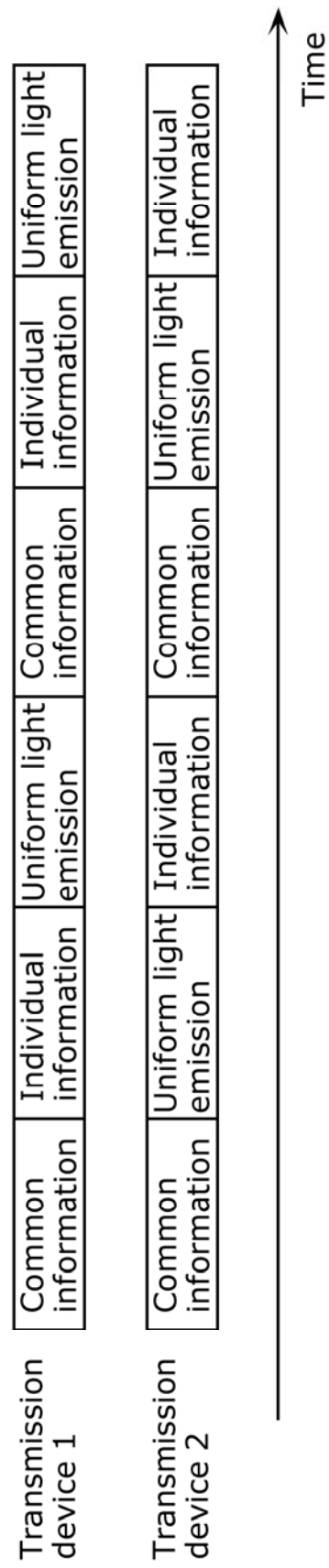


FIG. 22

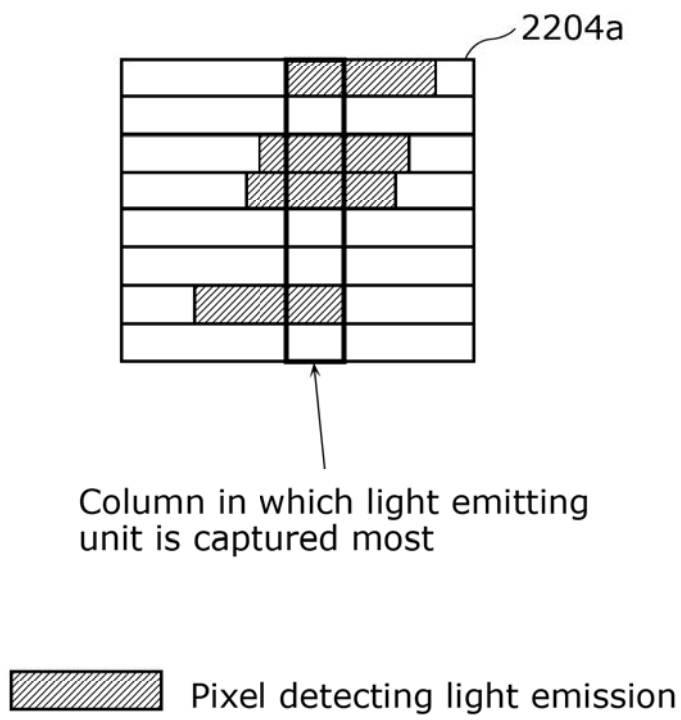
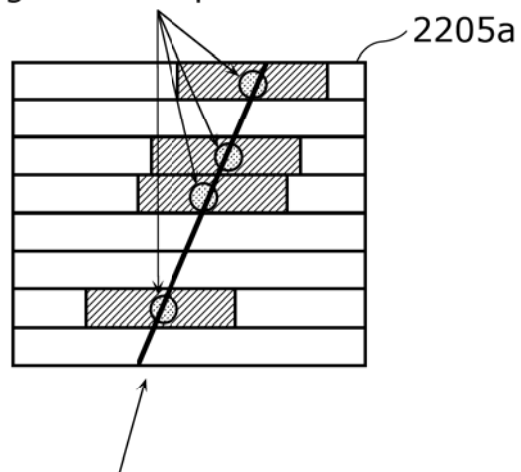


FIG. 23

Midpoint of captured part of light
emitting unit in exposure line



Line approximating midpoints

 Pixel detecting light emission

FIG. 24

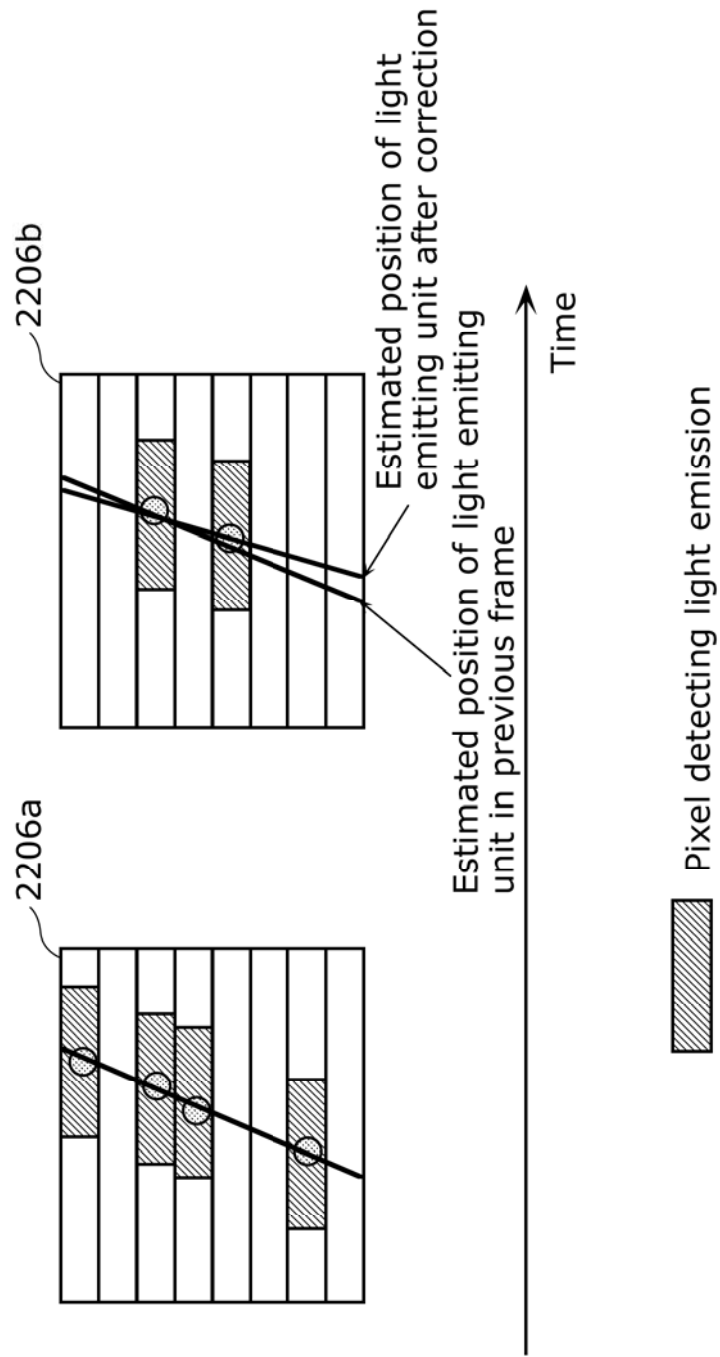


FIG. 25

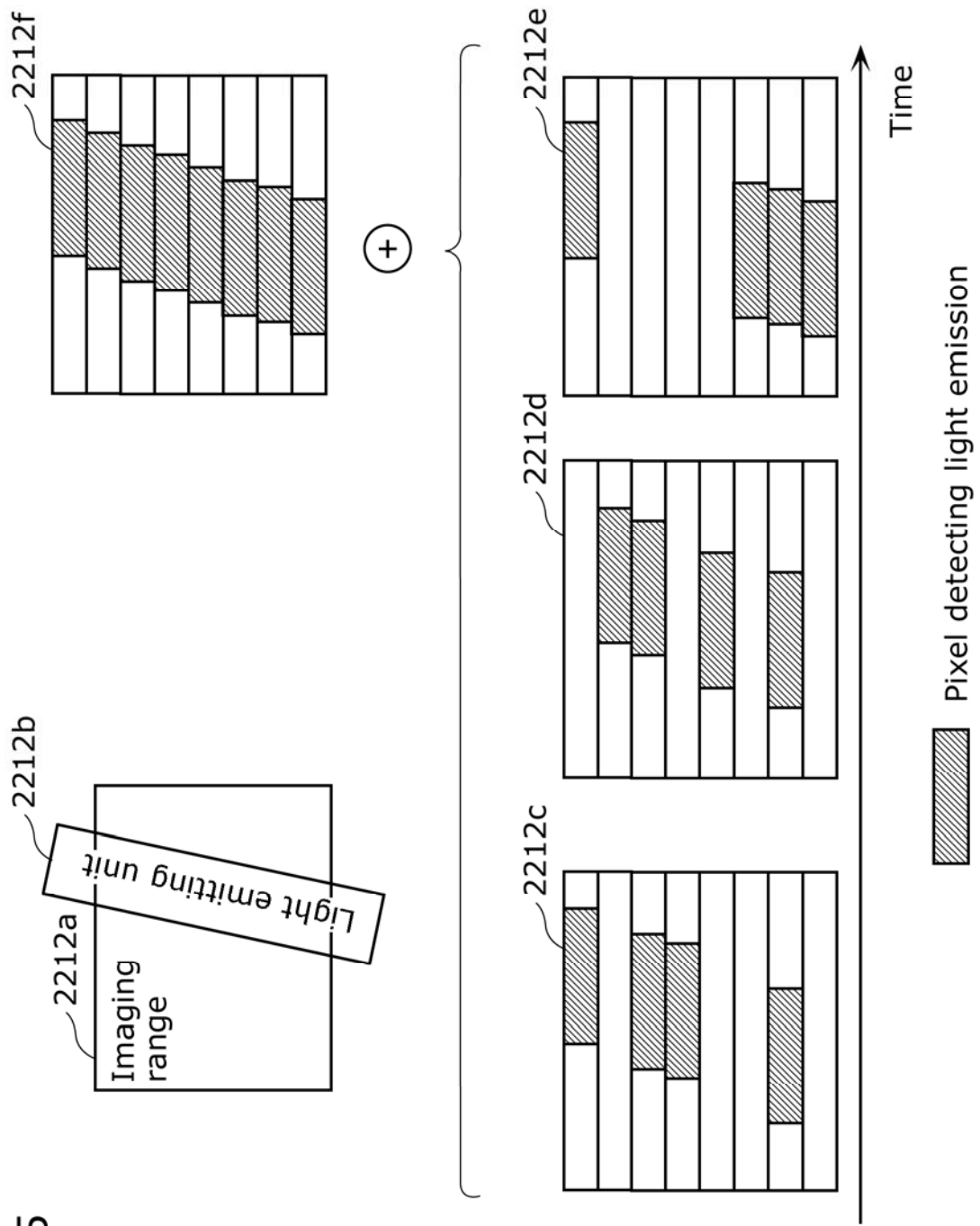


FIG. 26

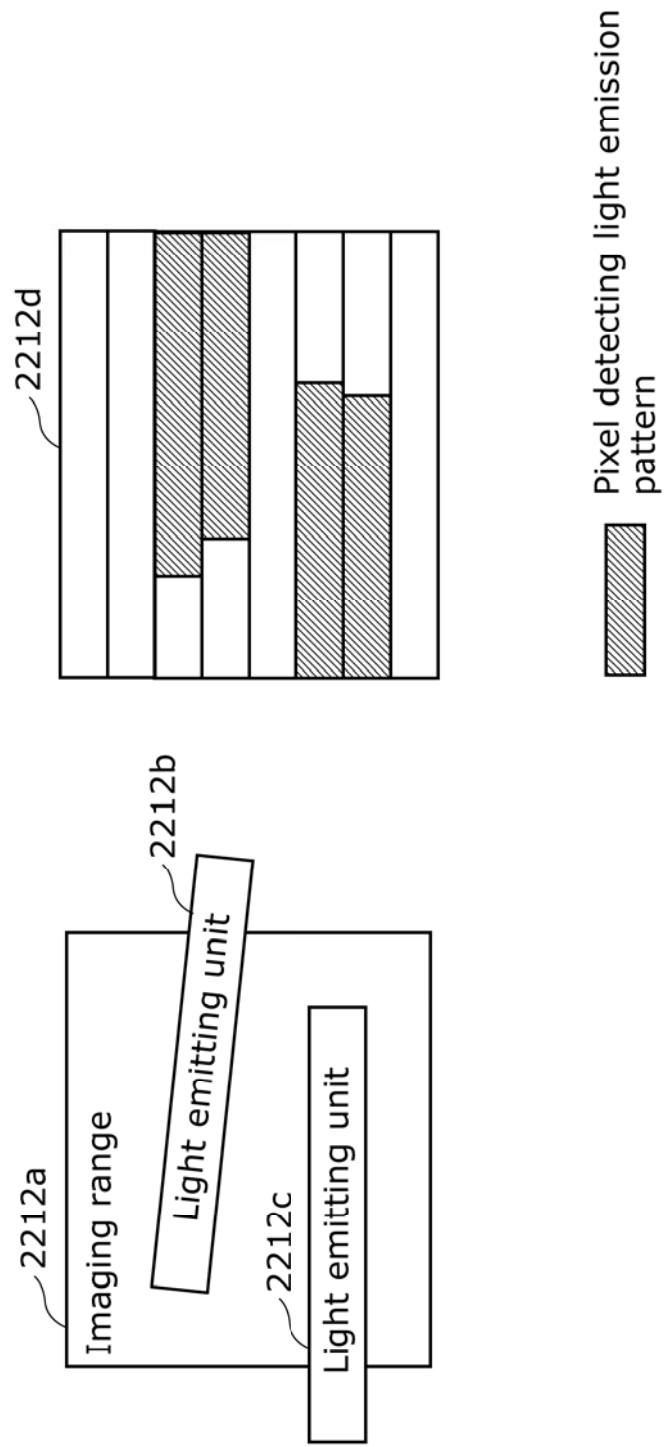


FIG. 27

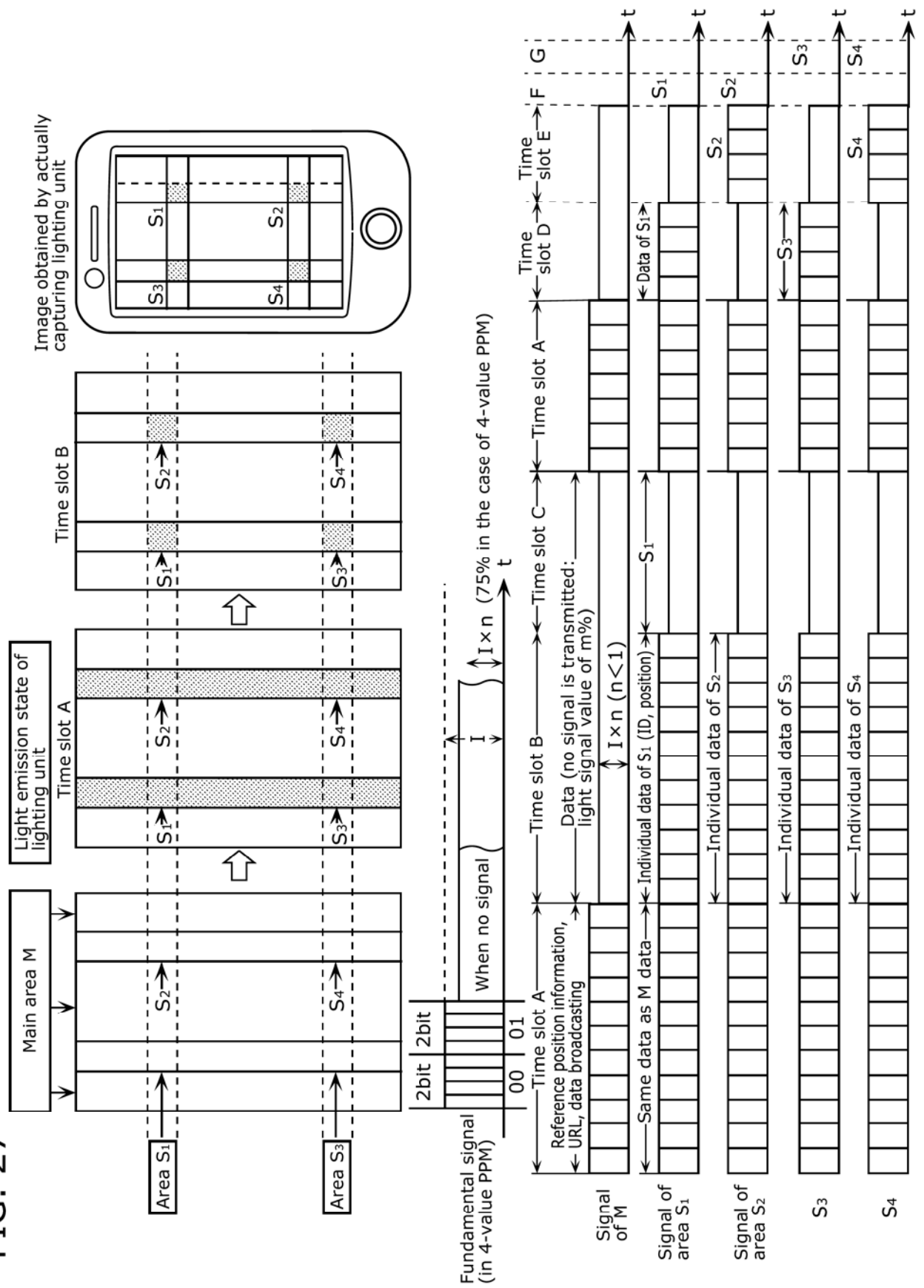


FIG. 28

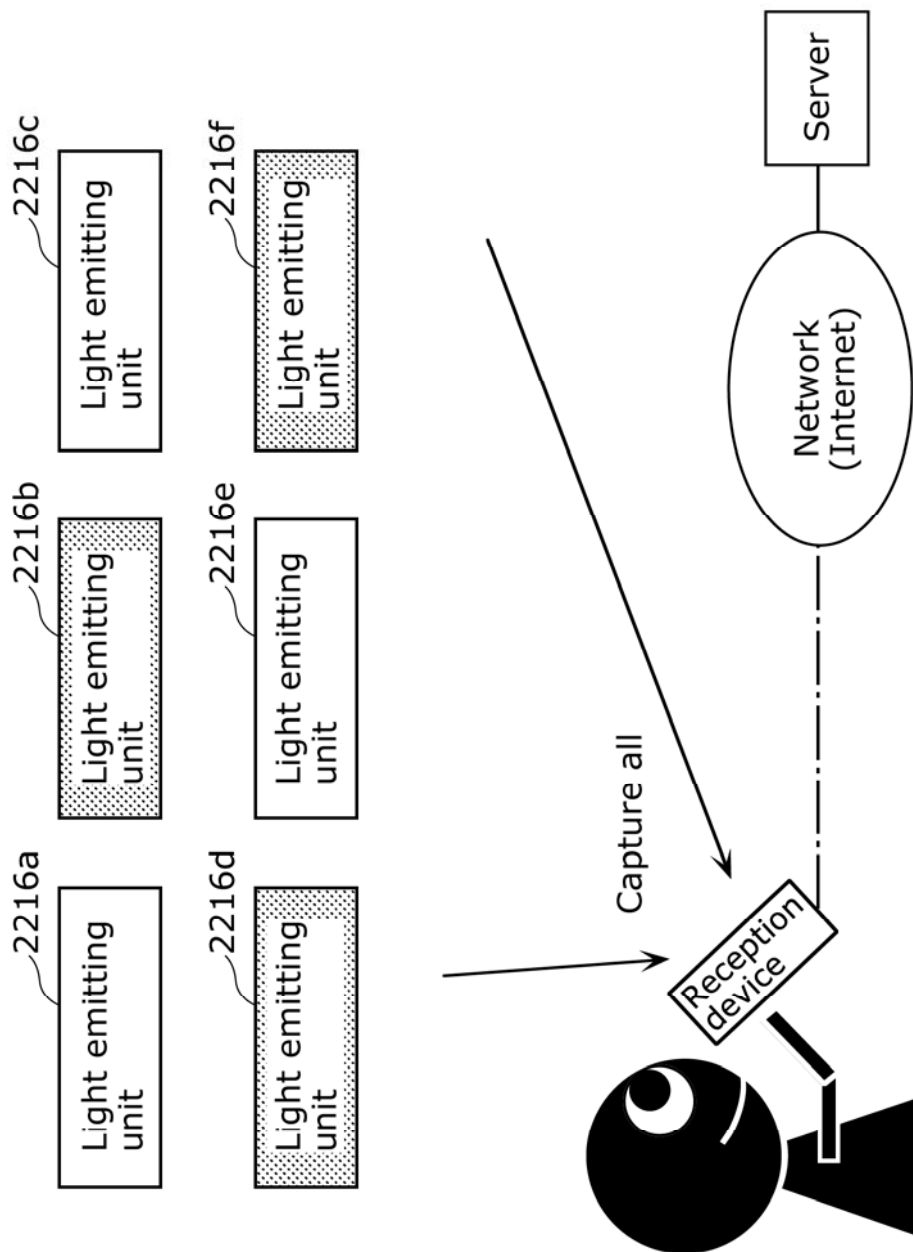
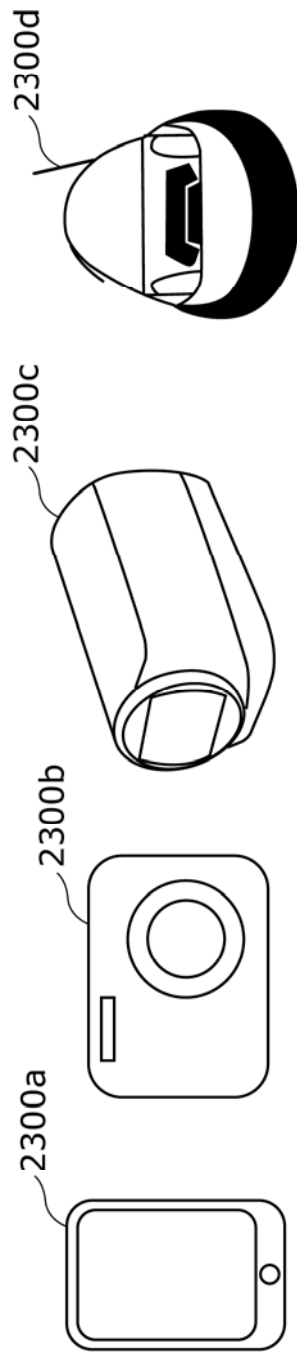
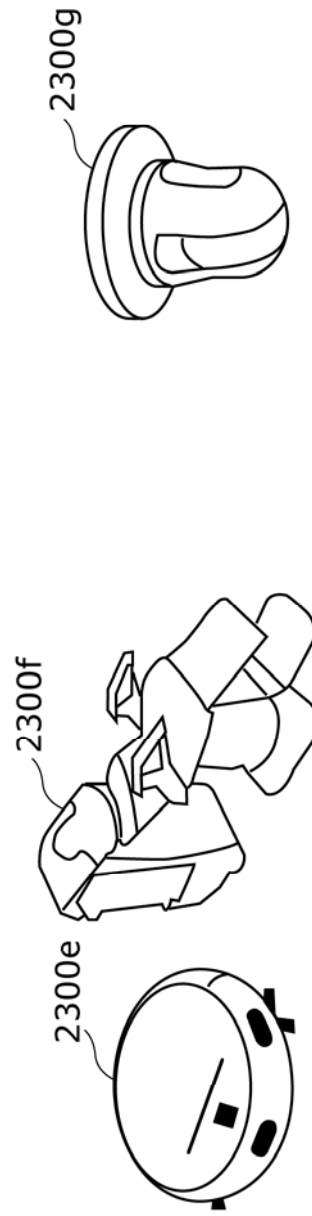


FIG. 29



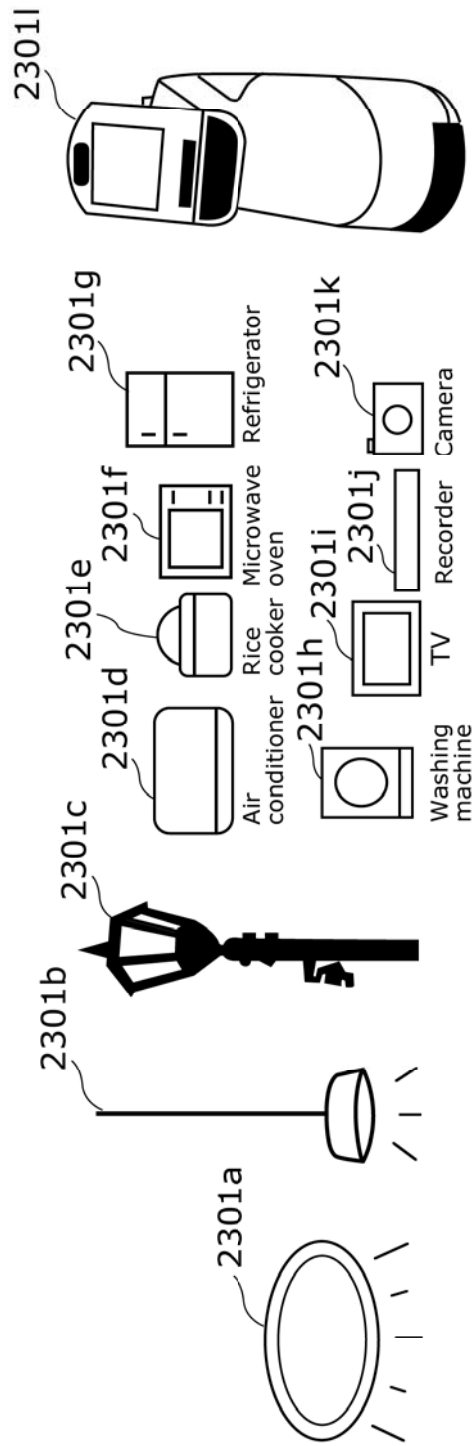
Mobile phone Digital still camera Digital video camera Head-mounted display



Robot (cleaning, nursing care, industrial, etc.) Surveillance camera Surveillance camera

Example of reception device

FIG. 30



Example of transmission device

FIG. 31

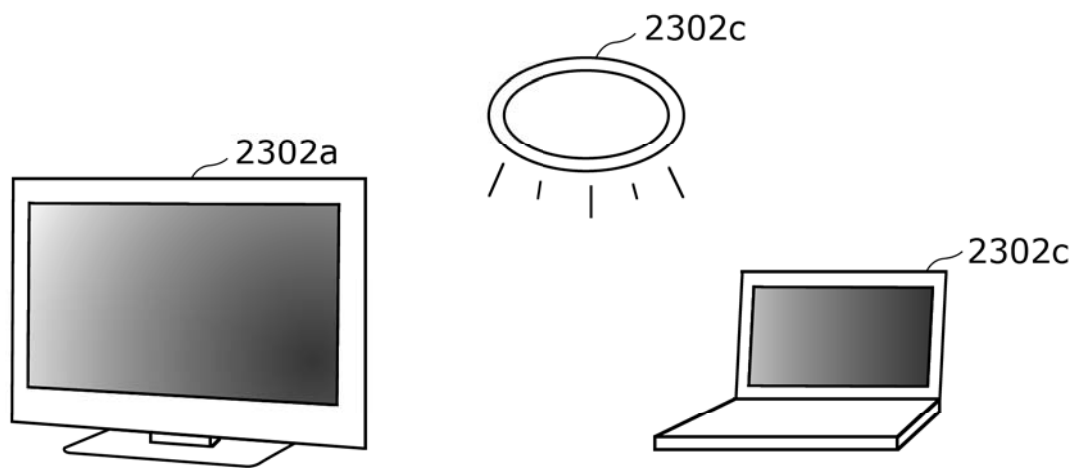


FIG. 32

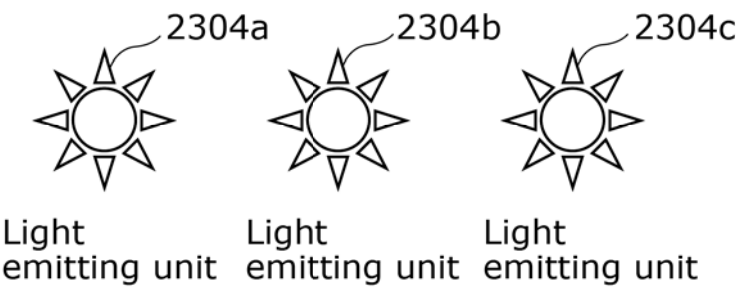


FIG. 33

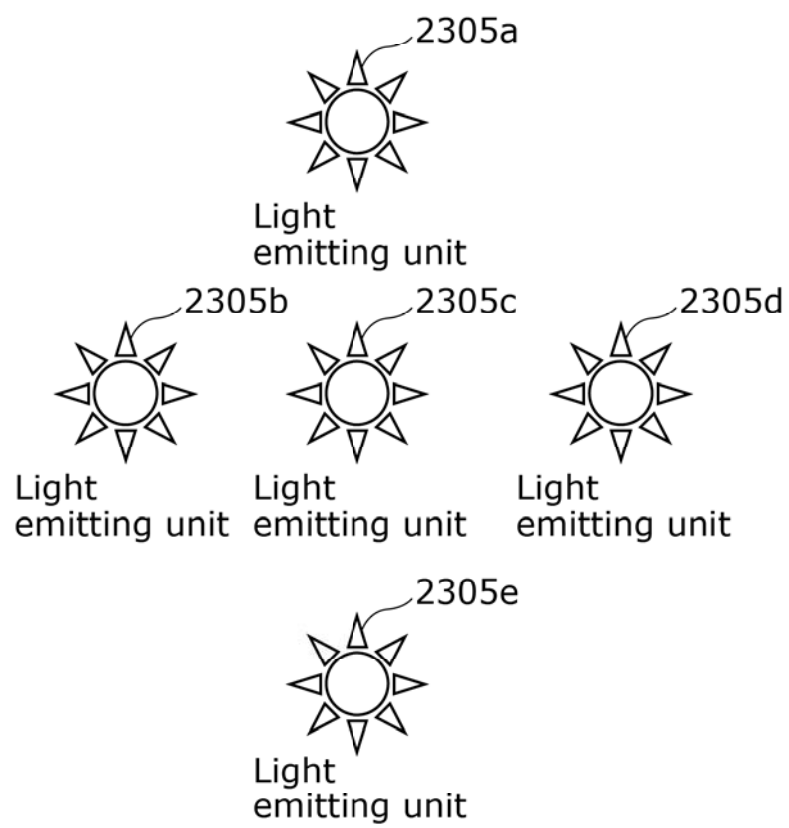


FIG. 34

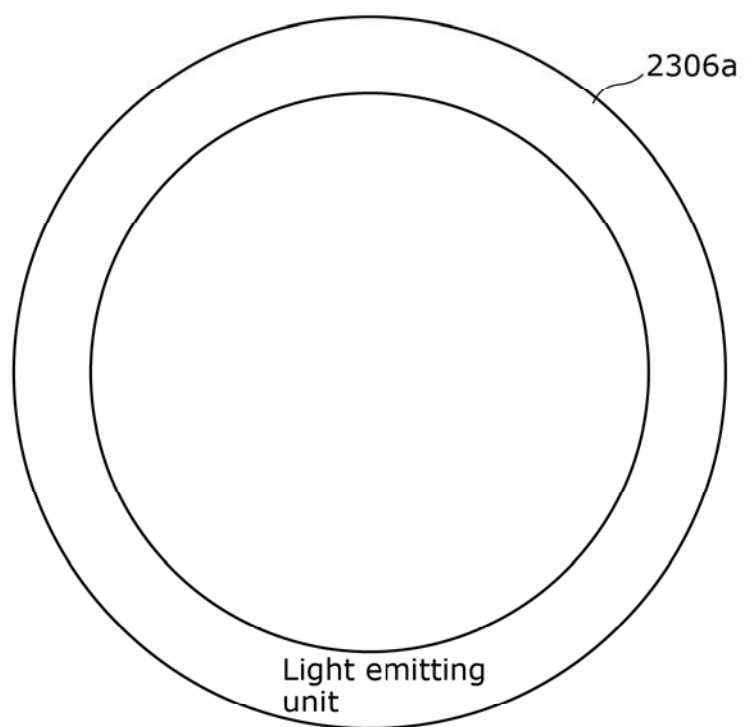


FIG. 35

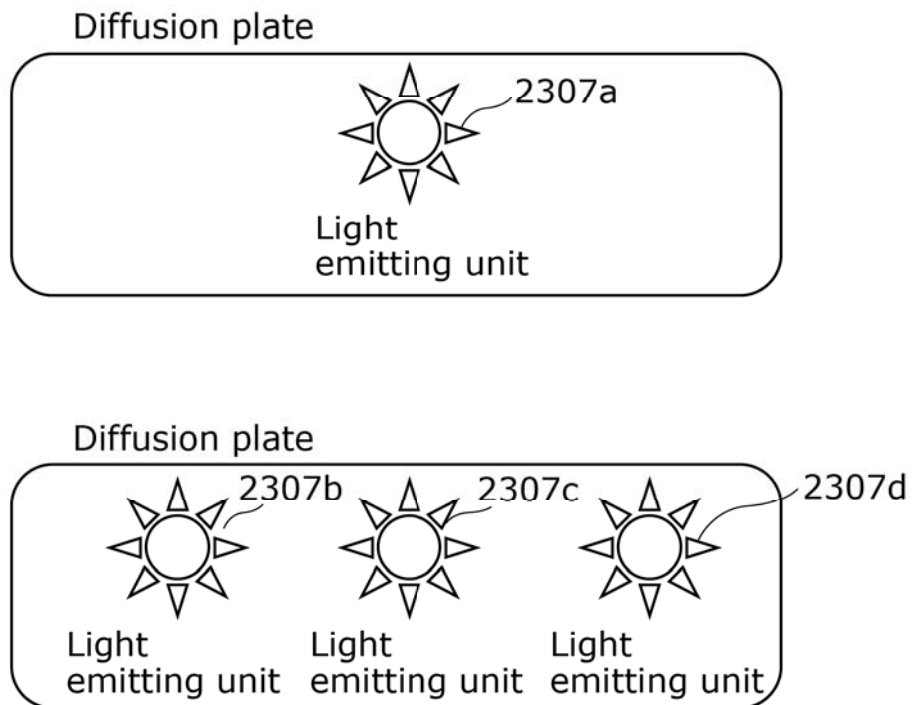




FIG. 36

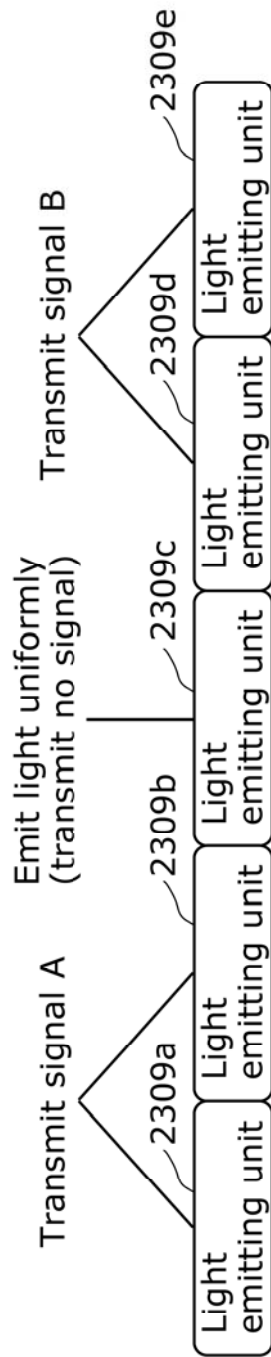


FIG. 37

FIG. 38

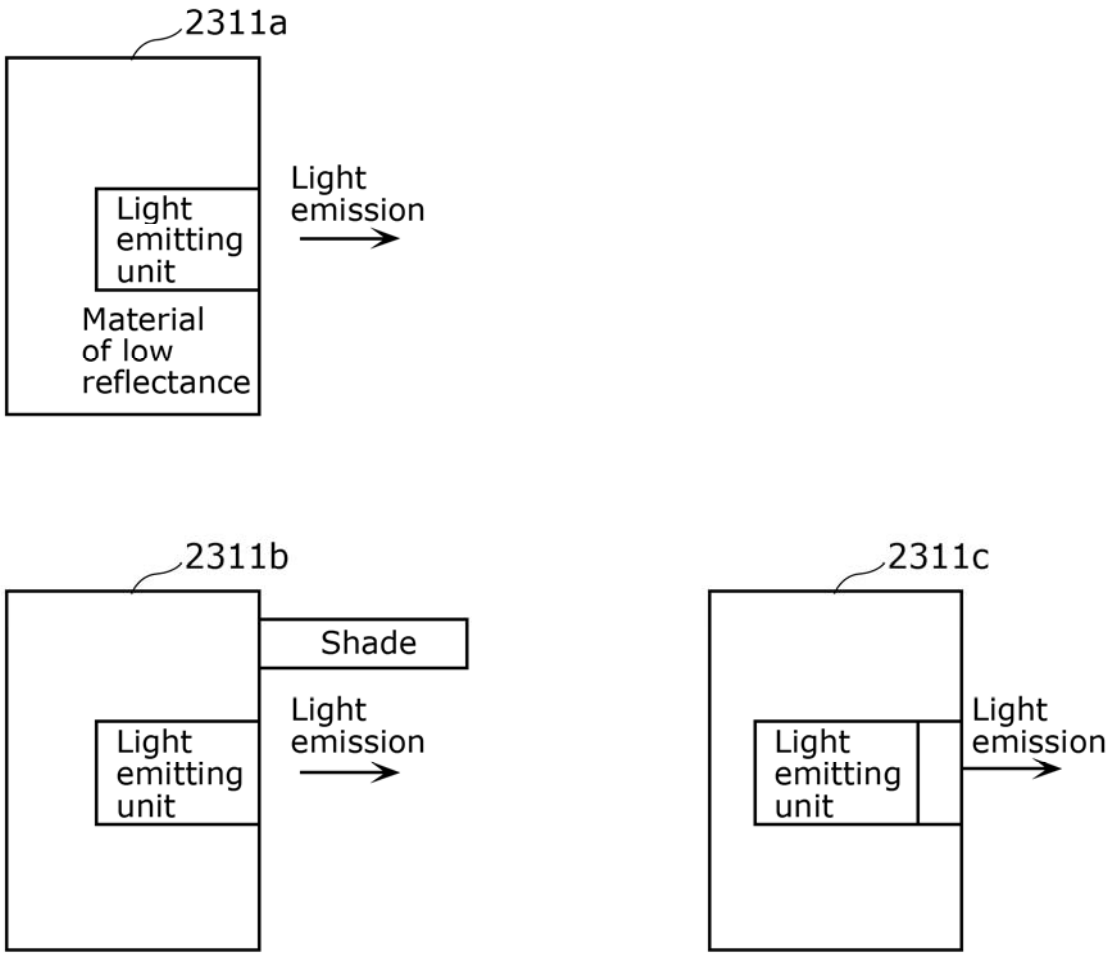


FIG. 39

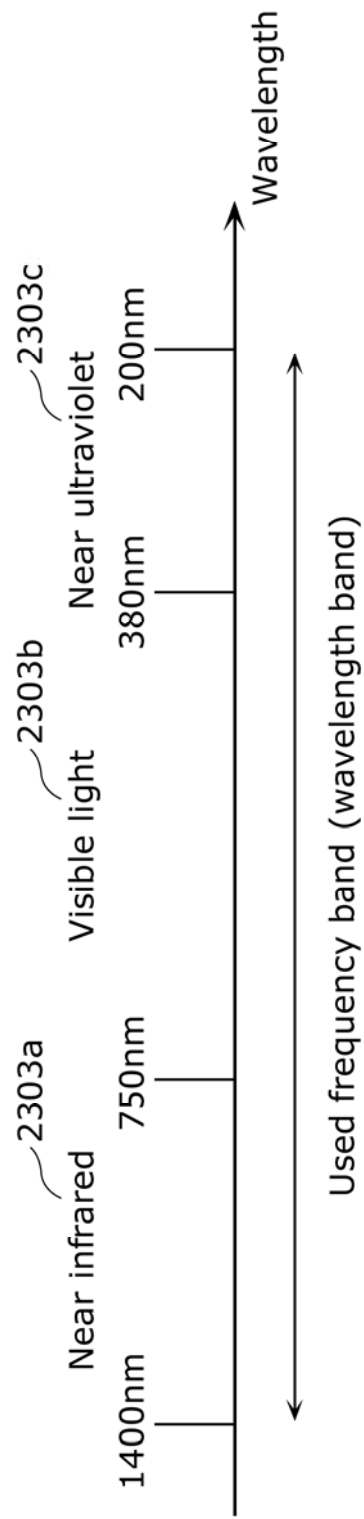


FIG. 40

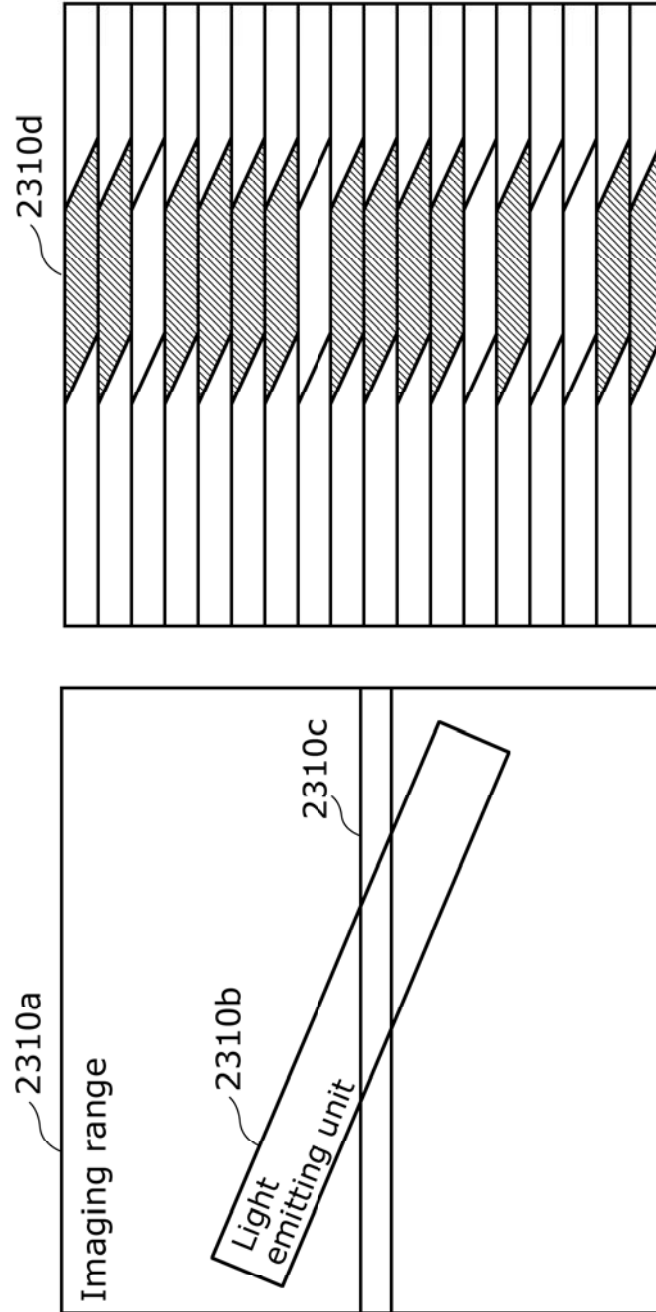


FIG. 41

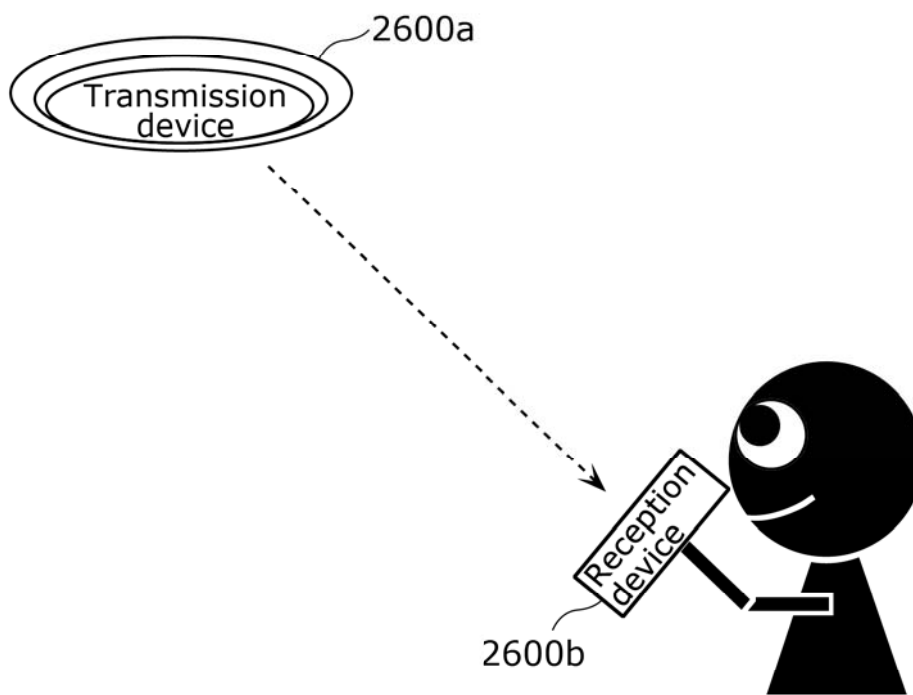


FIG. 42

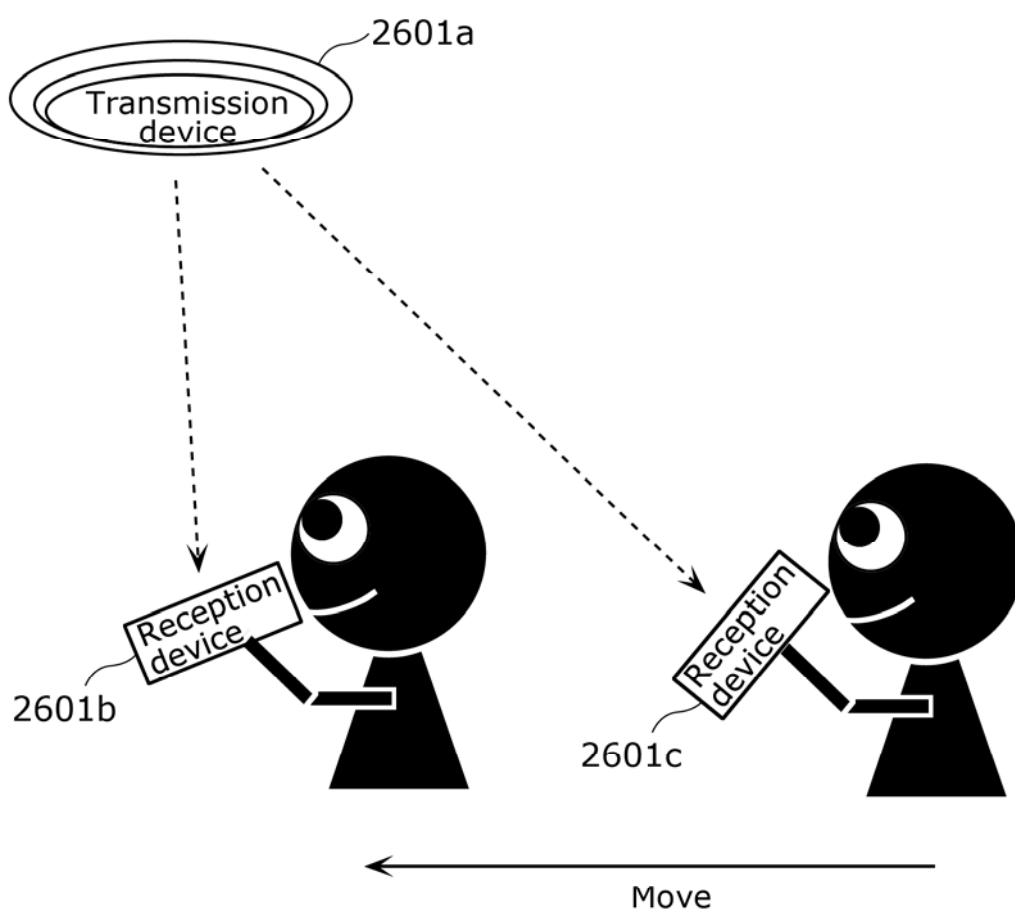


FIG. 43

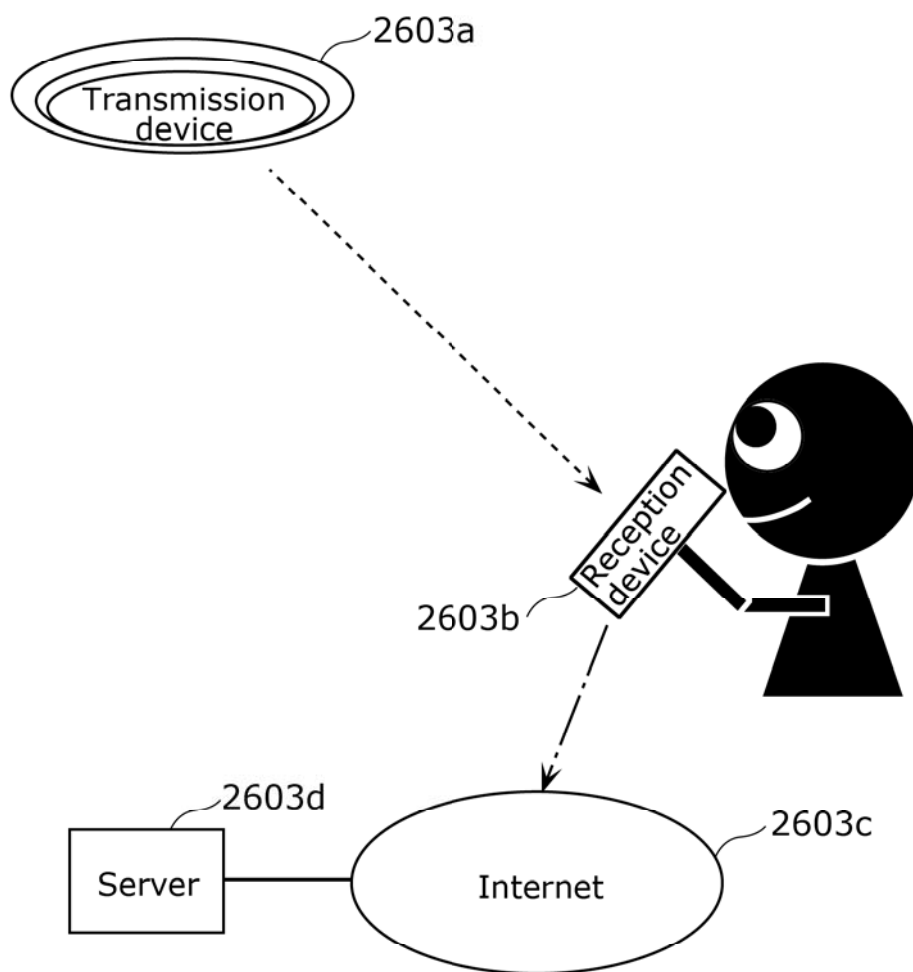


FIG. 44

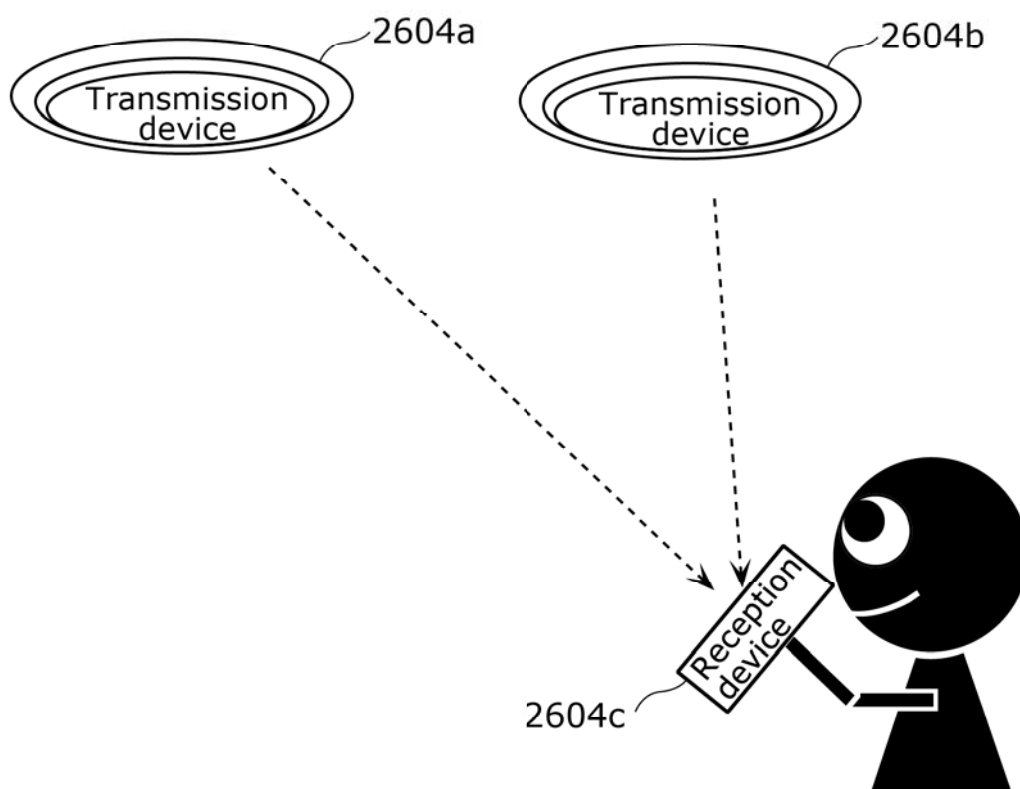


FIG. 45

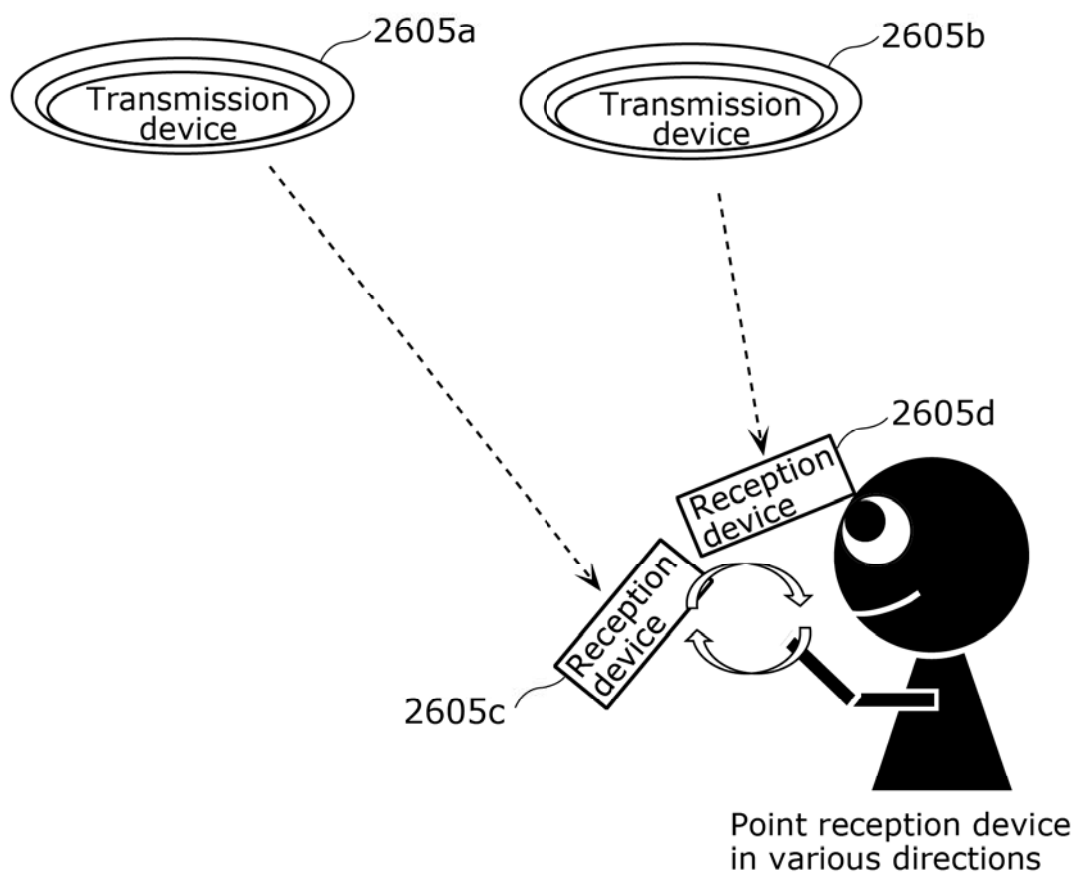


FIG. 46

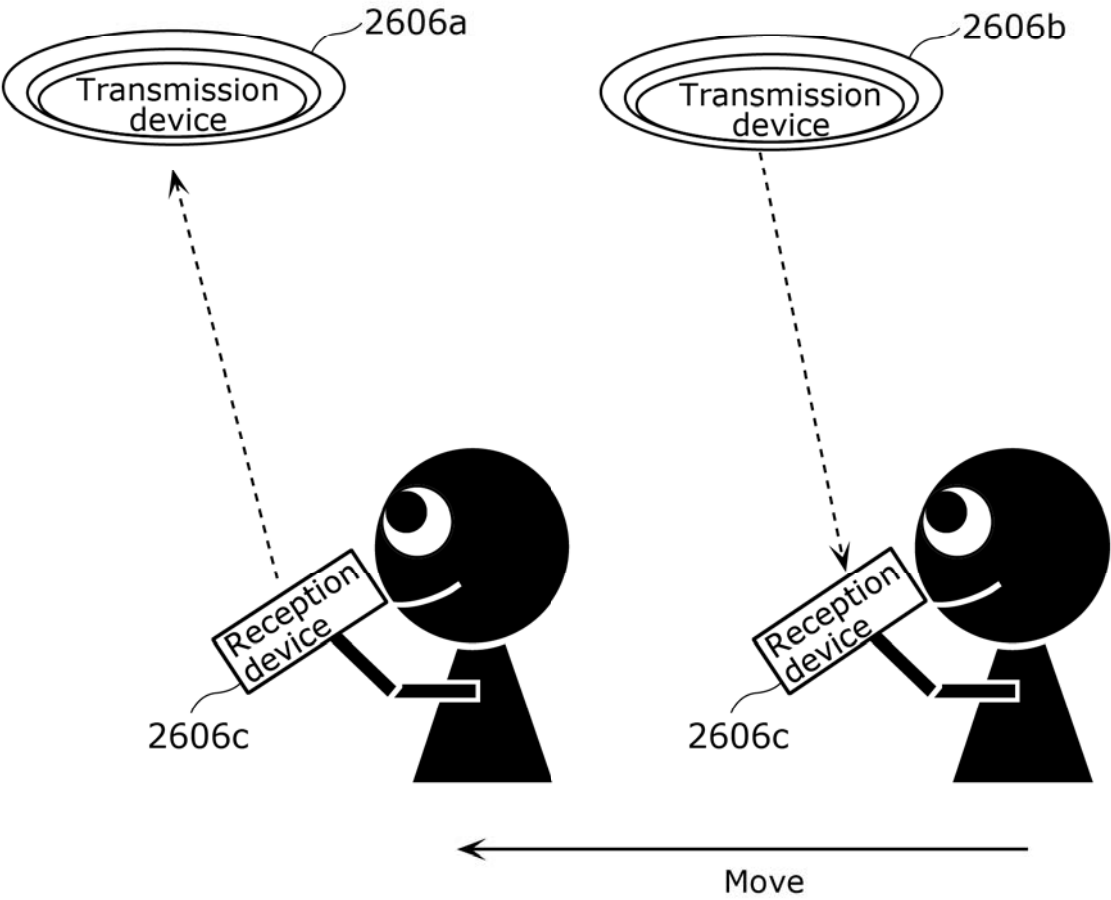


FIG. 47

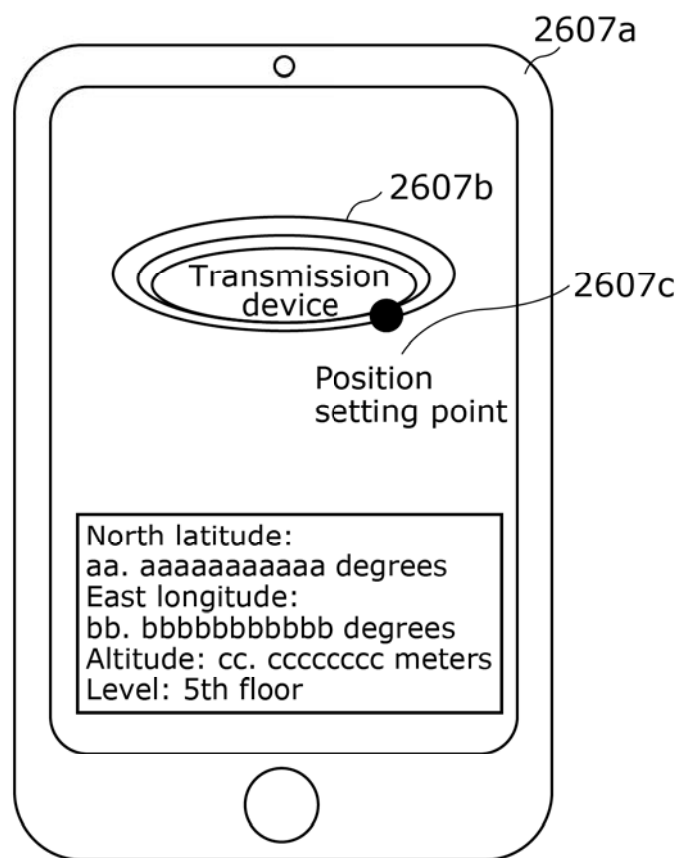


FIG. 48

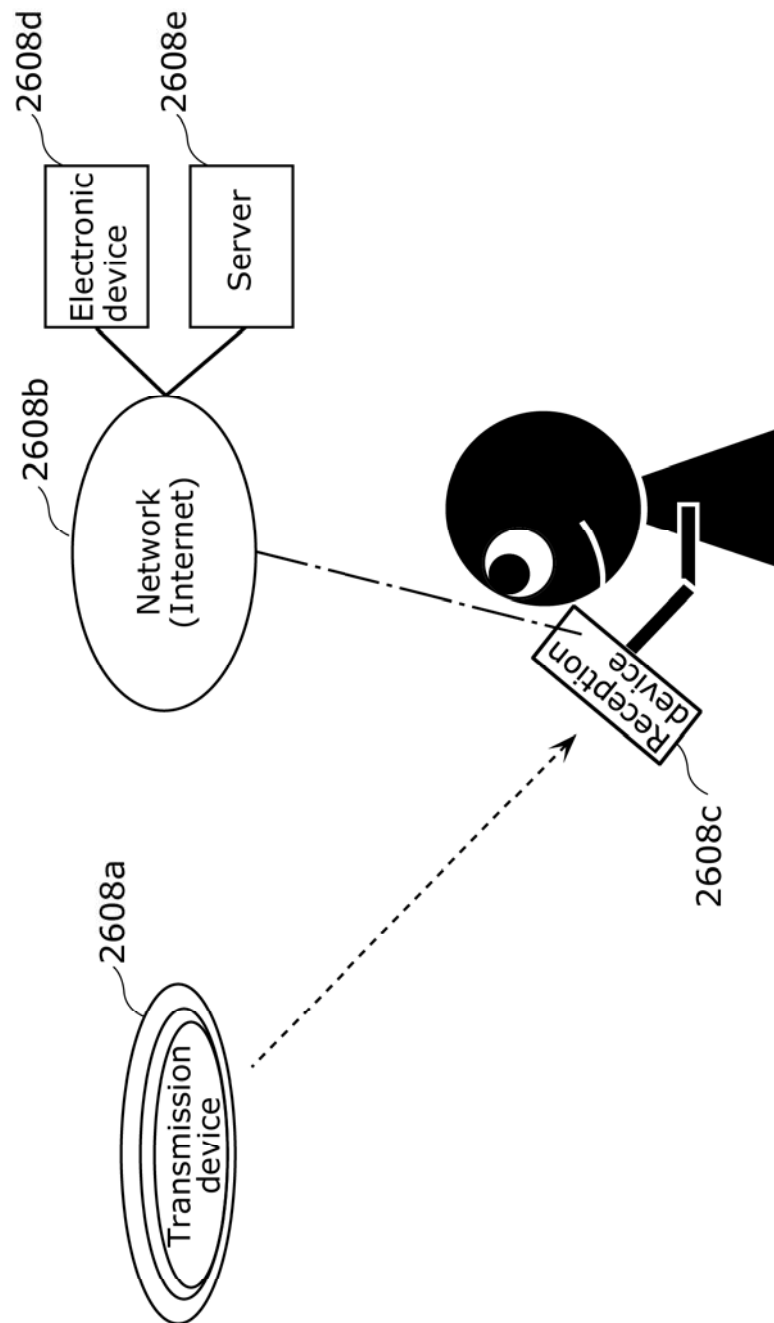


FIG. 49

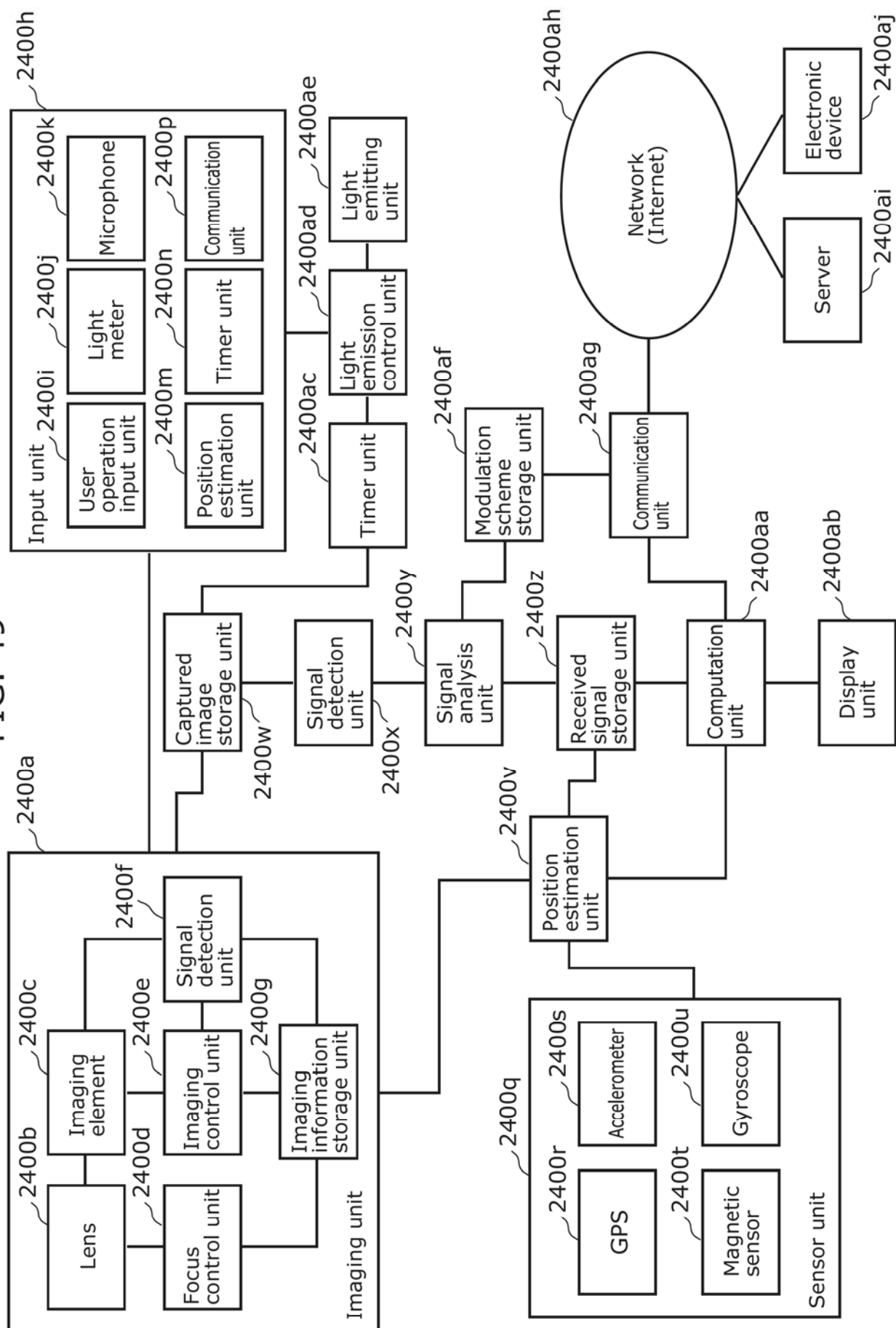


FIG. 50

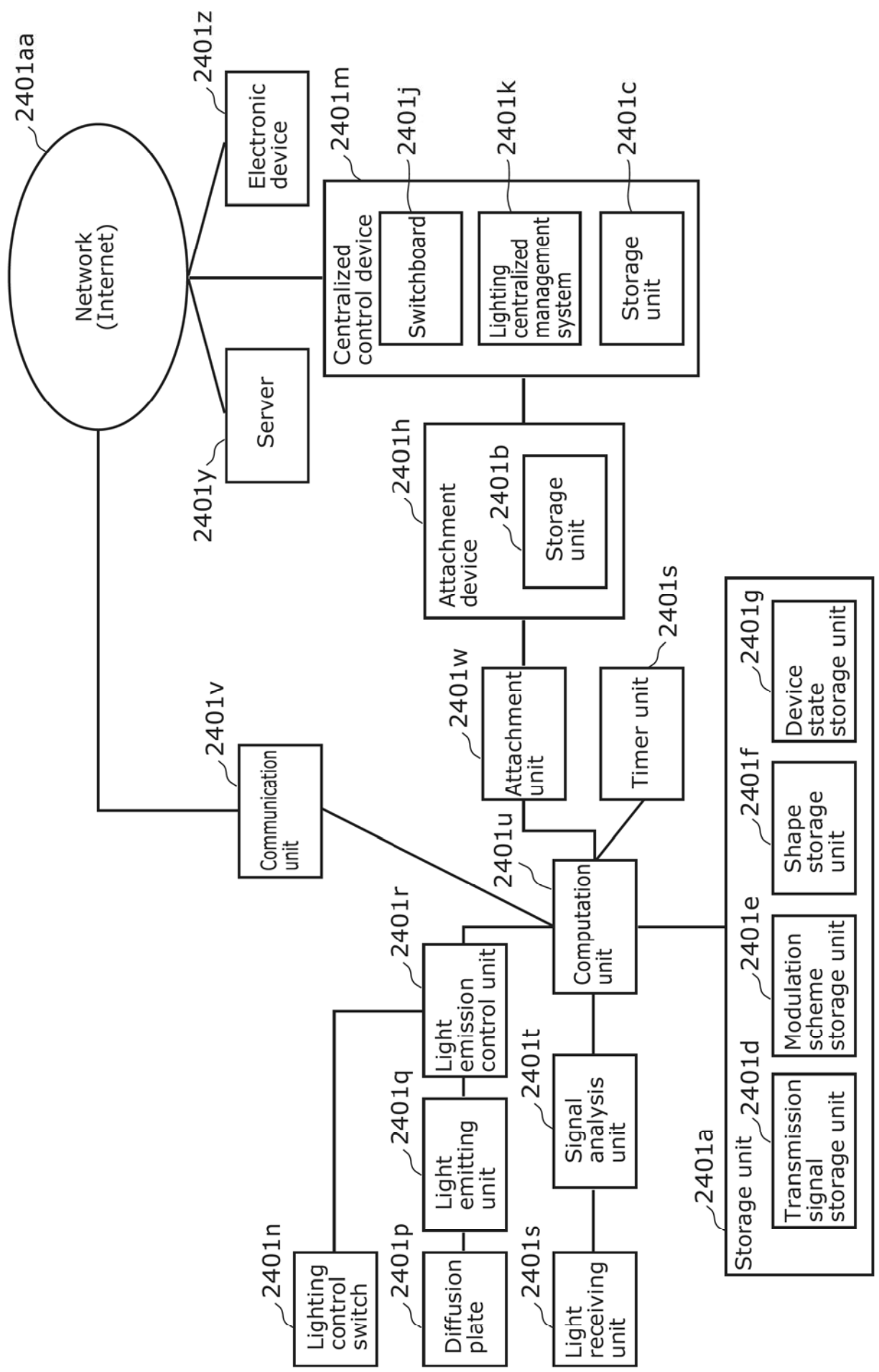


FIG. 51

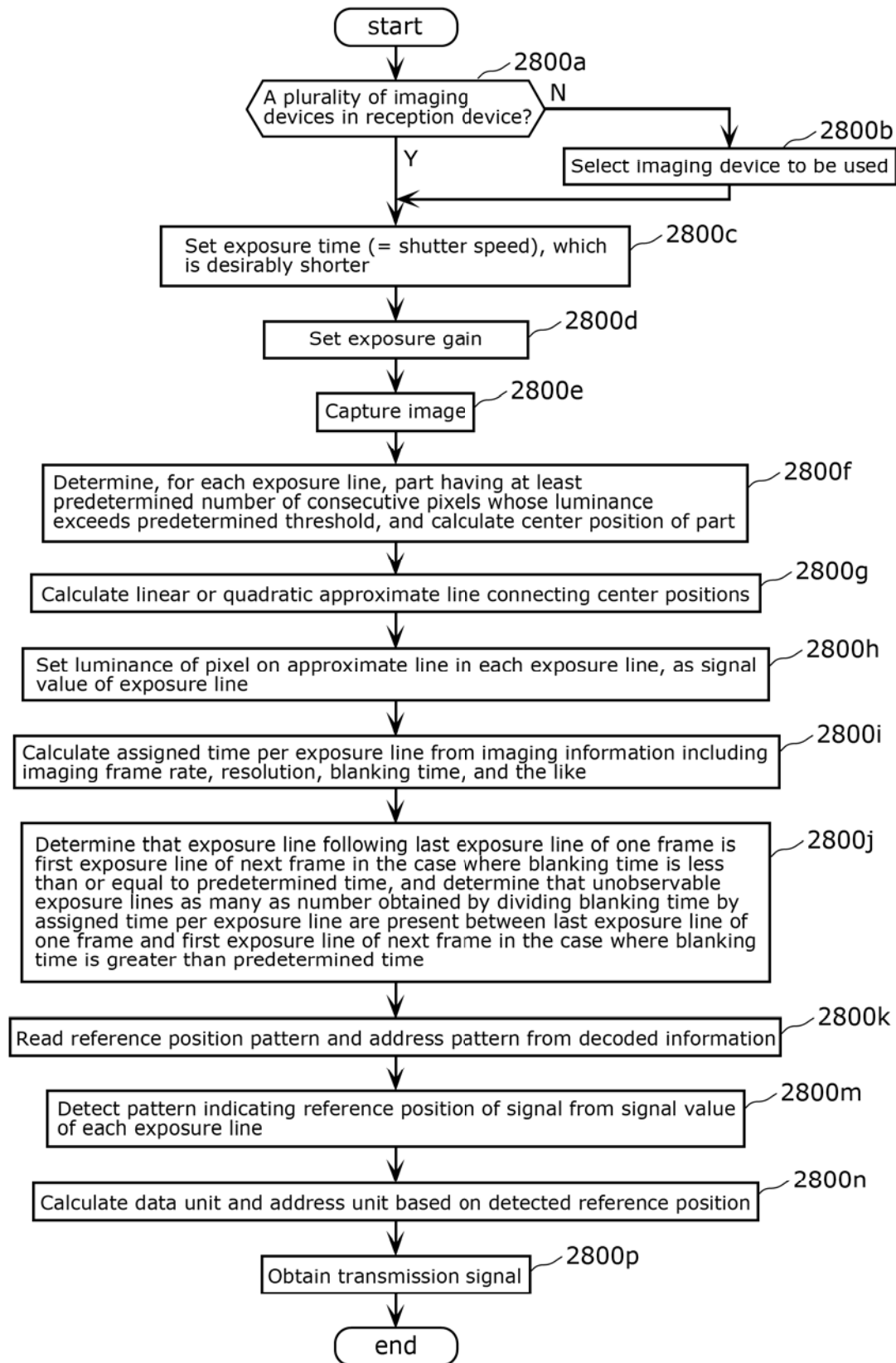


FIG. 52

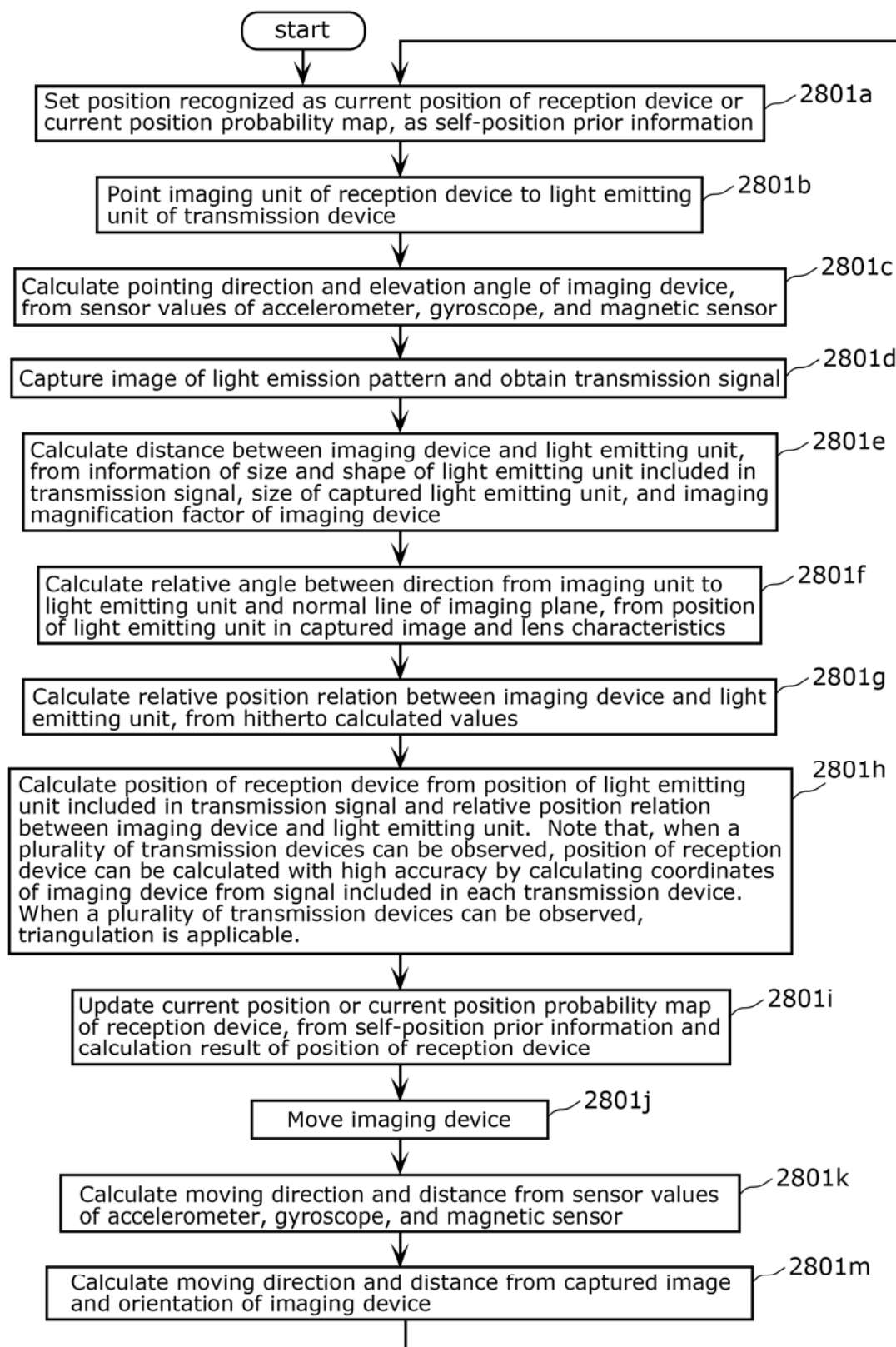


FIG. 53

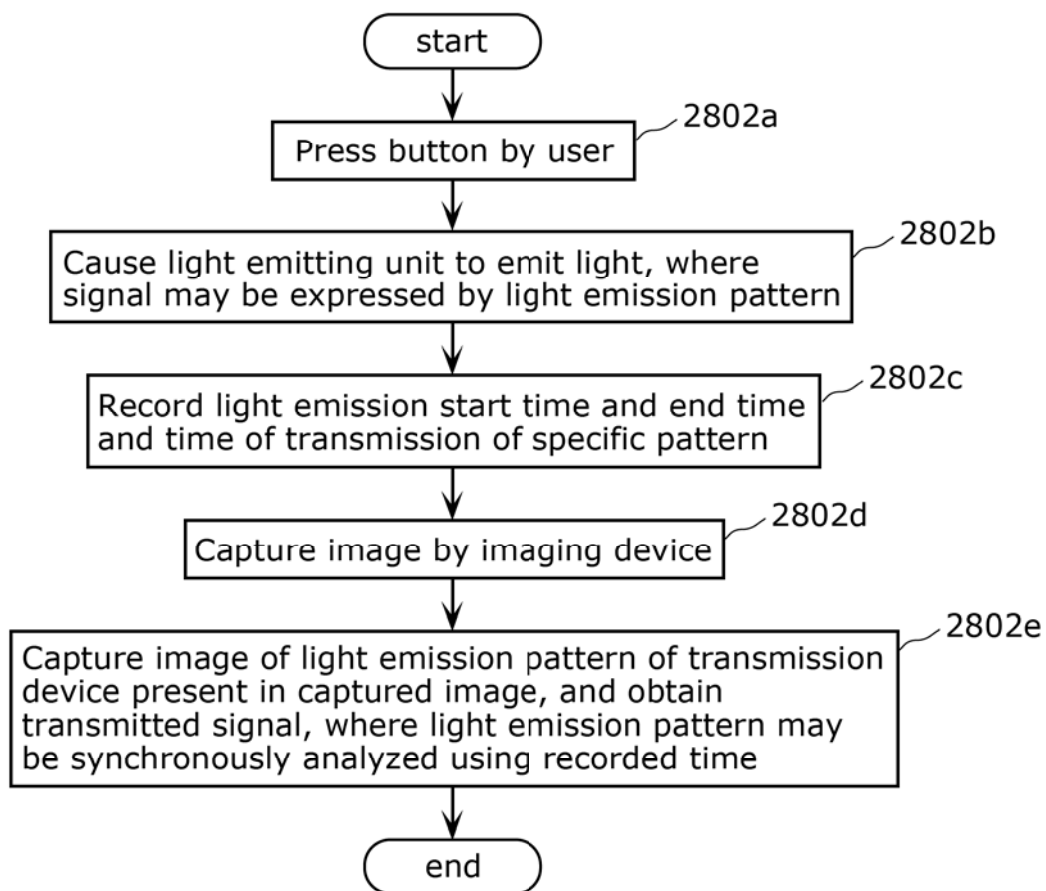


FIG. 54

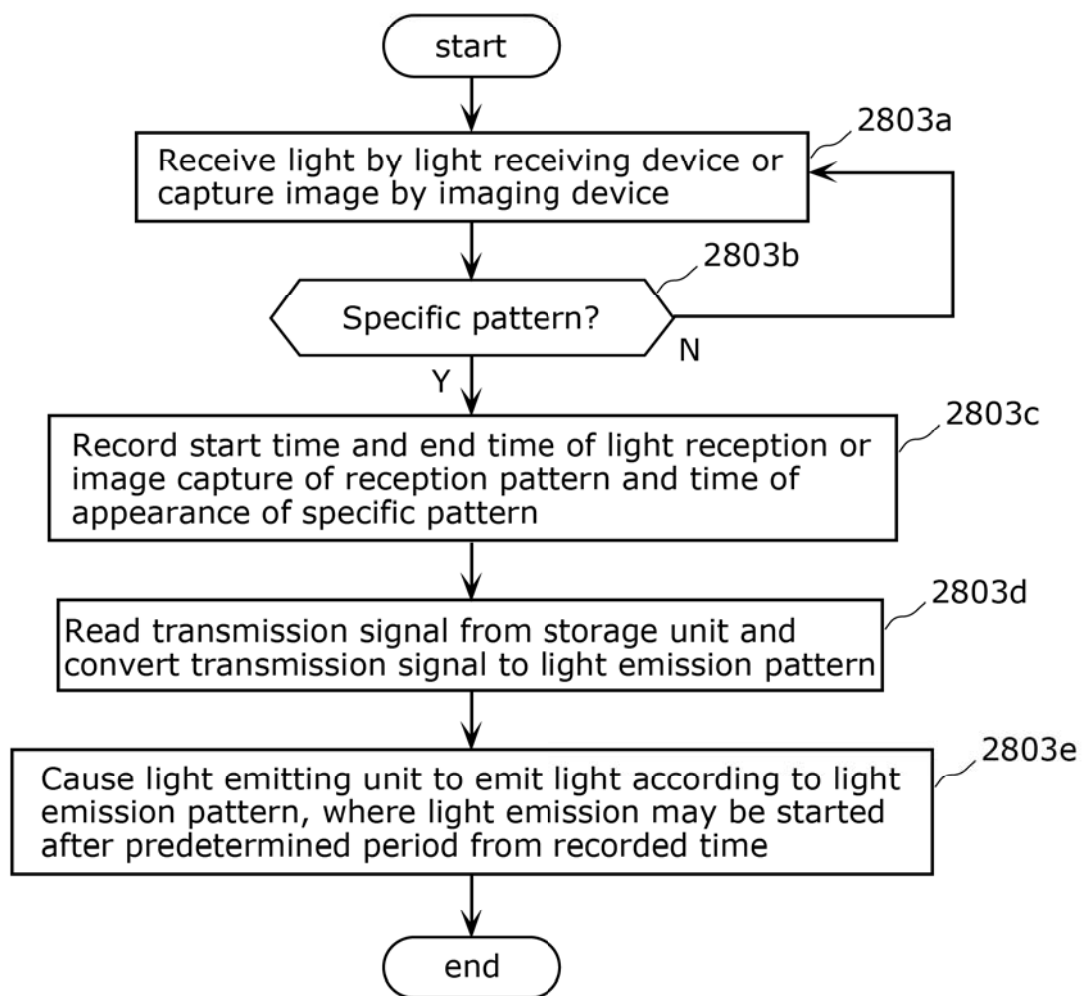


FIG. 55

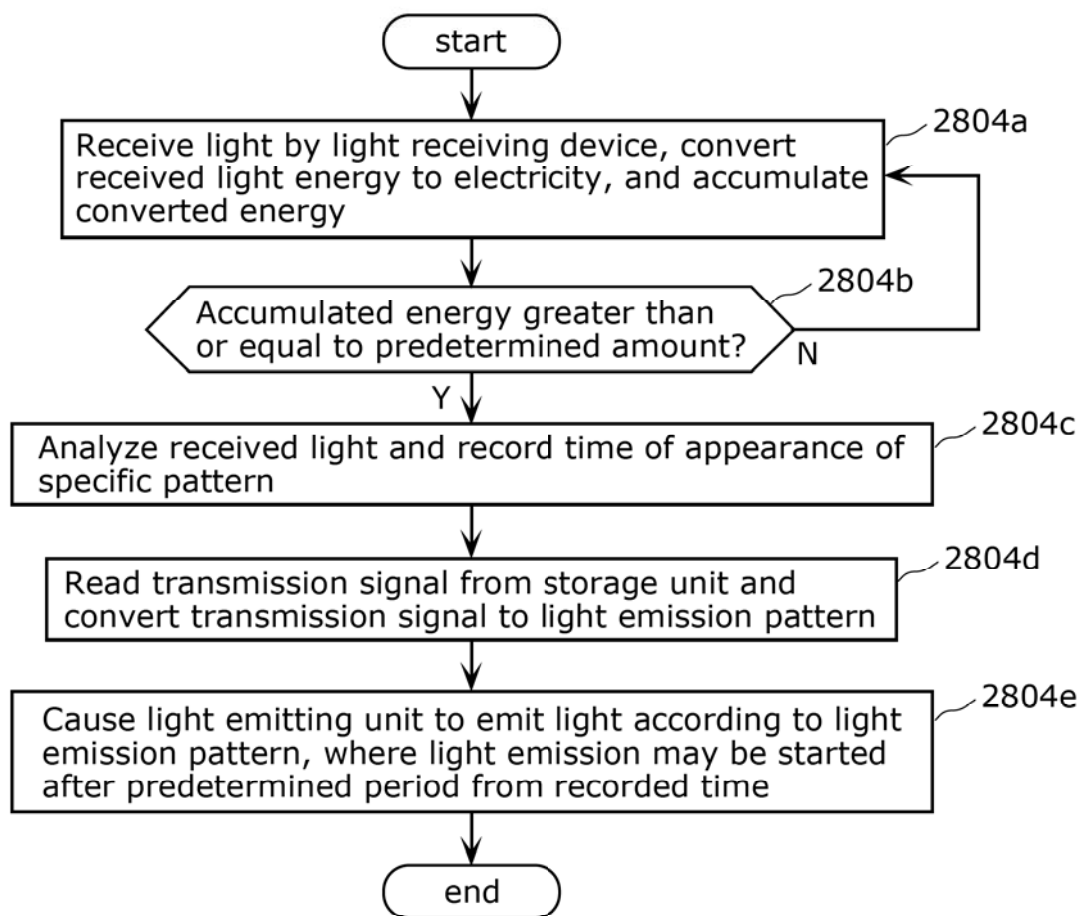


FIG. 56

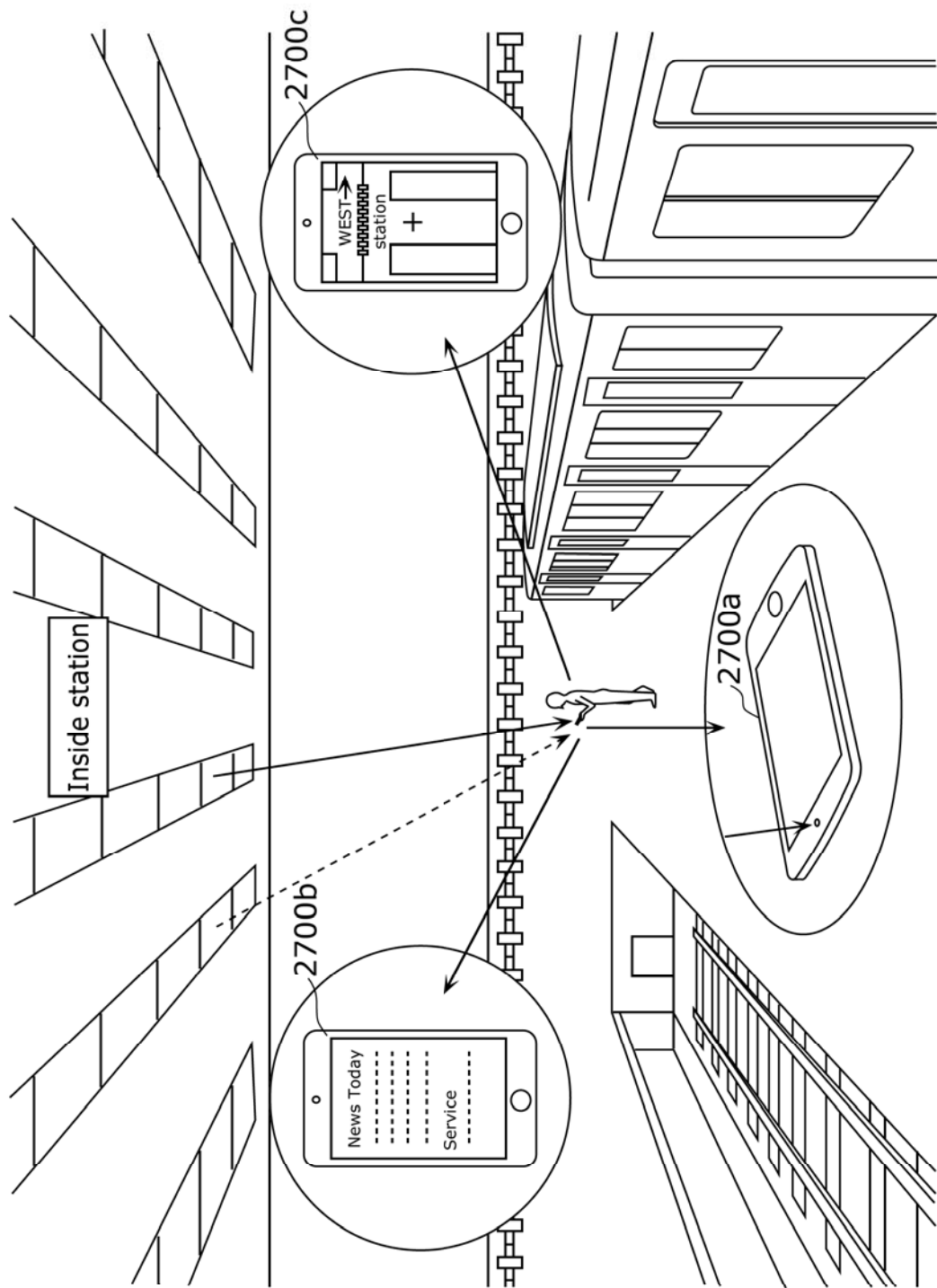


FIG. 57

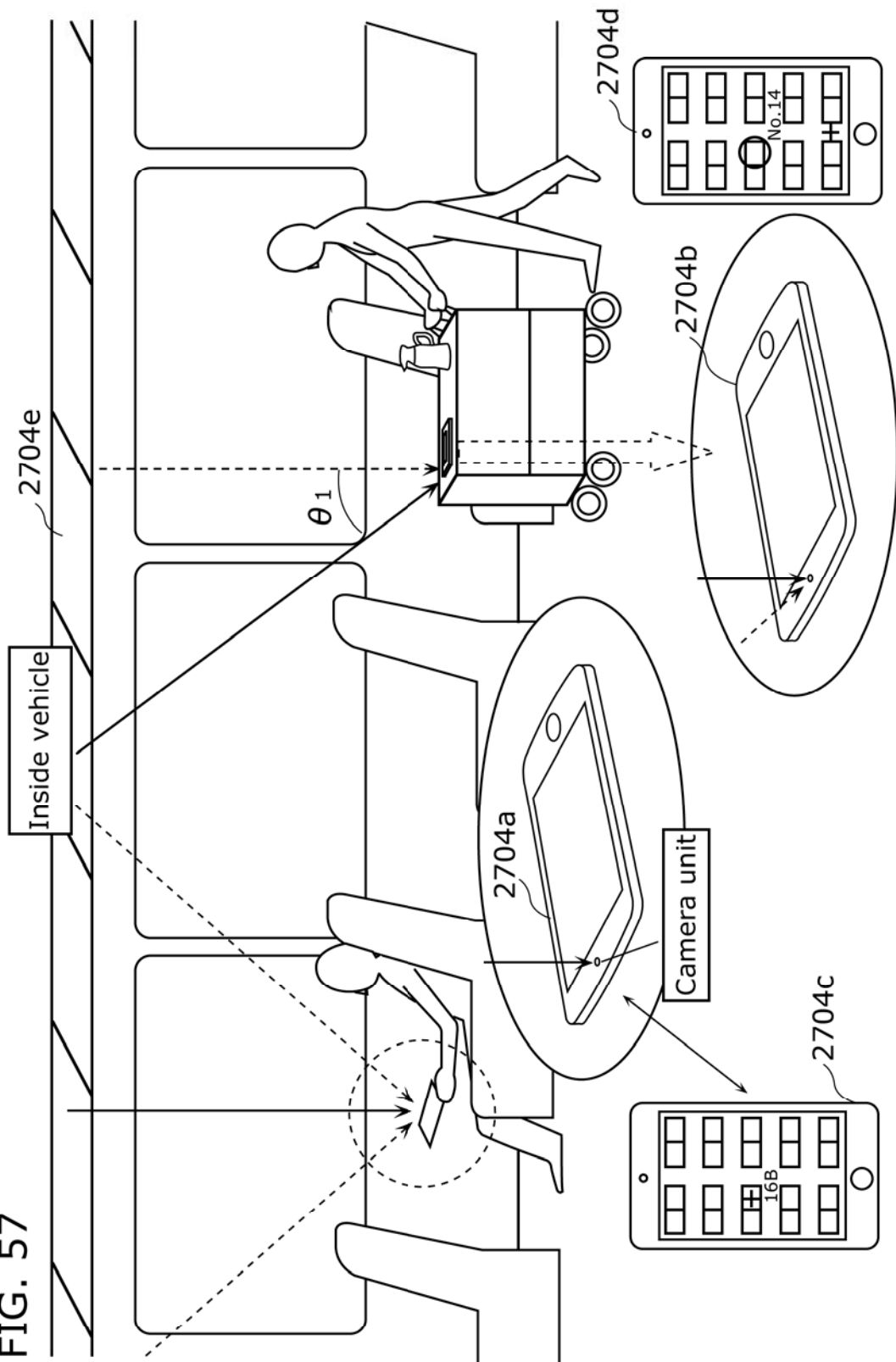


FIG. 58

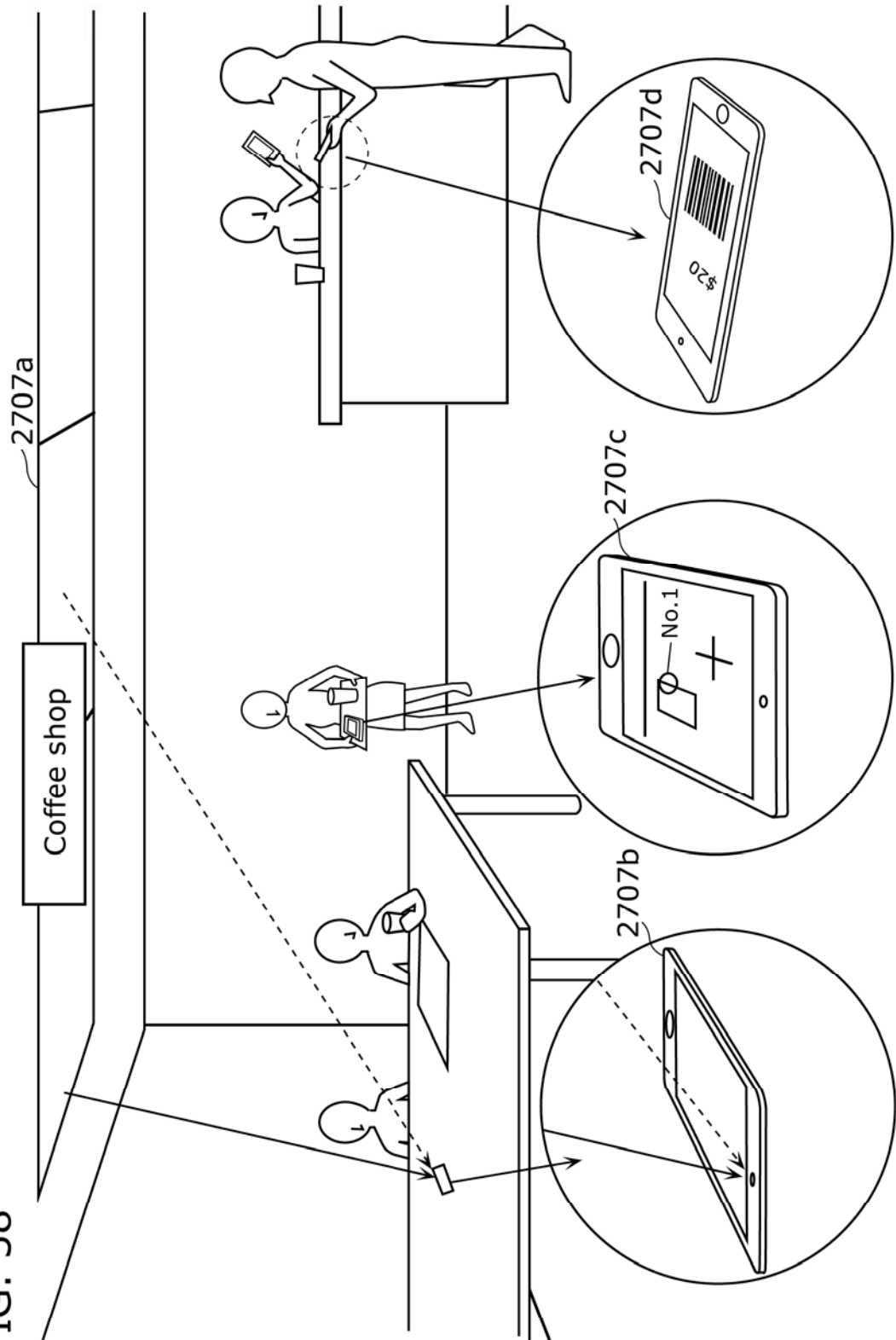


FIG. 59

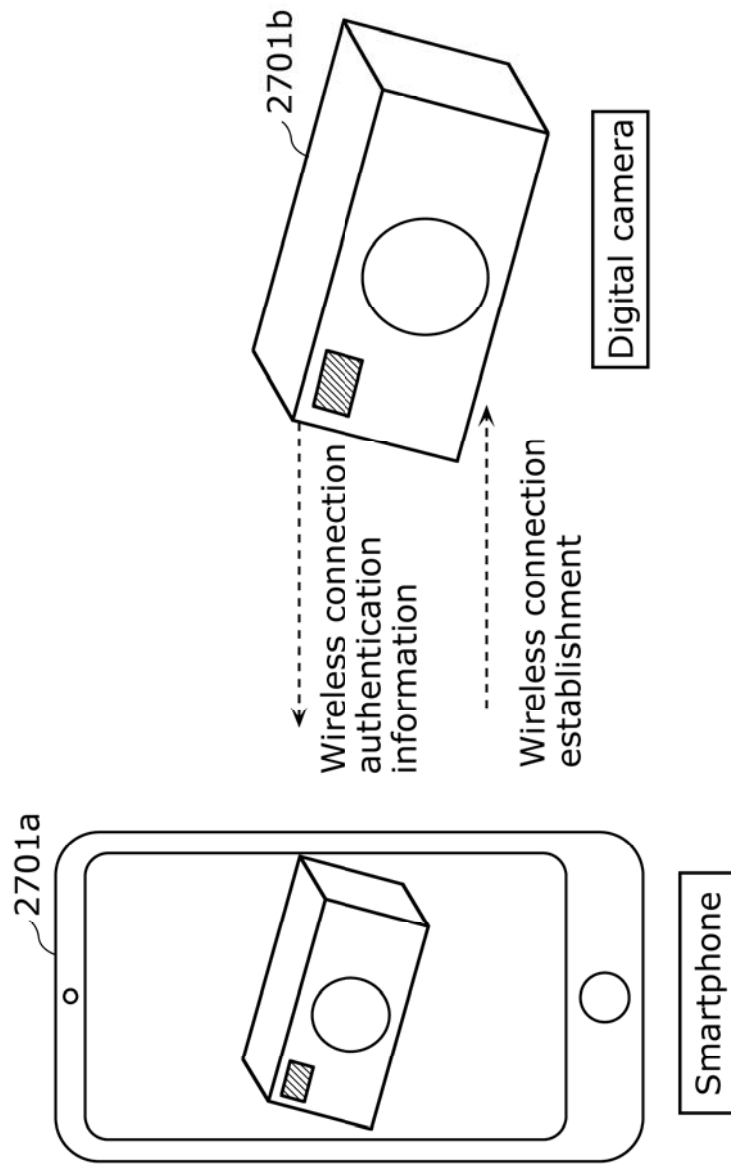


FIG. 60

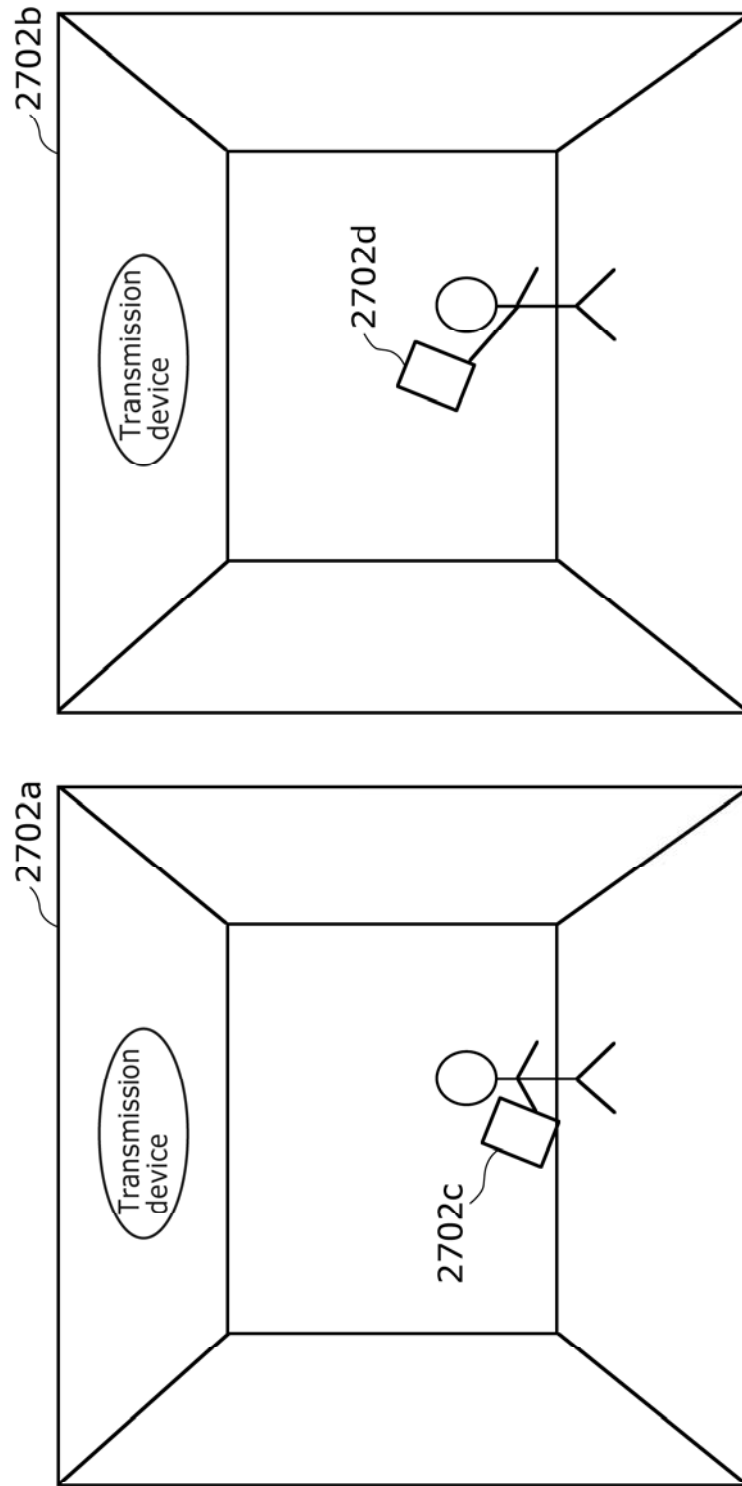
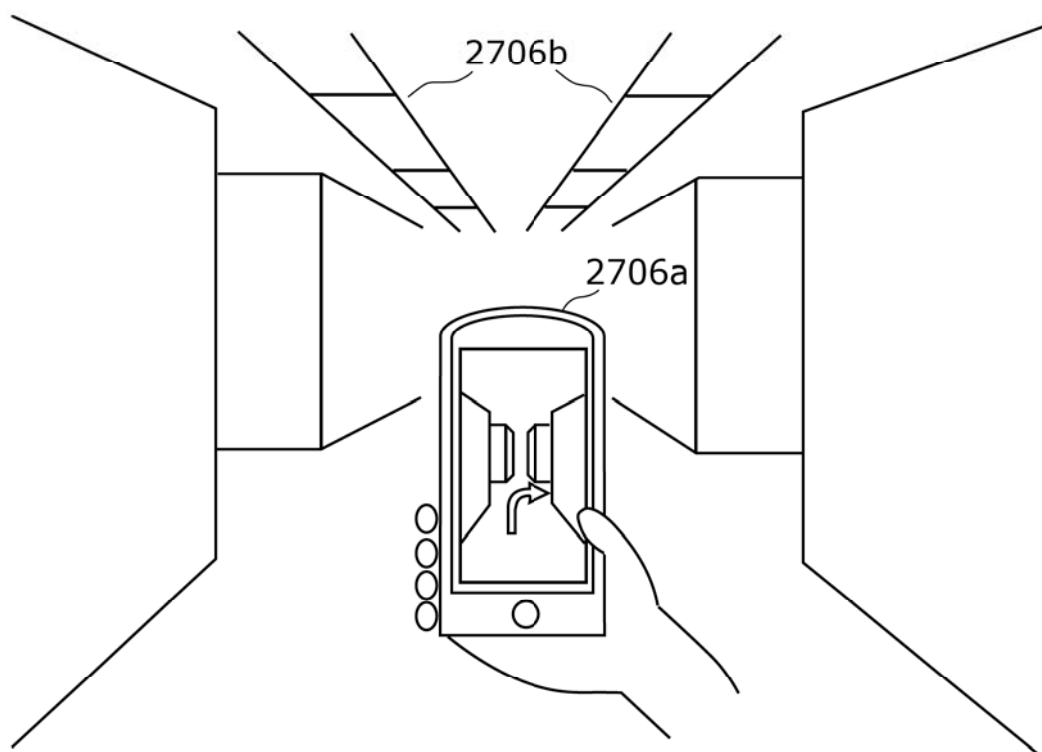


FIG. 61



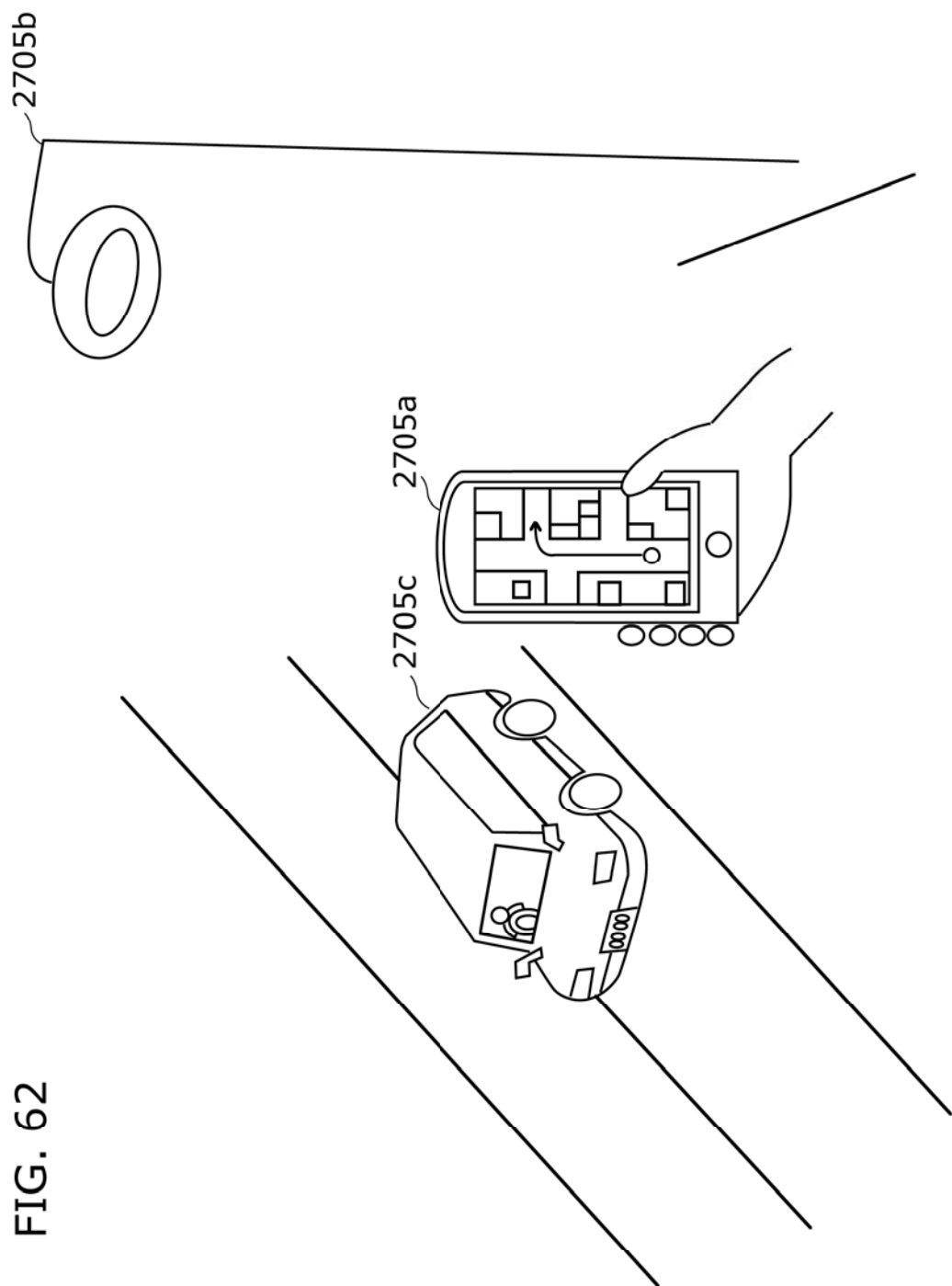


FIG. 62

FIG. 63

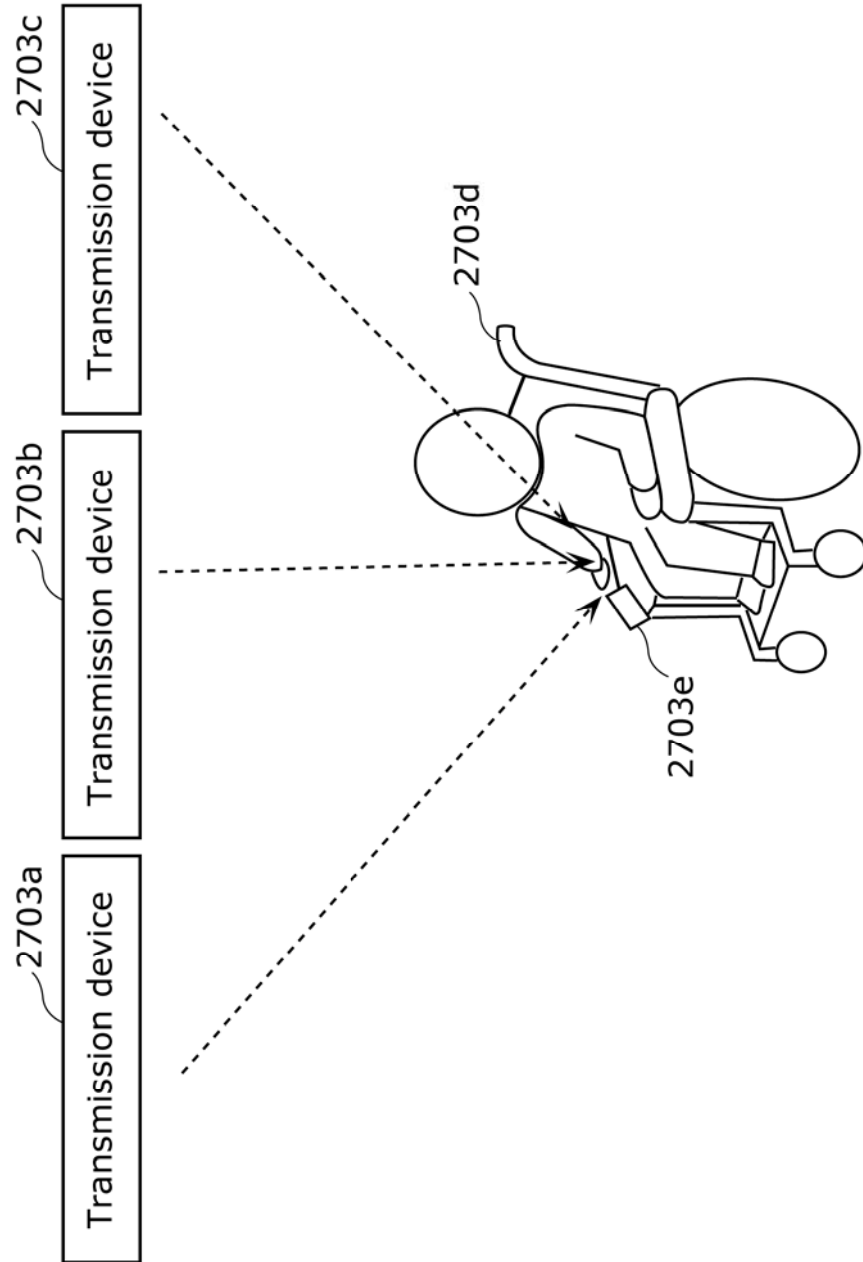


FIG. 64

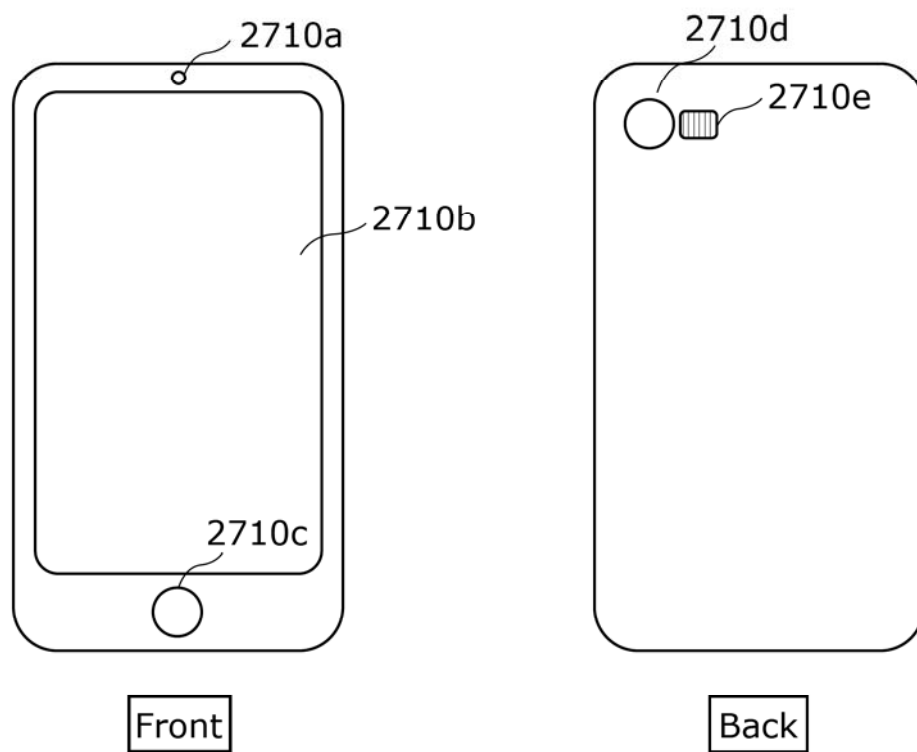


FIG. 65

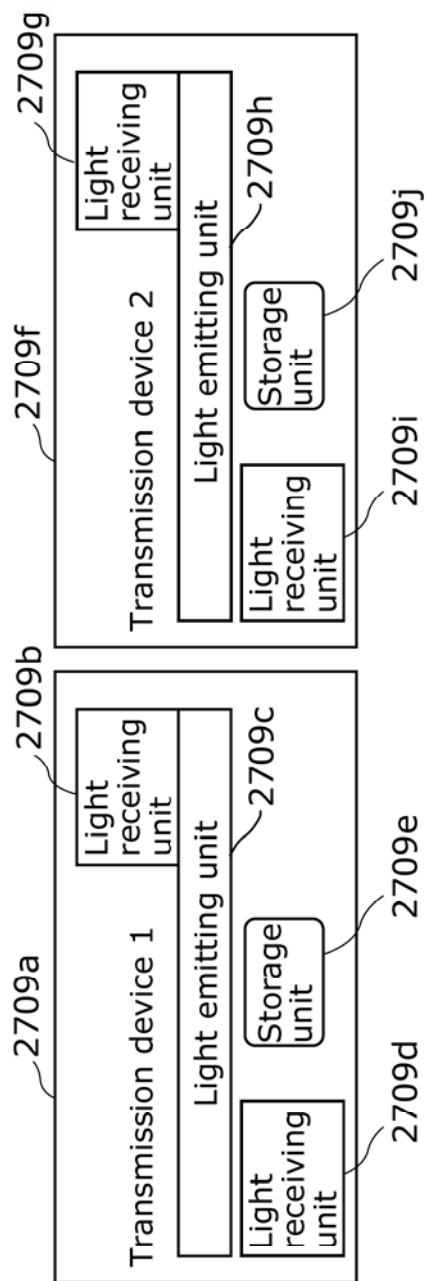


FIG. 66

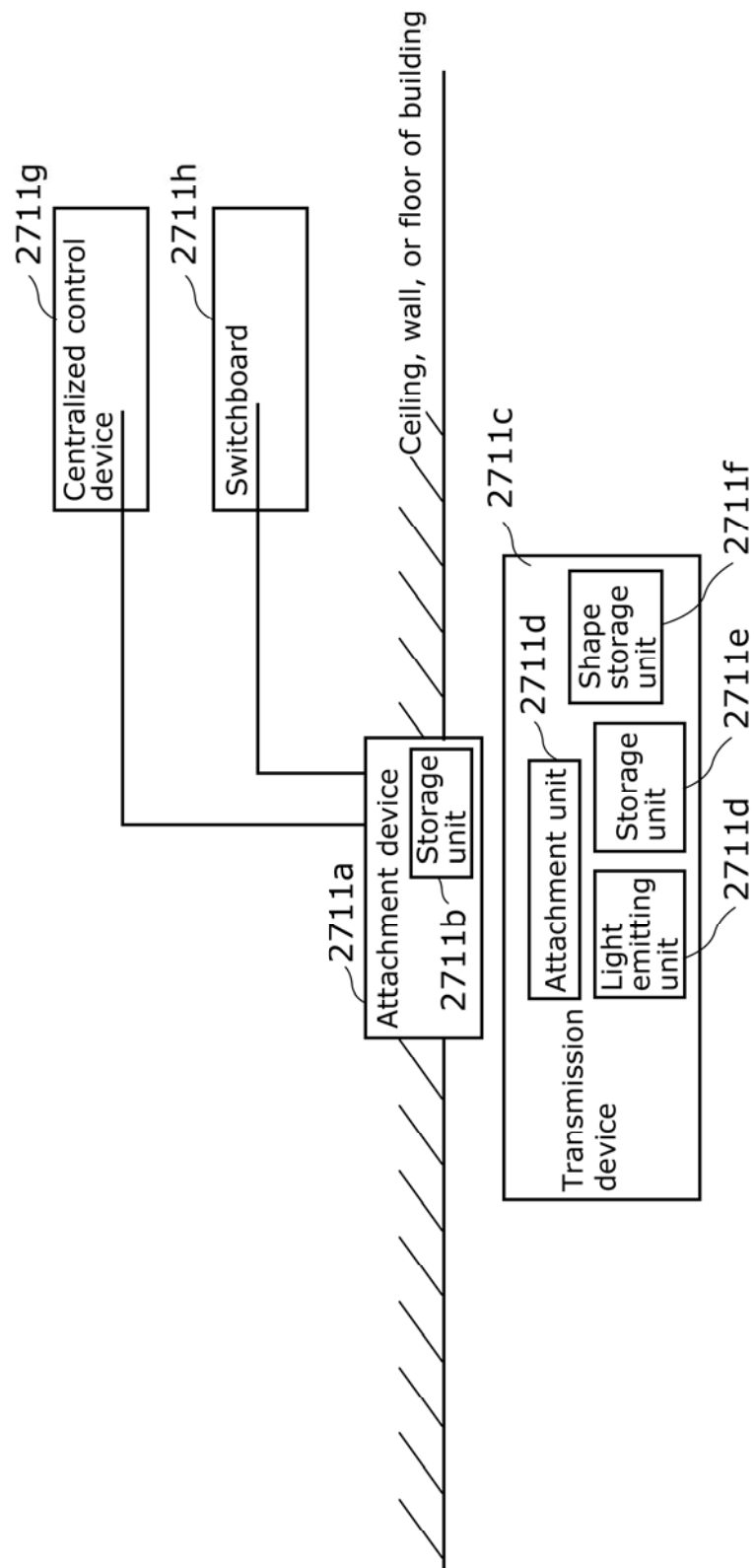


FIG. 67

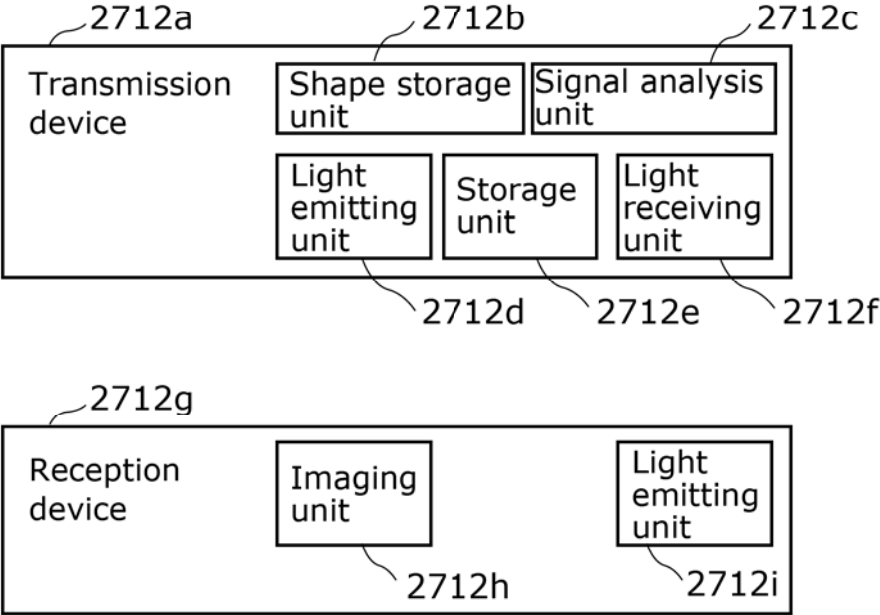


FIG. 68

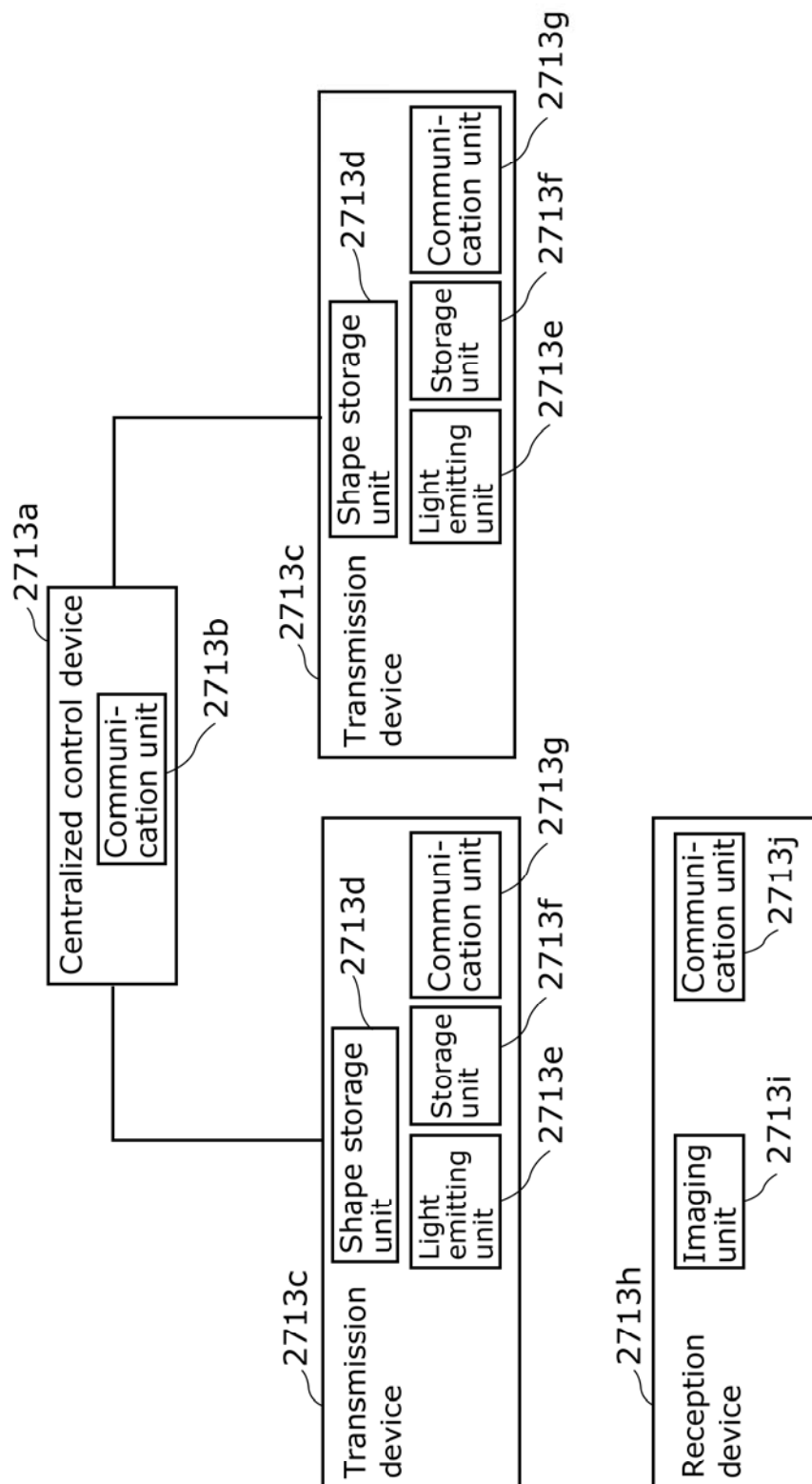


FIG. 69

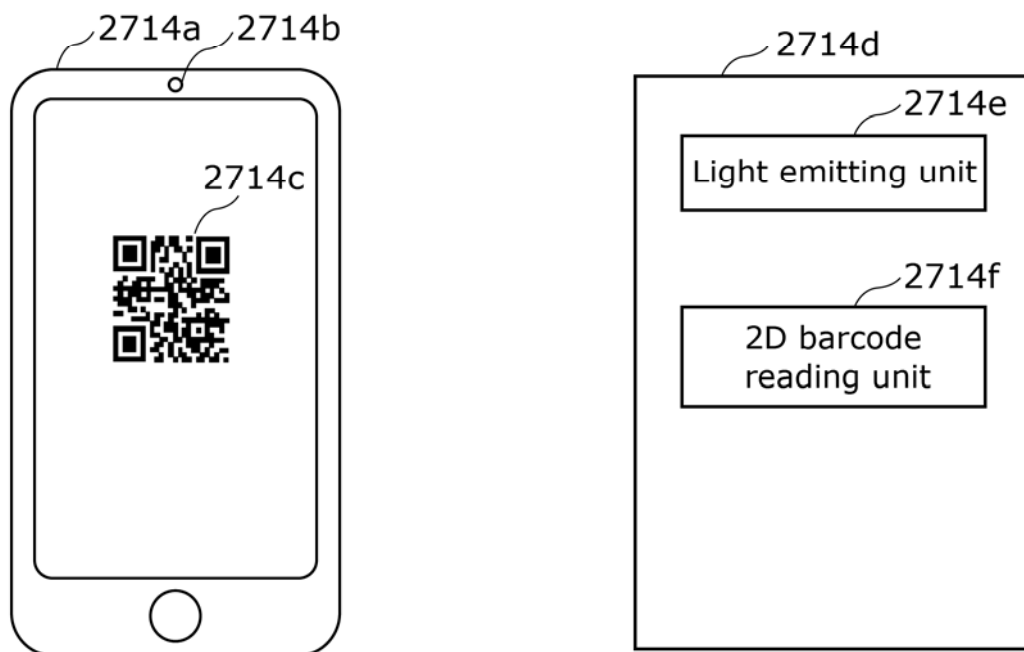


FIG. 70

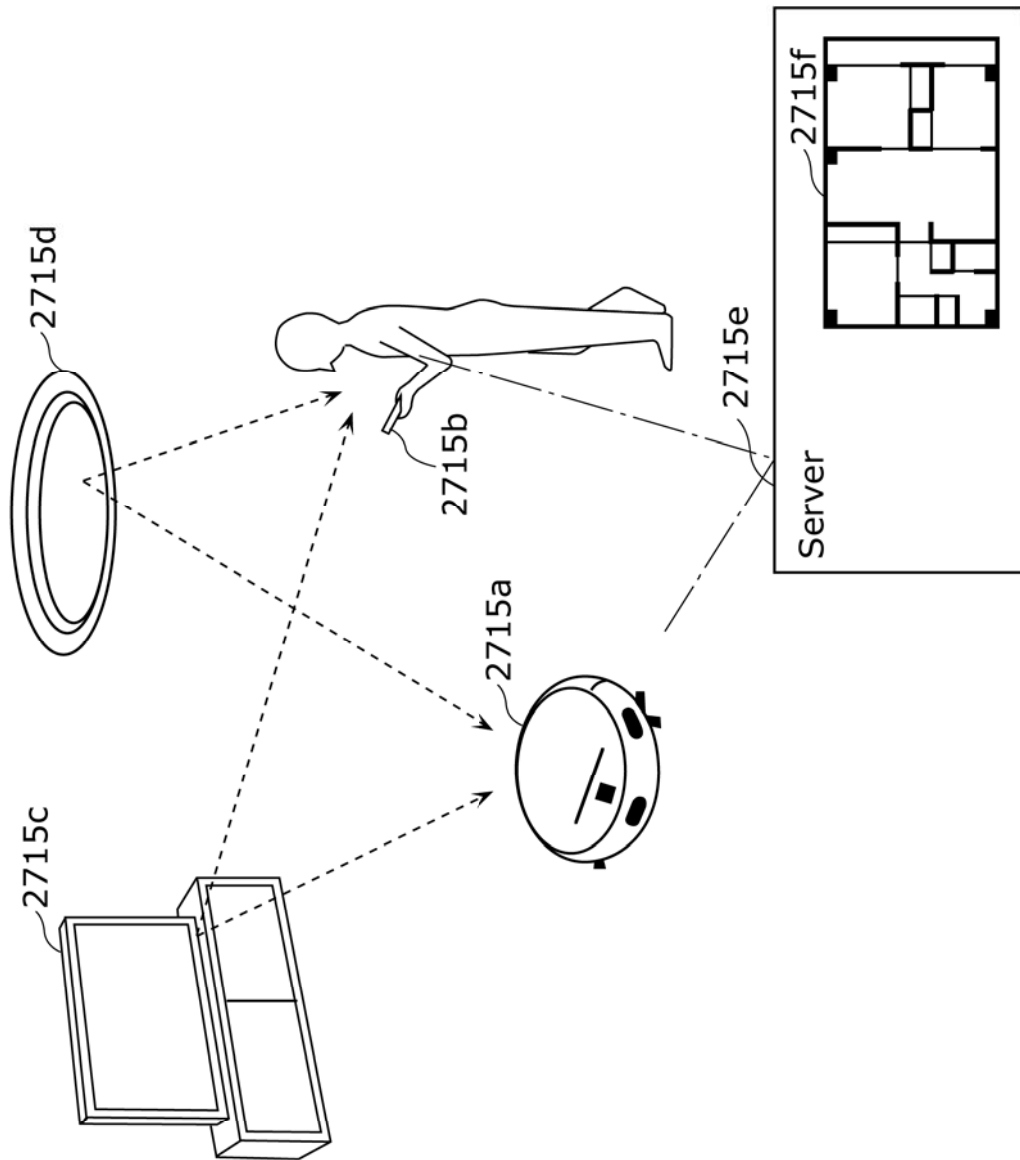


FIG. 71

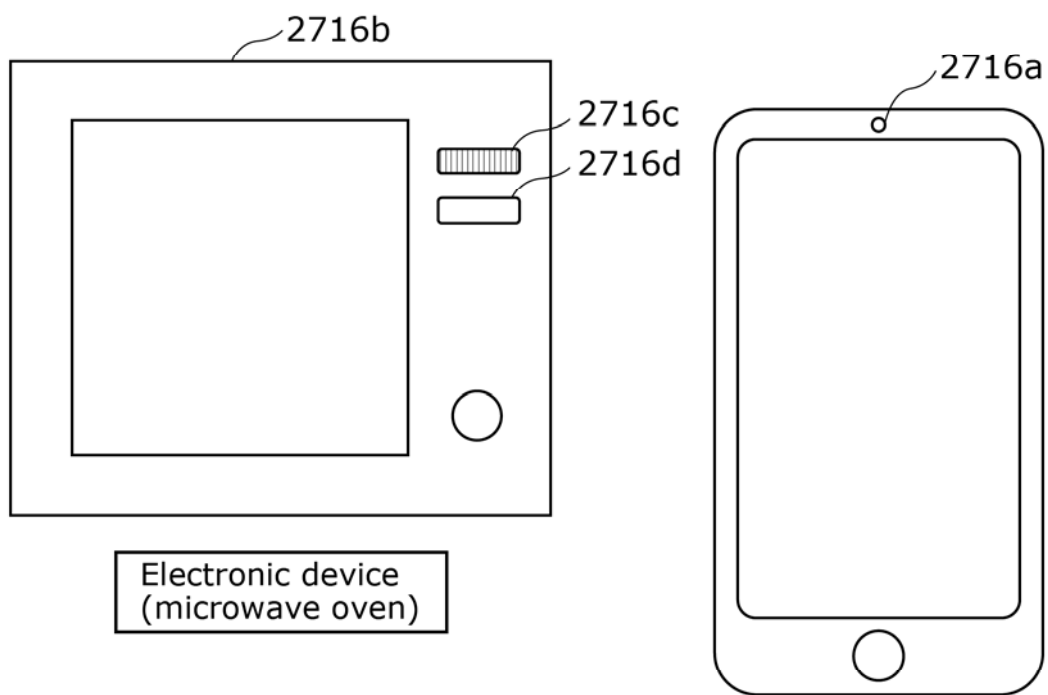


FIG. 72

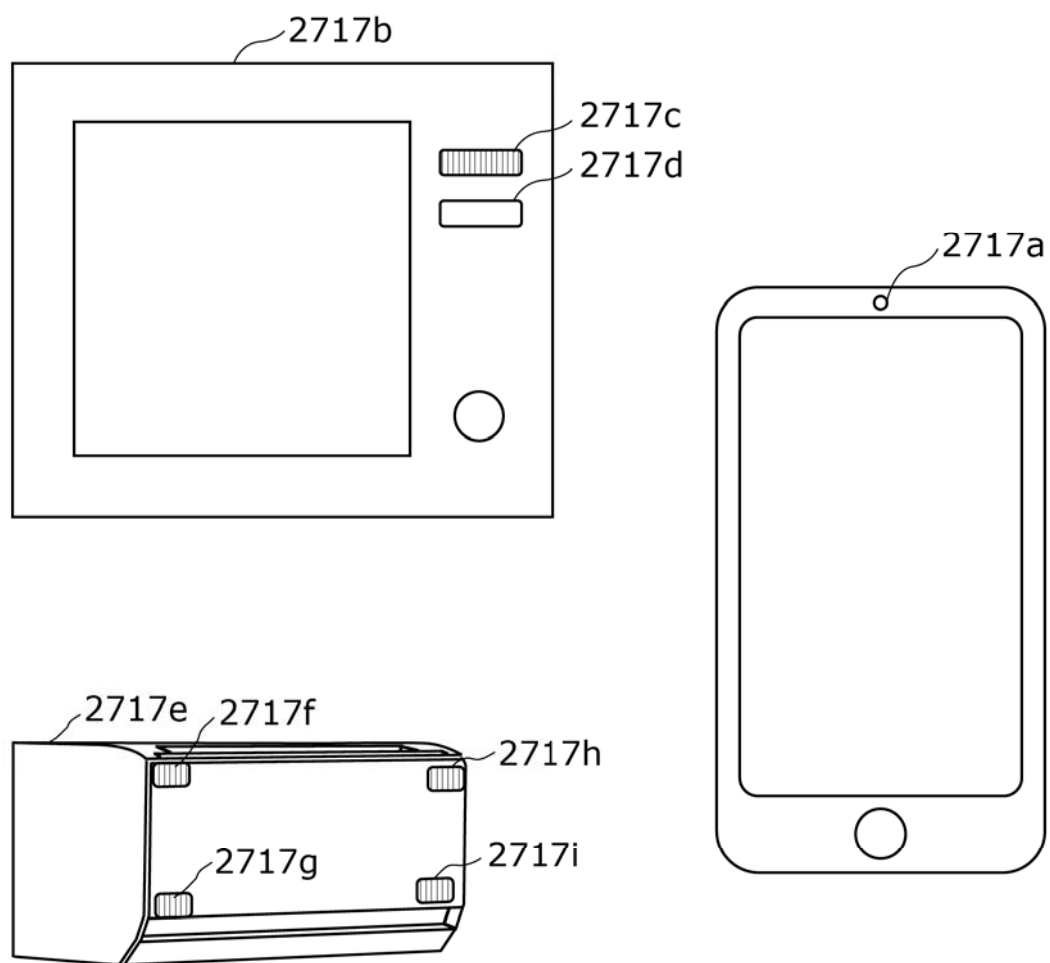


FIG. 73

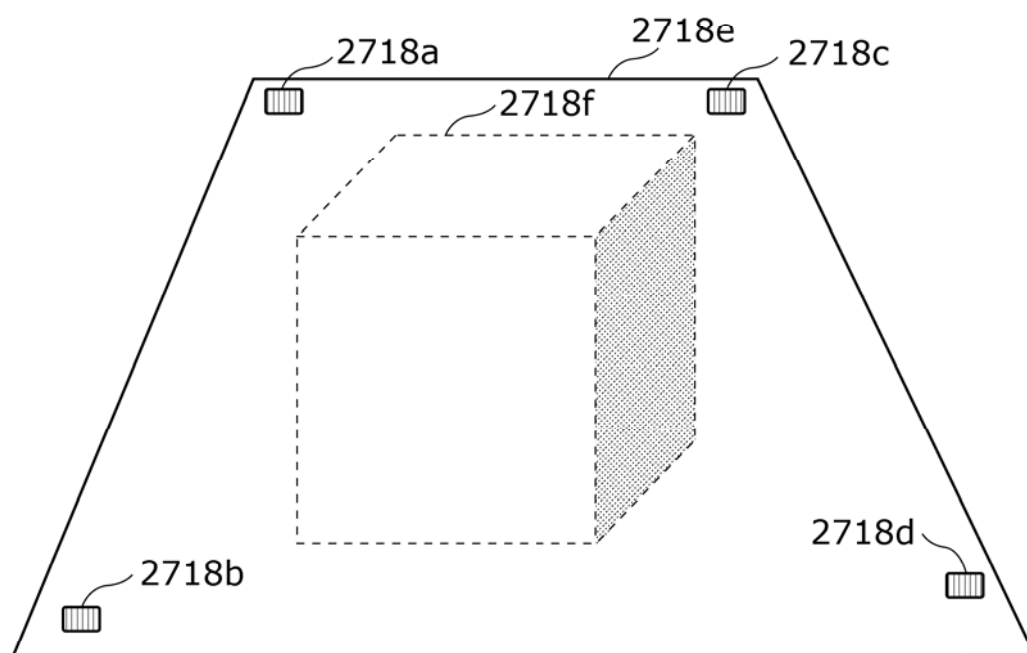


FIG. 74

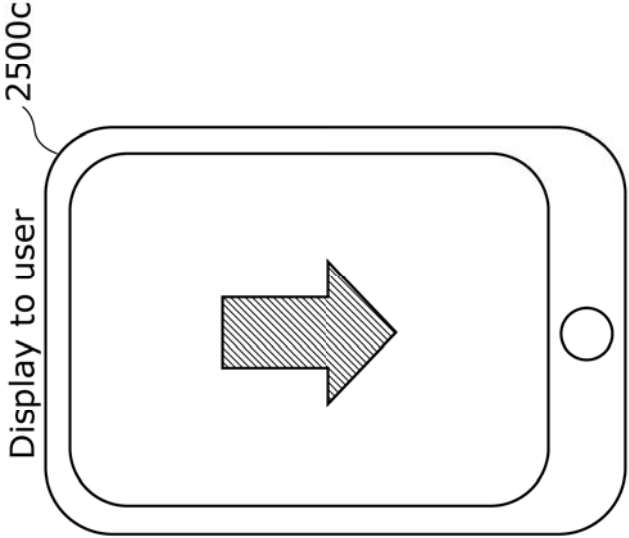
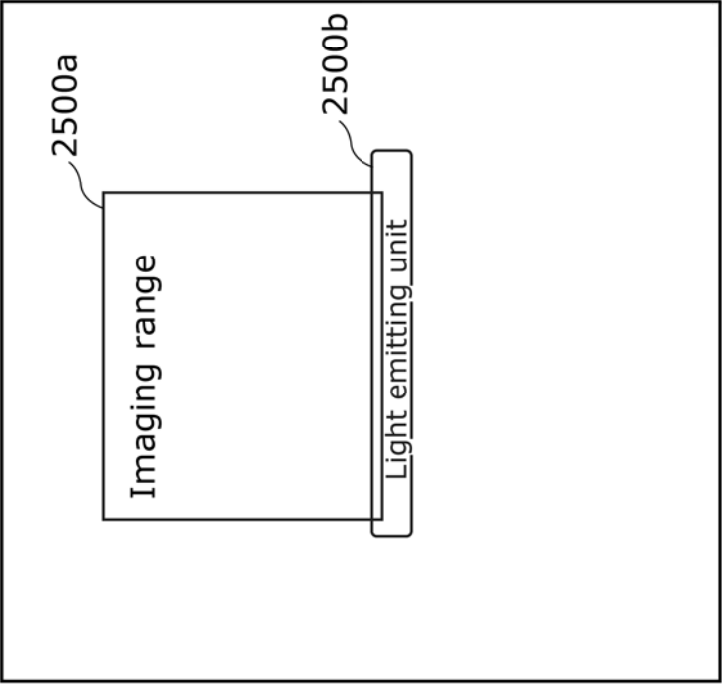


FIG. 75

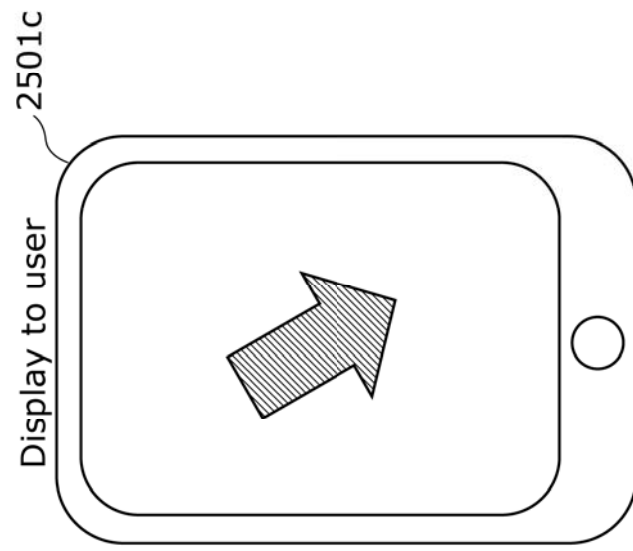
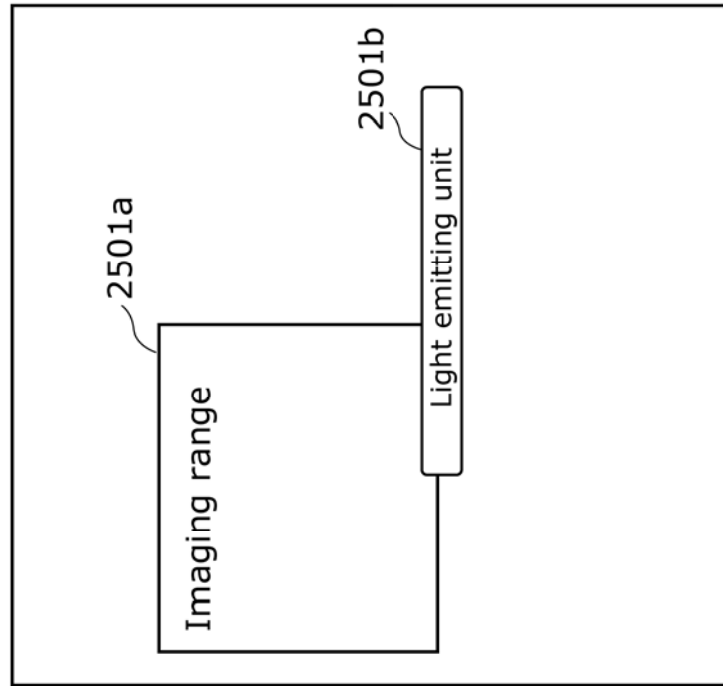


FIG. 76

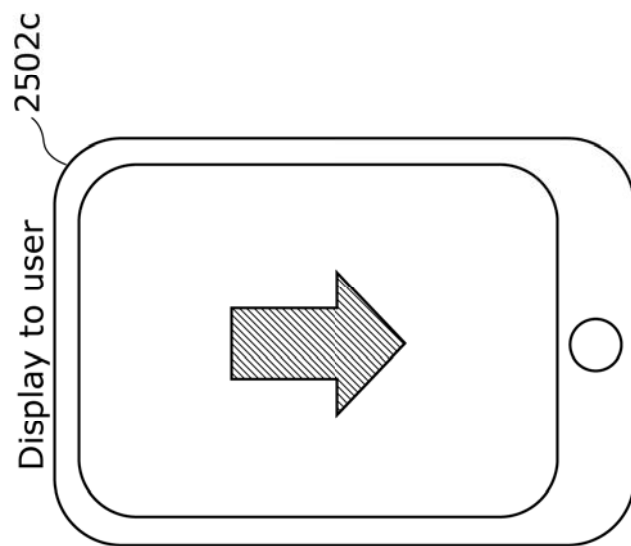
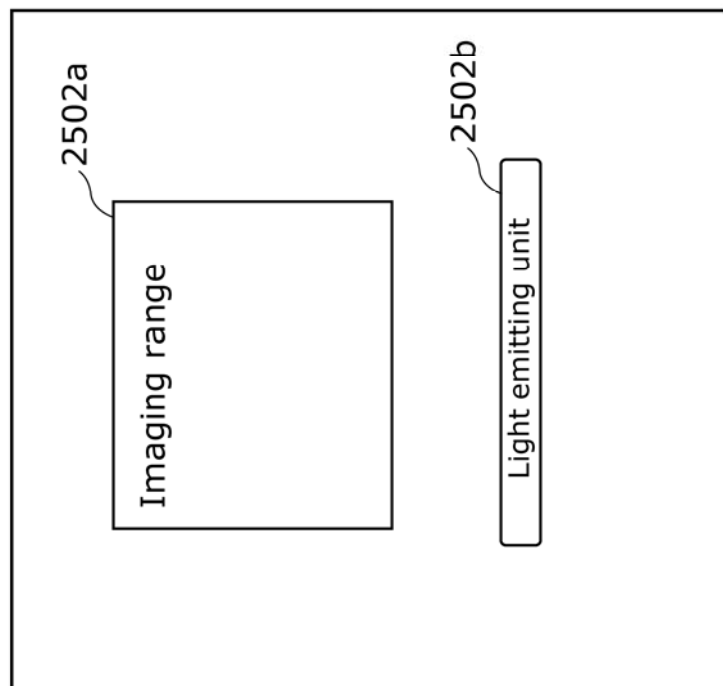


FIG. 77

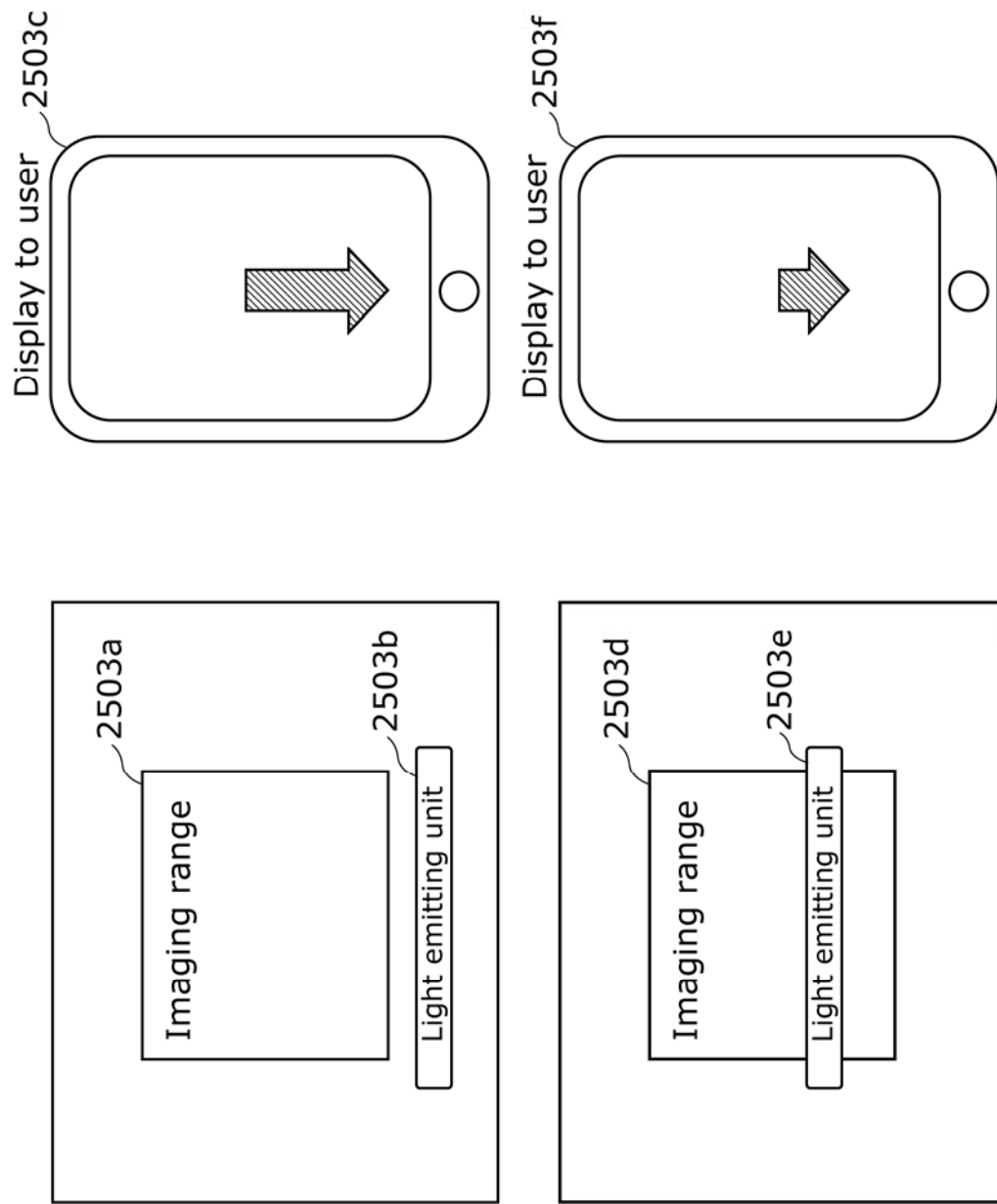


FIG. 78

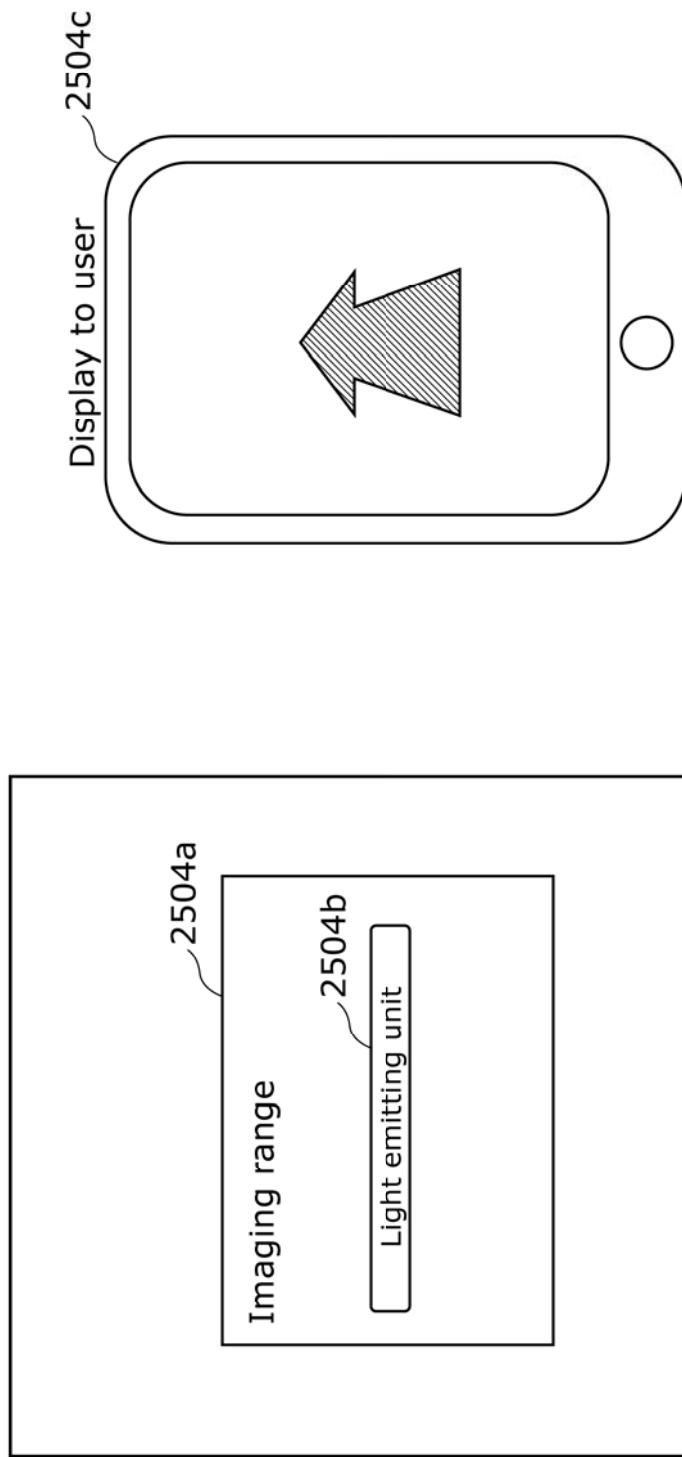


FIG. 79

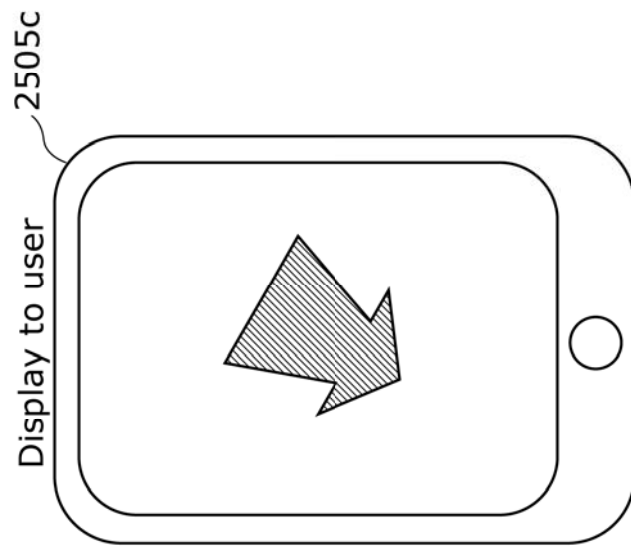
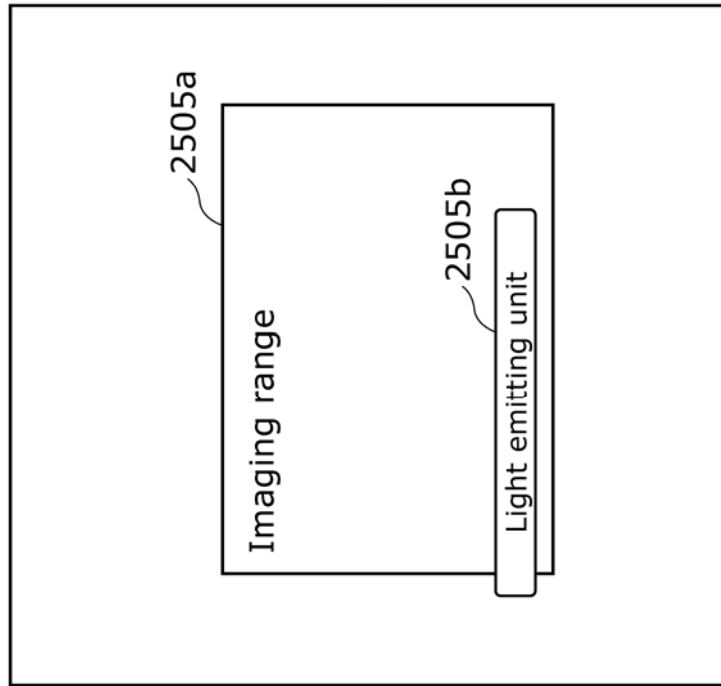


FIG. 80

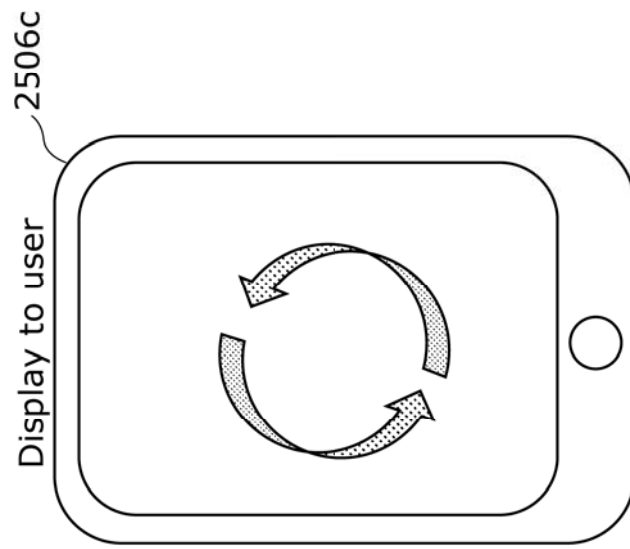
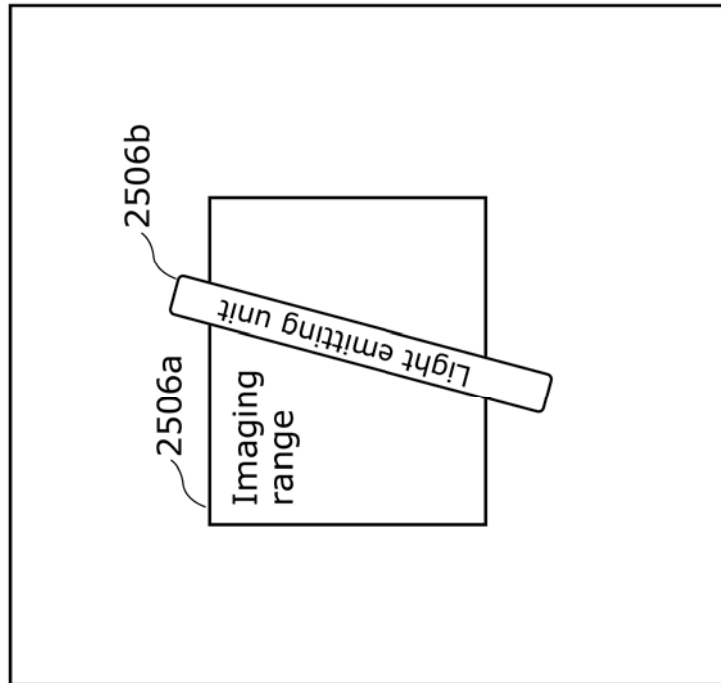


FIG. 81

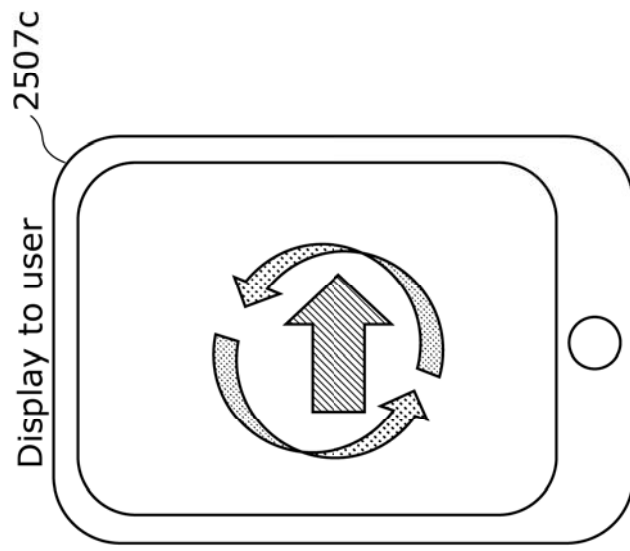
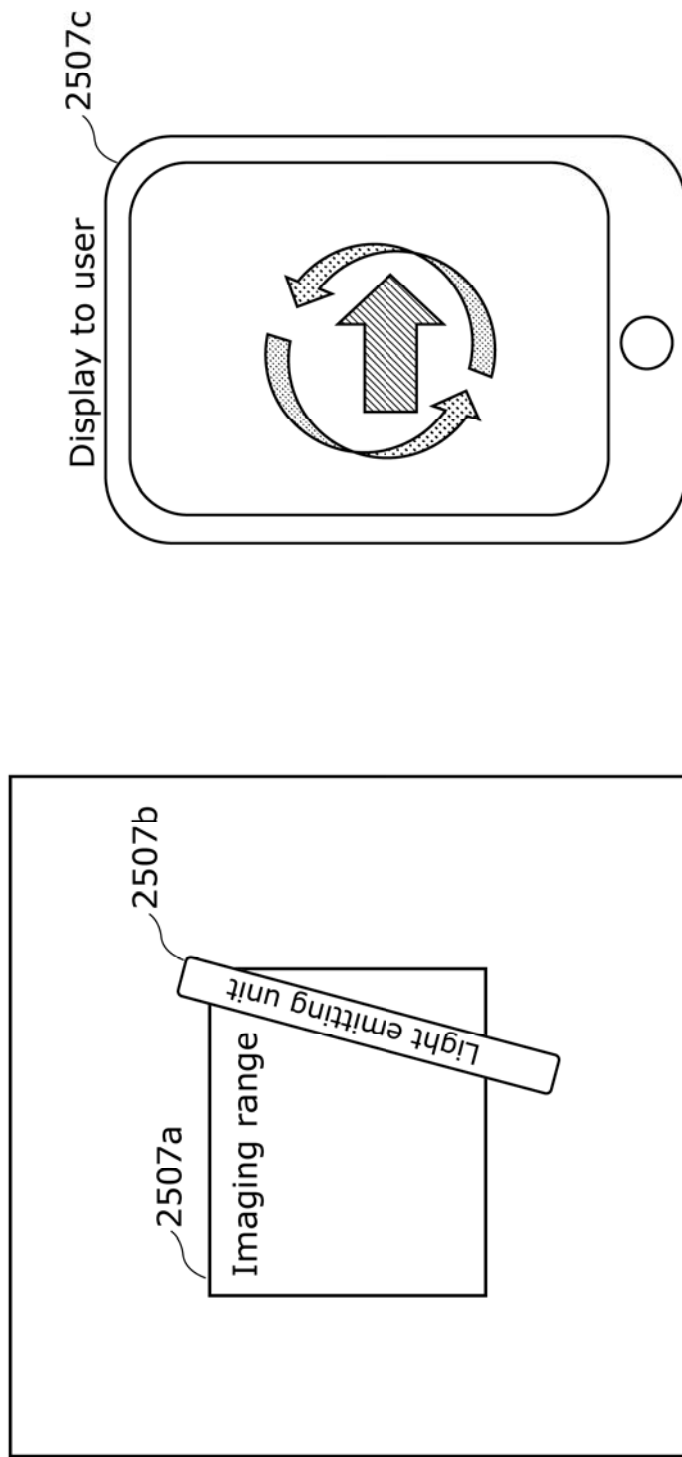


FIG. 82

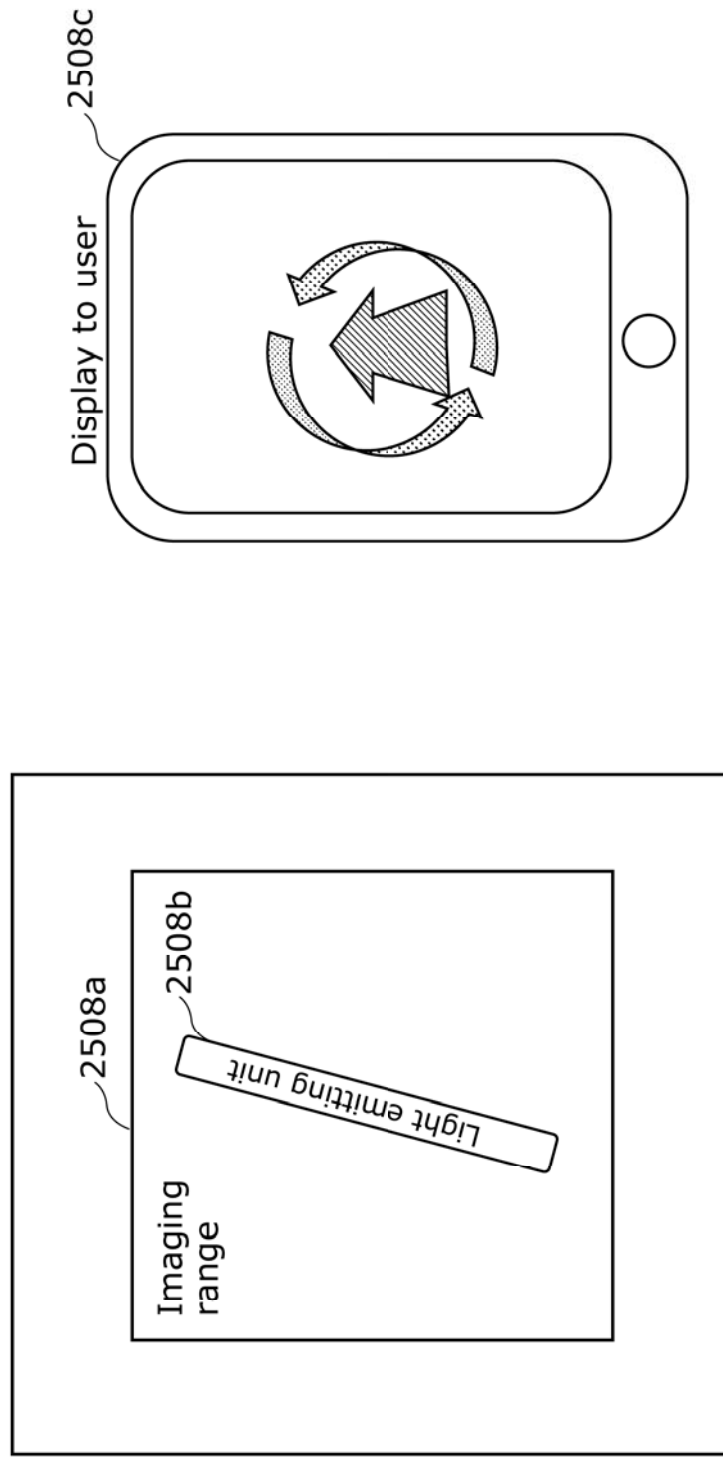


FIG. 83

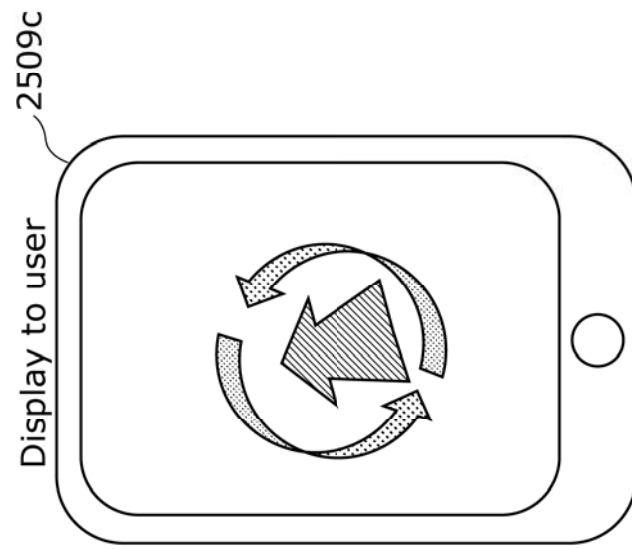
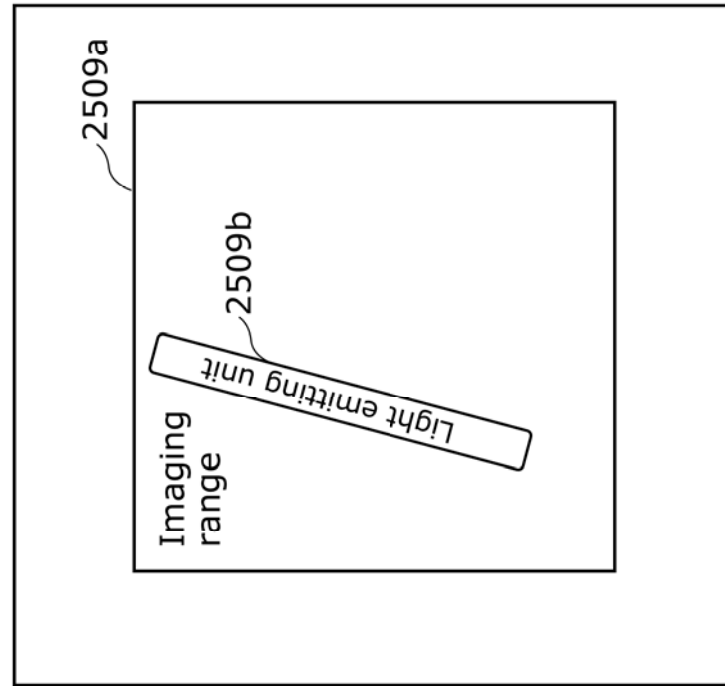


FIG. 84

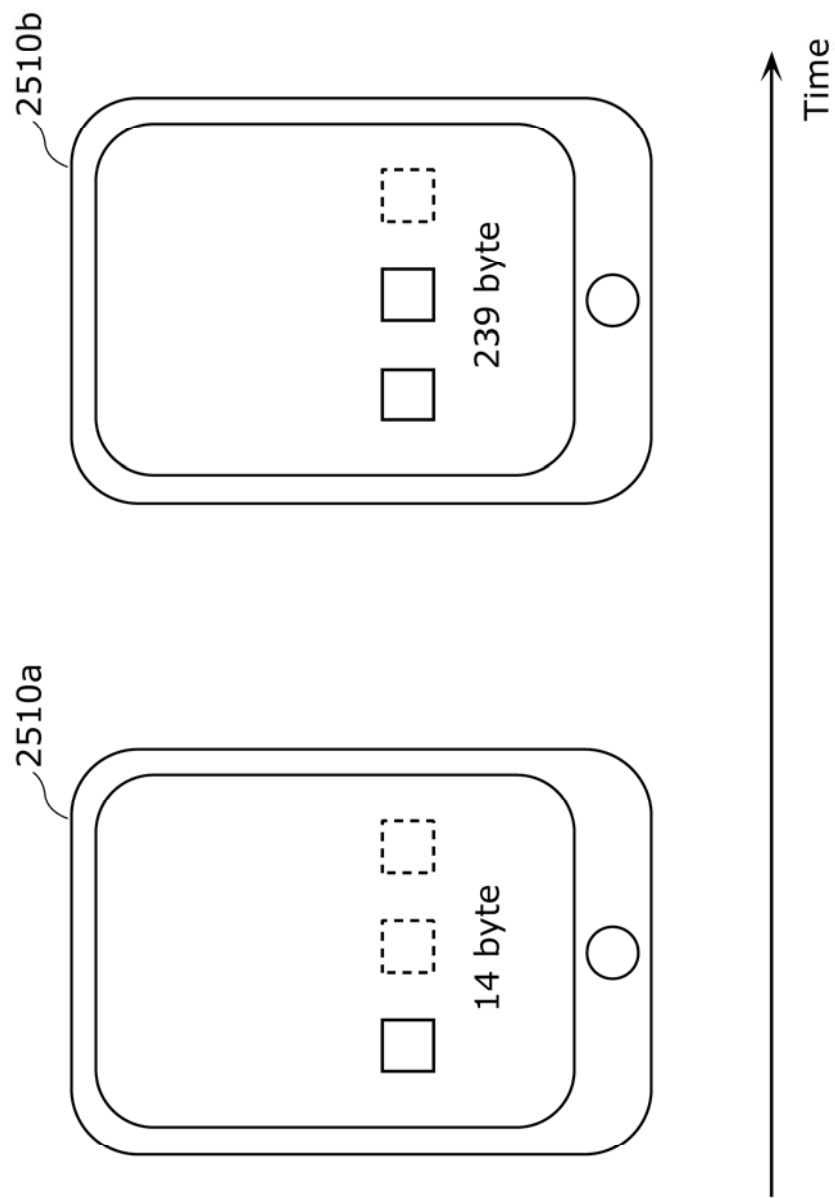


FIG. 85

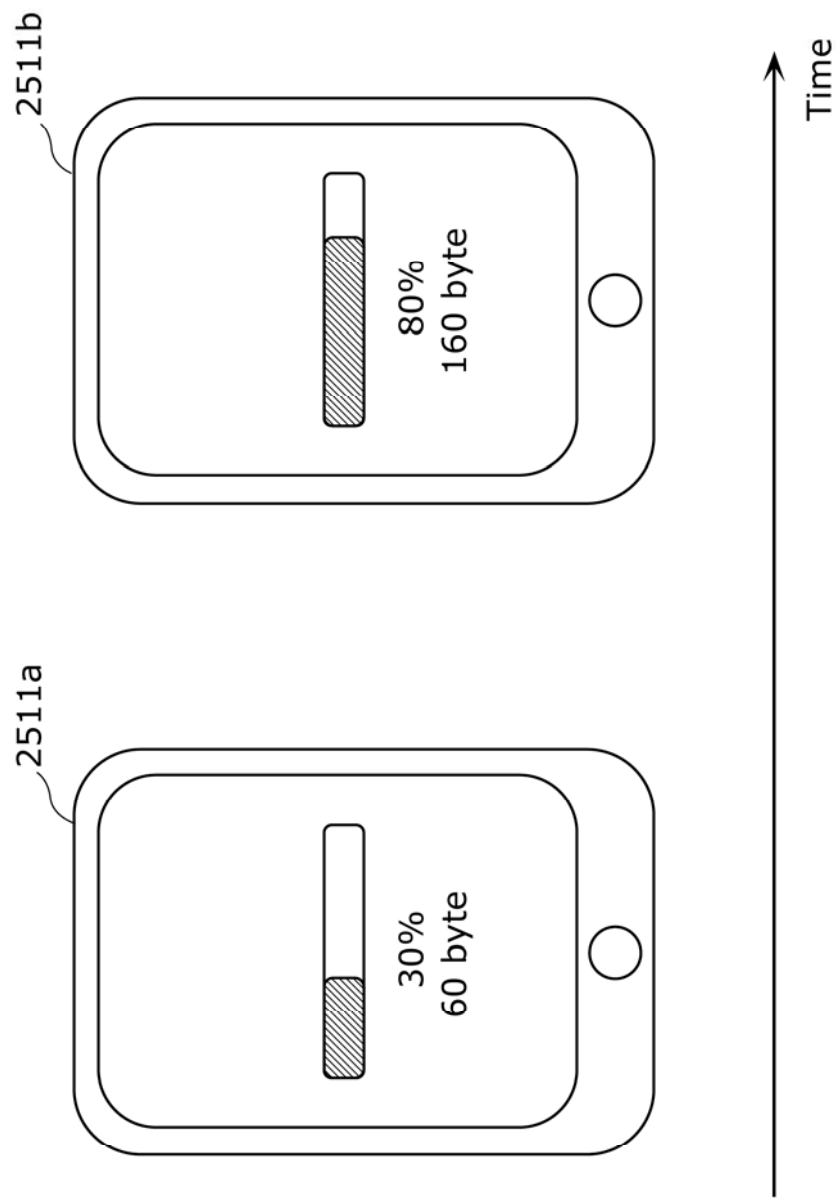


FIG. 86

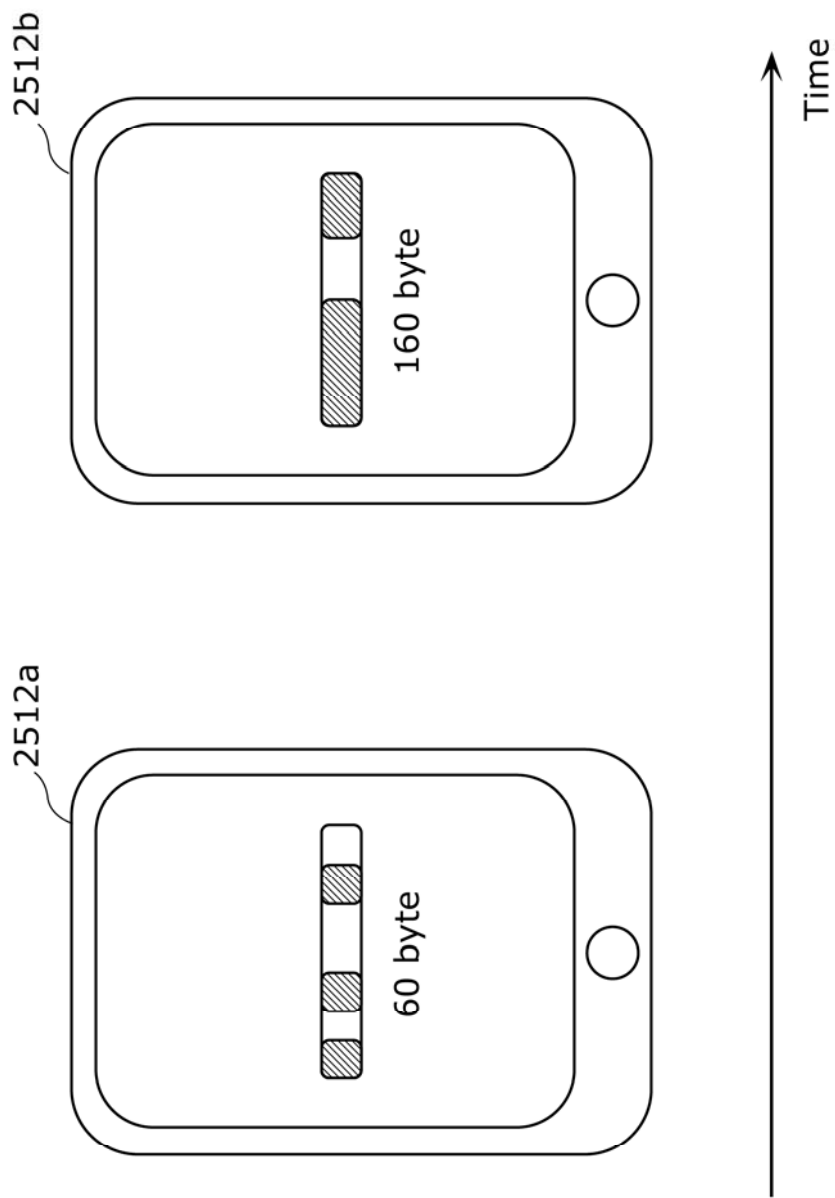


FIG. 87

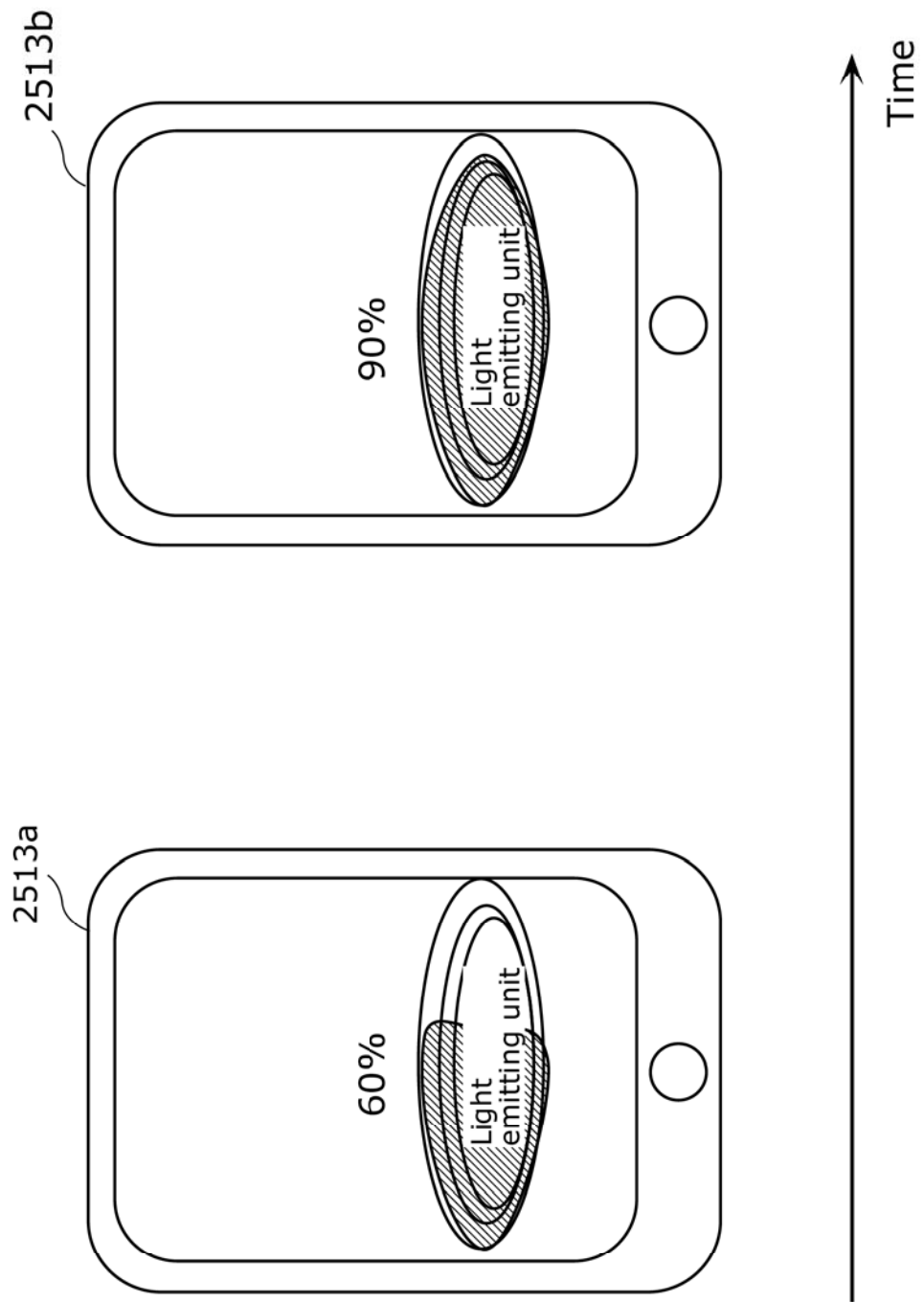


FIG. 88

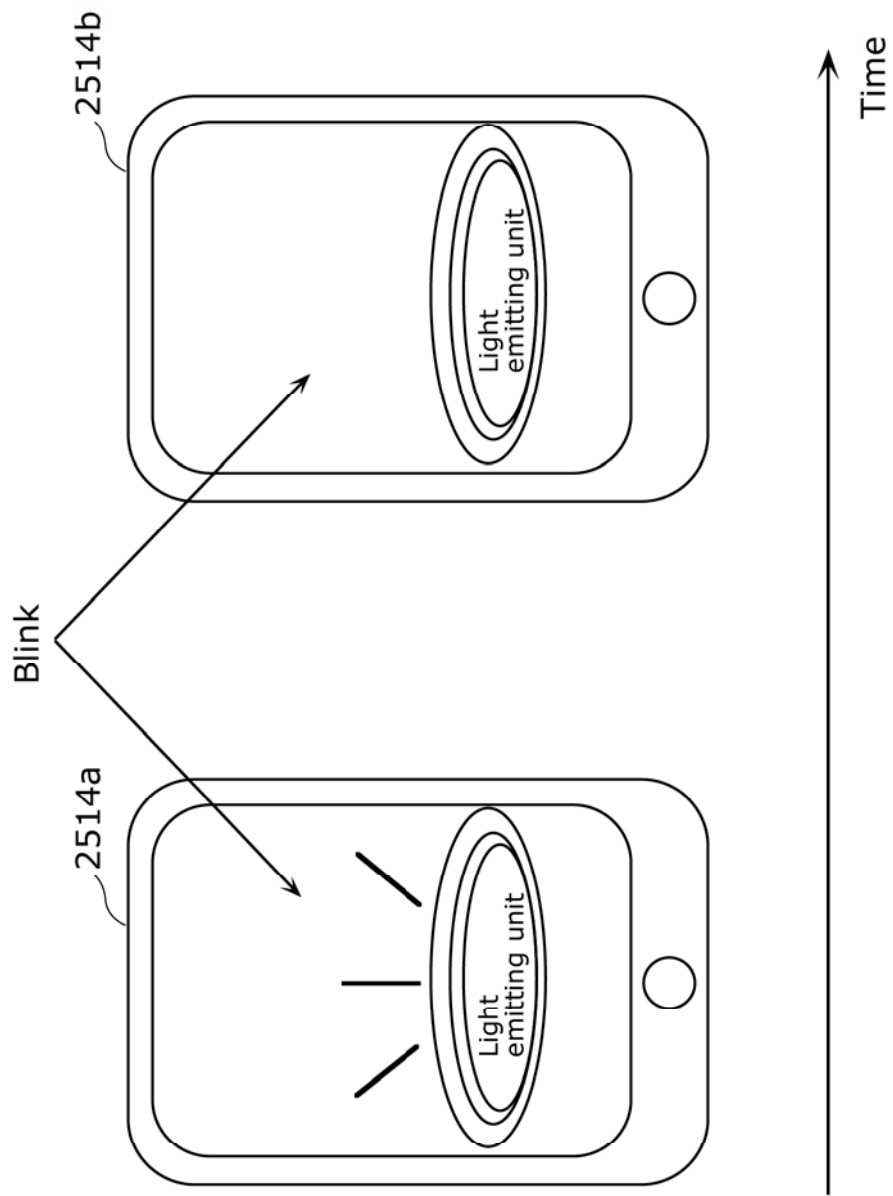


FIG. 89

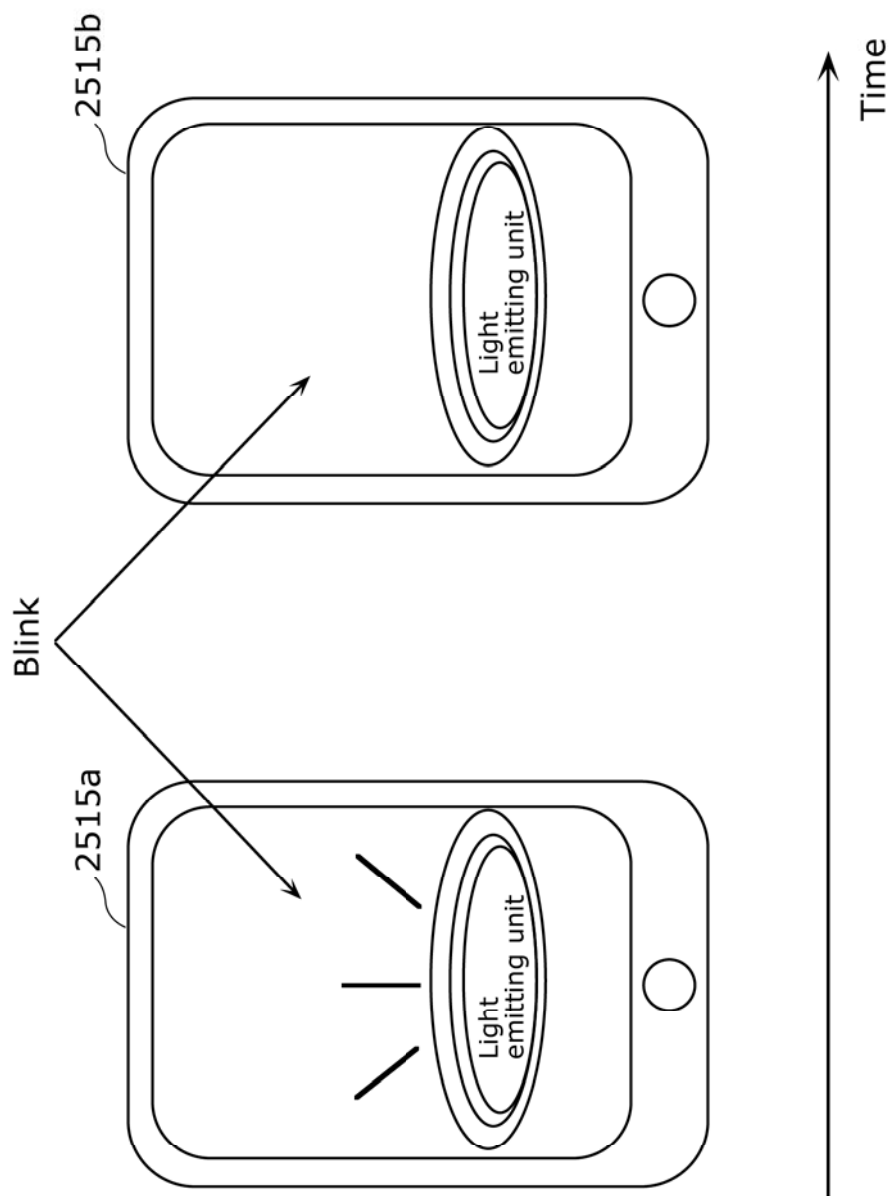


FIG. 90

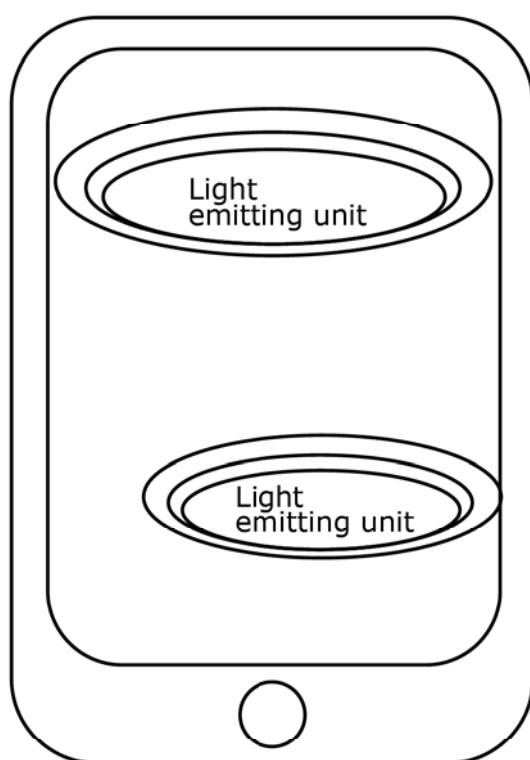


FIG. 91

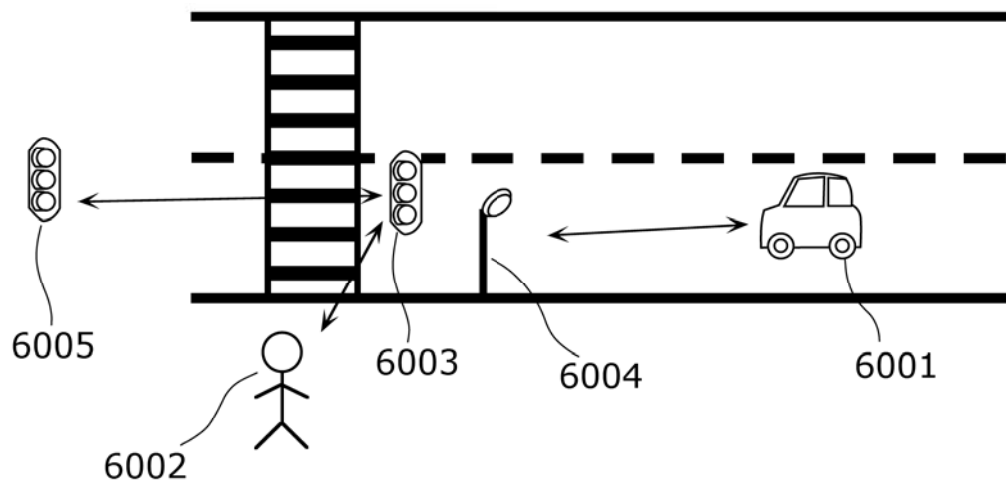


FIG. 92

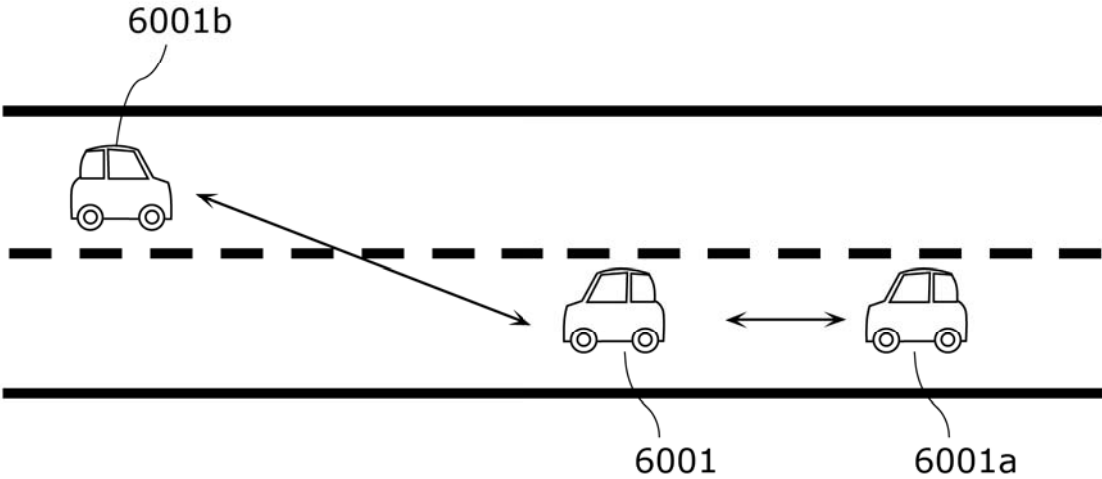


FIG. 93

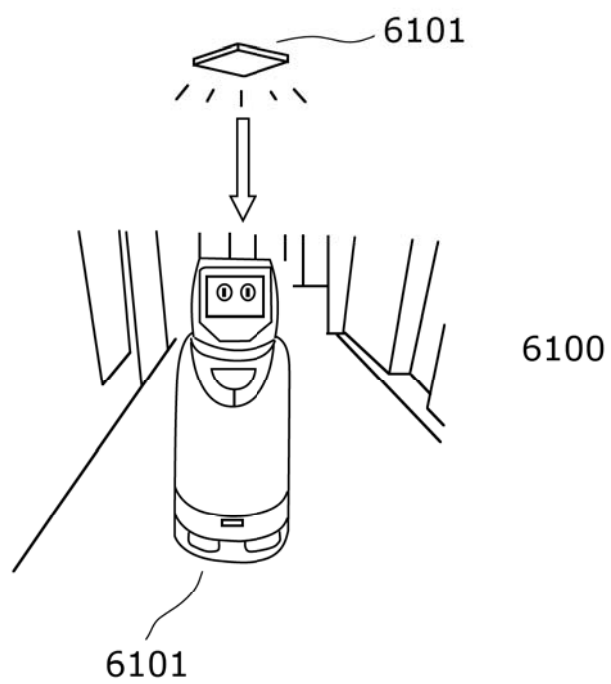


FIG. 94

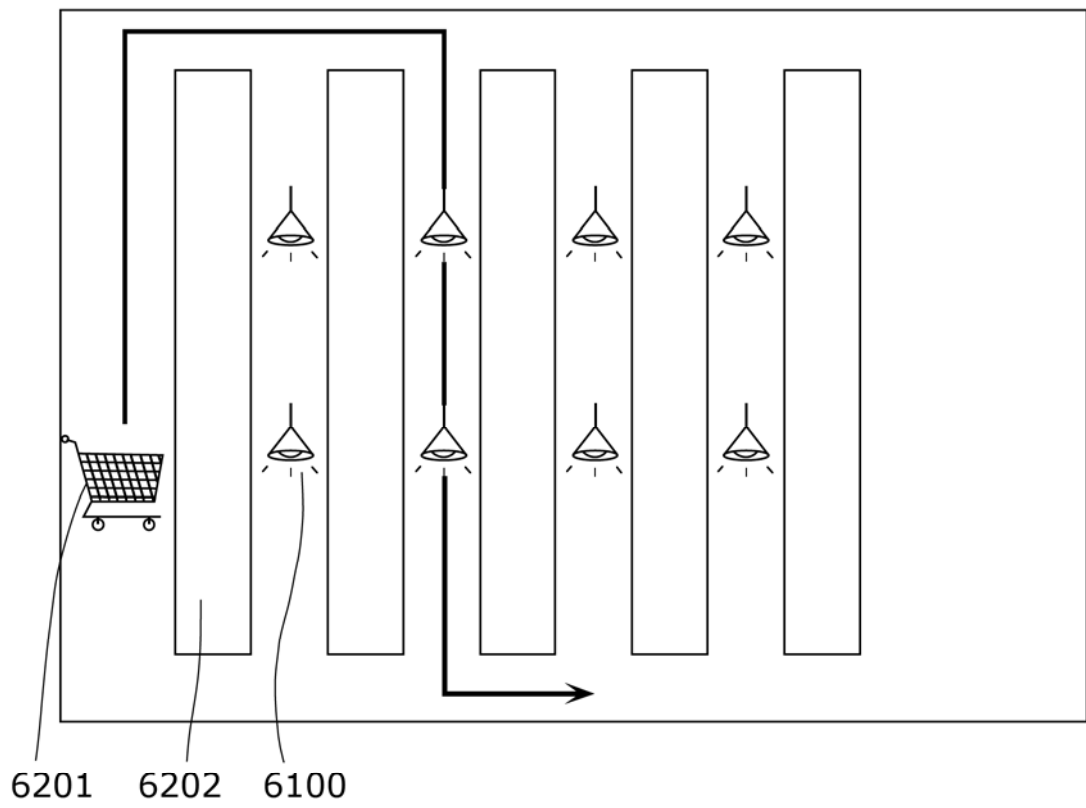


FIG. 95

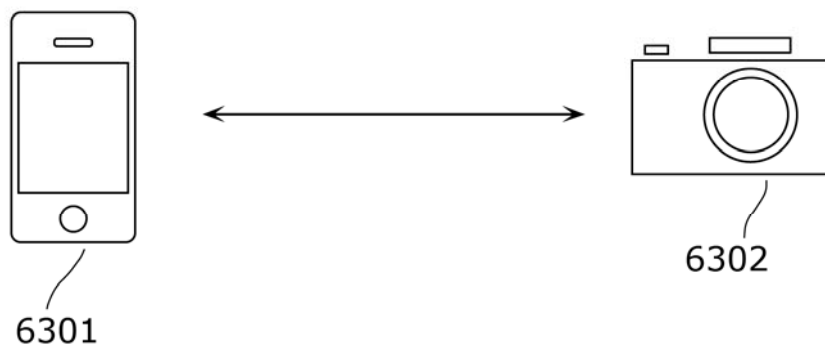


FIG. 96

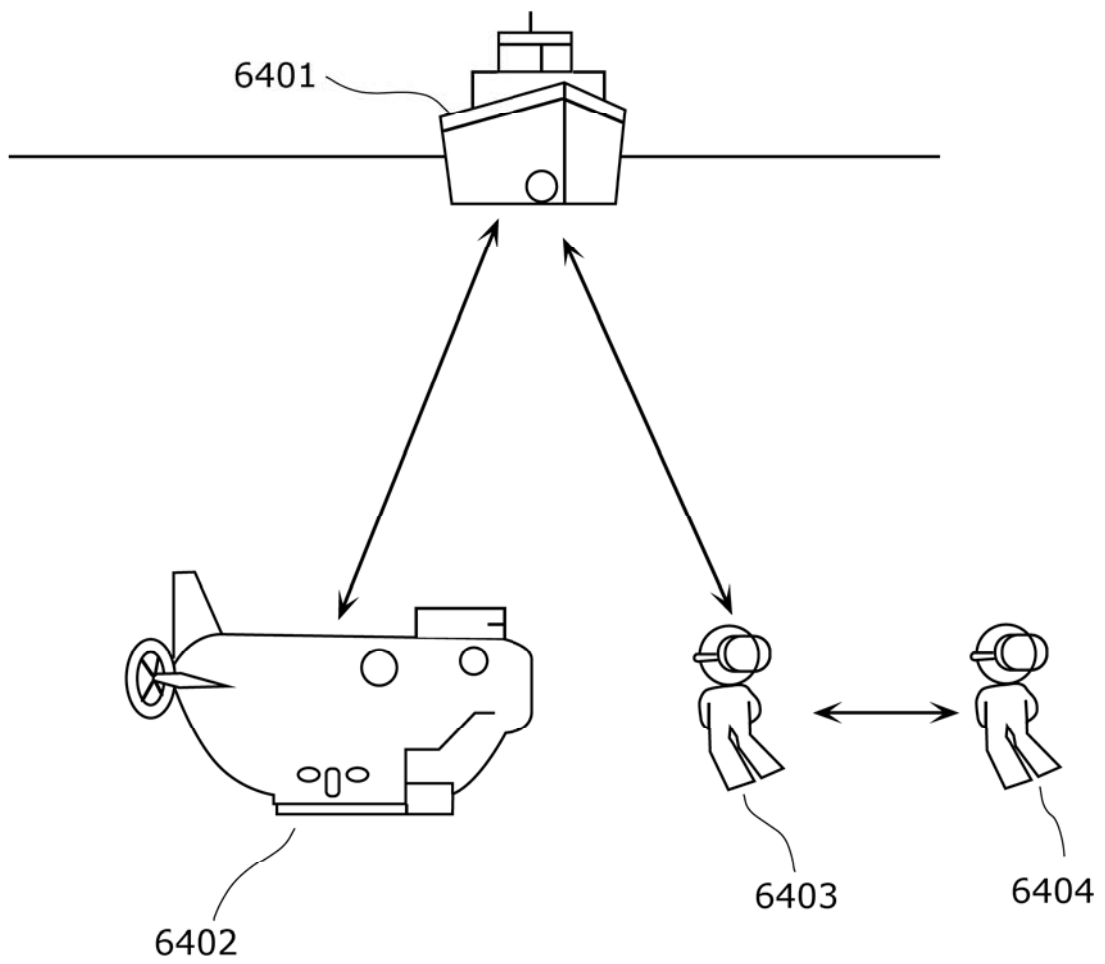


FIG. 97

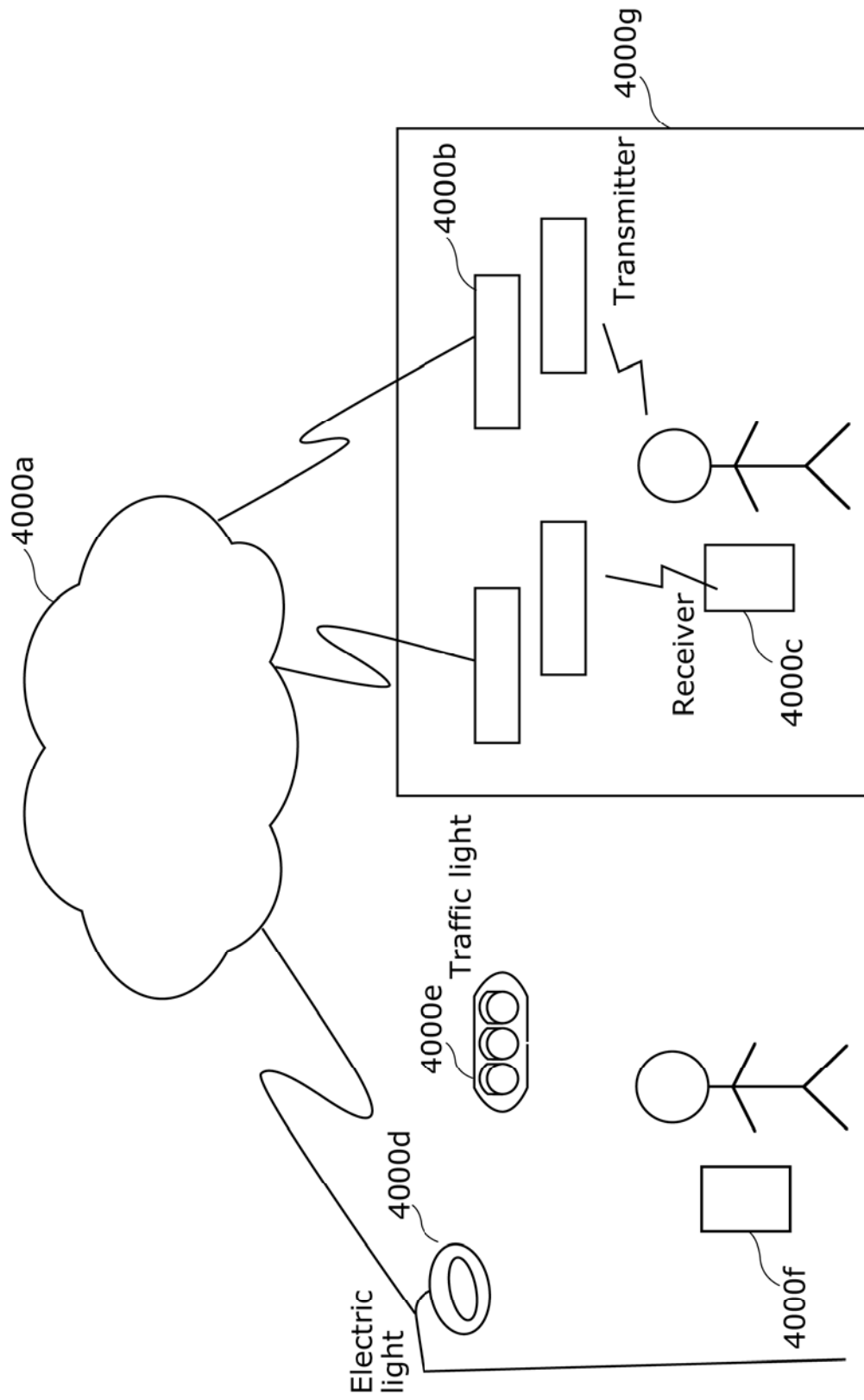


FIG. 98

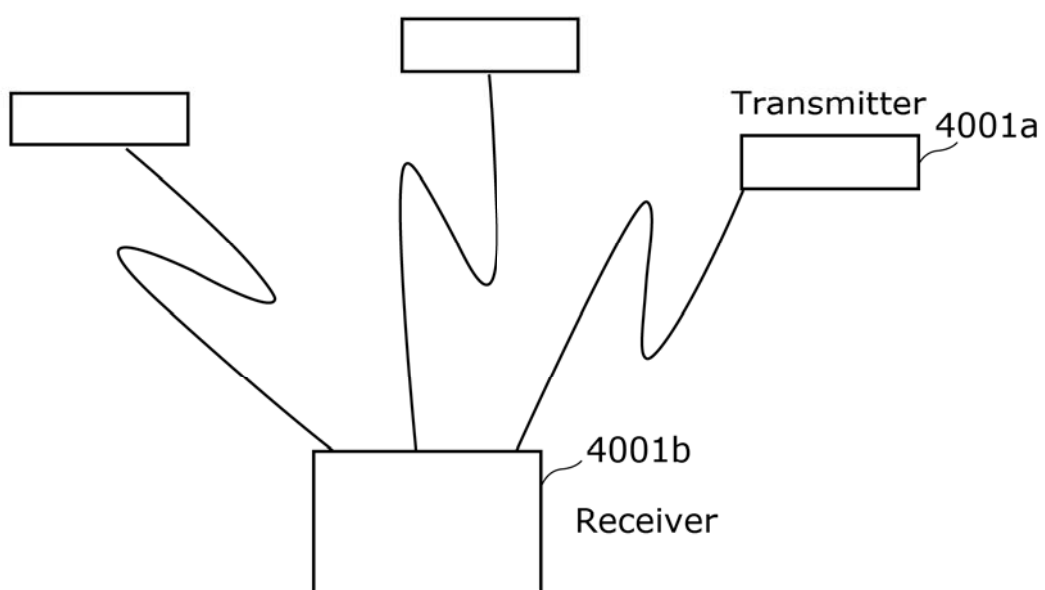


FIG. 99

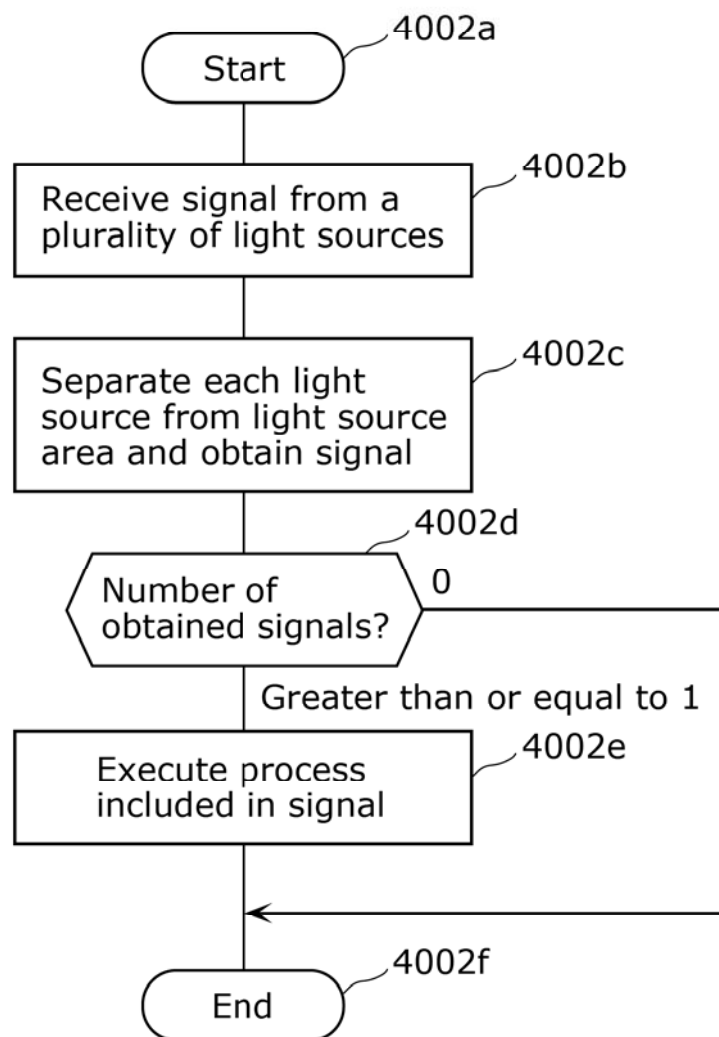


FIG. 100

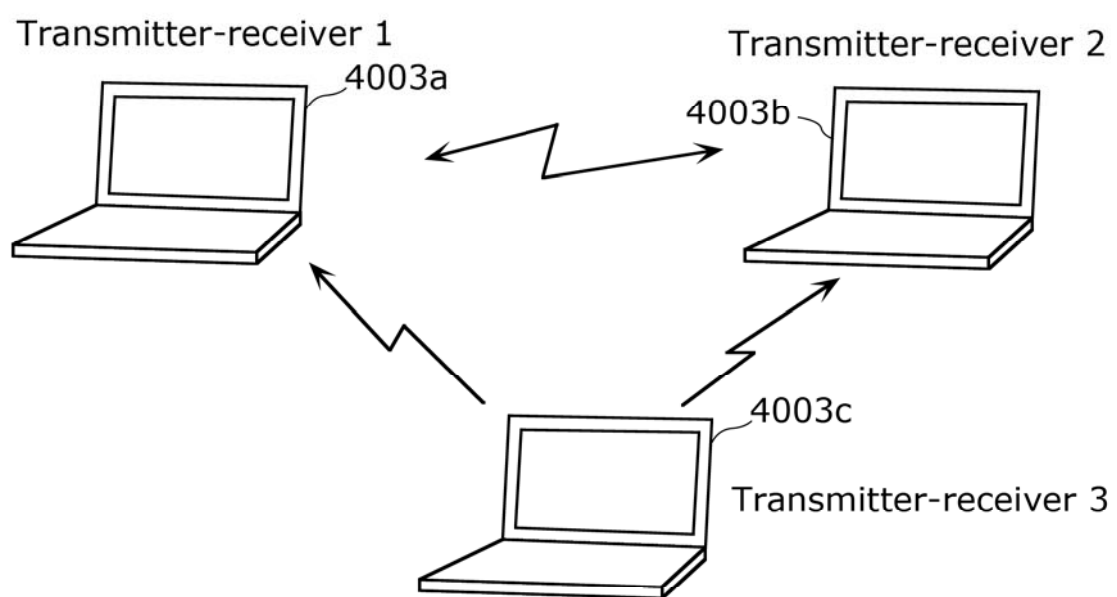


FIG. 101

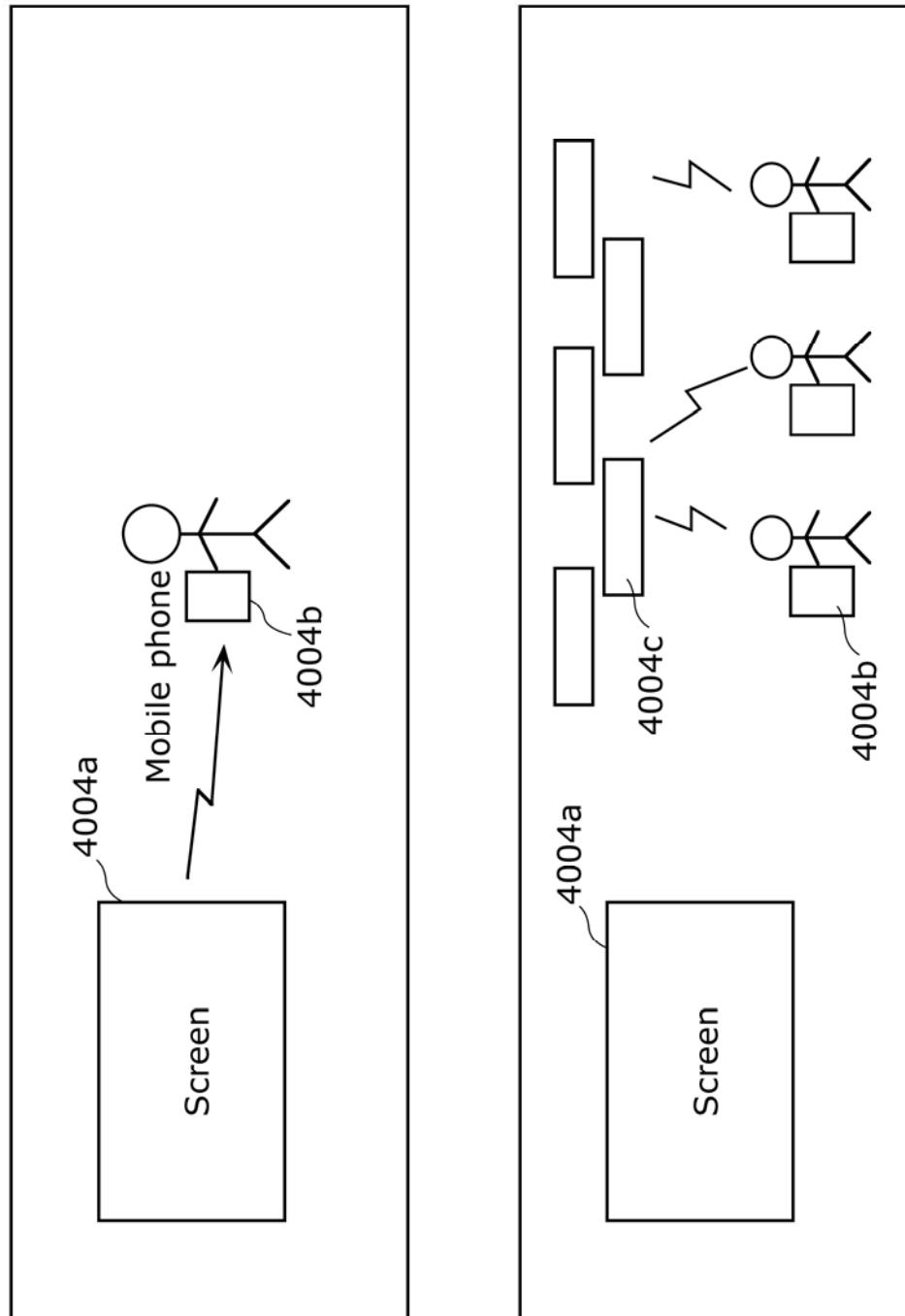


FIG. 102

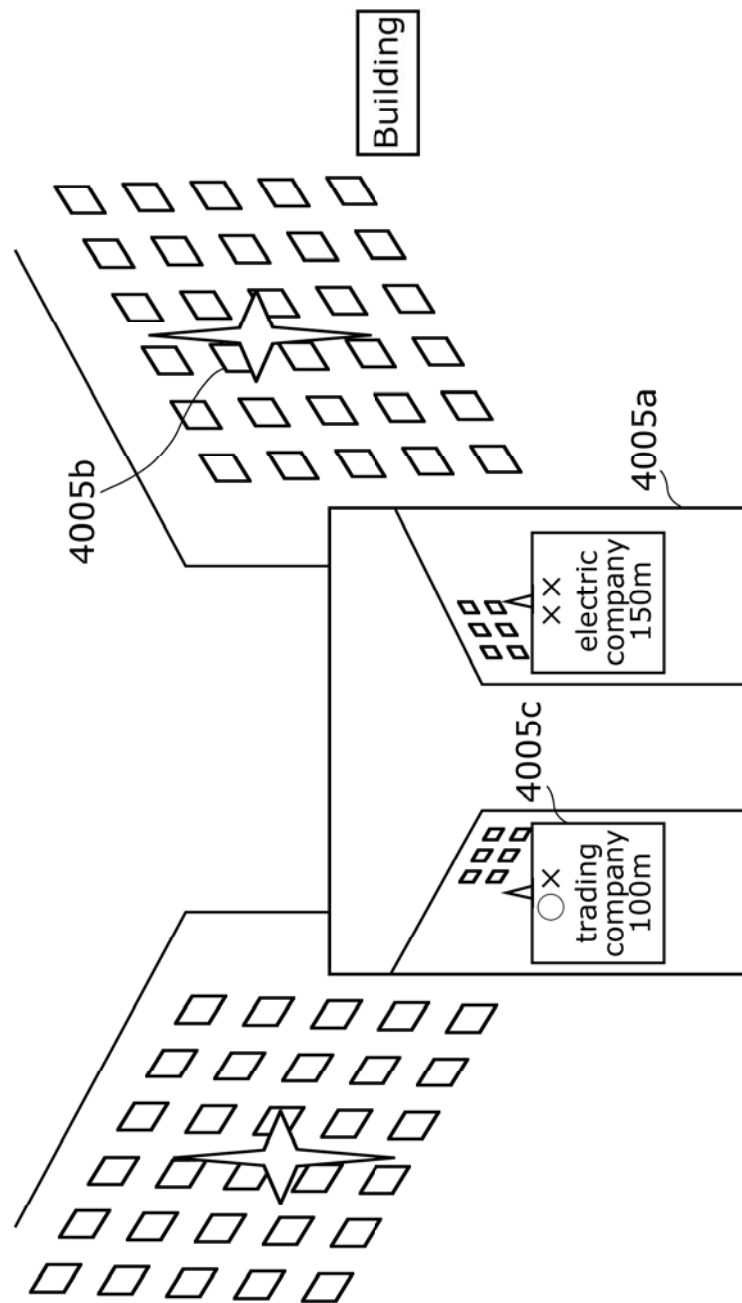


FIG. 103

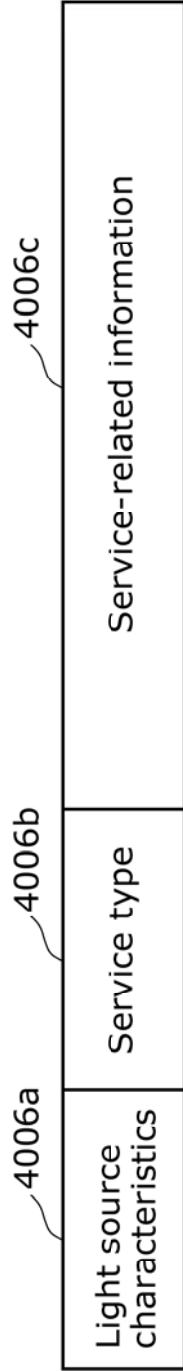


FIG. 104

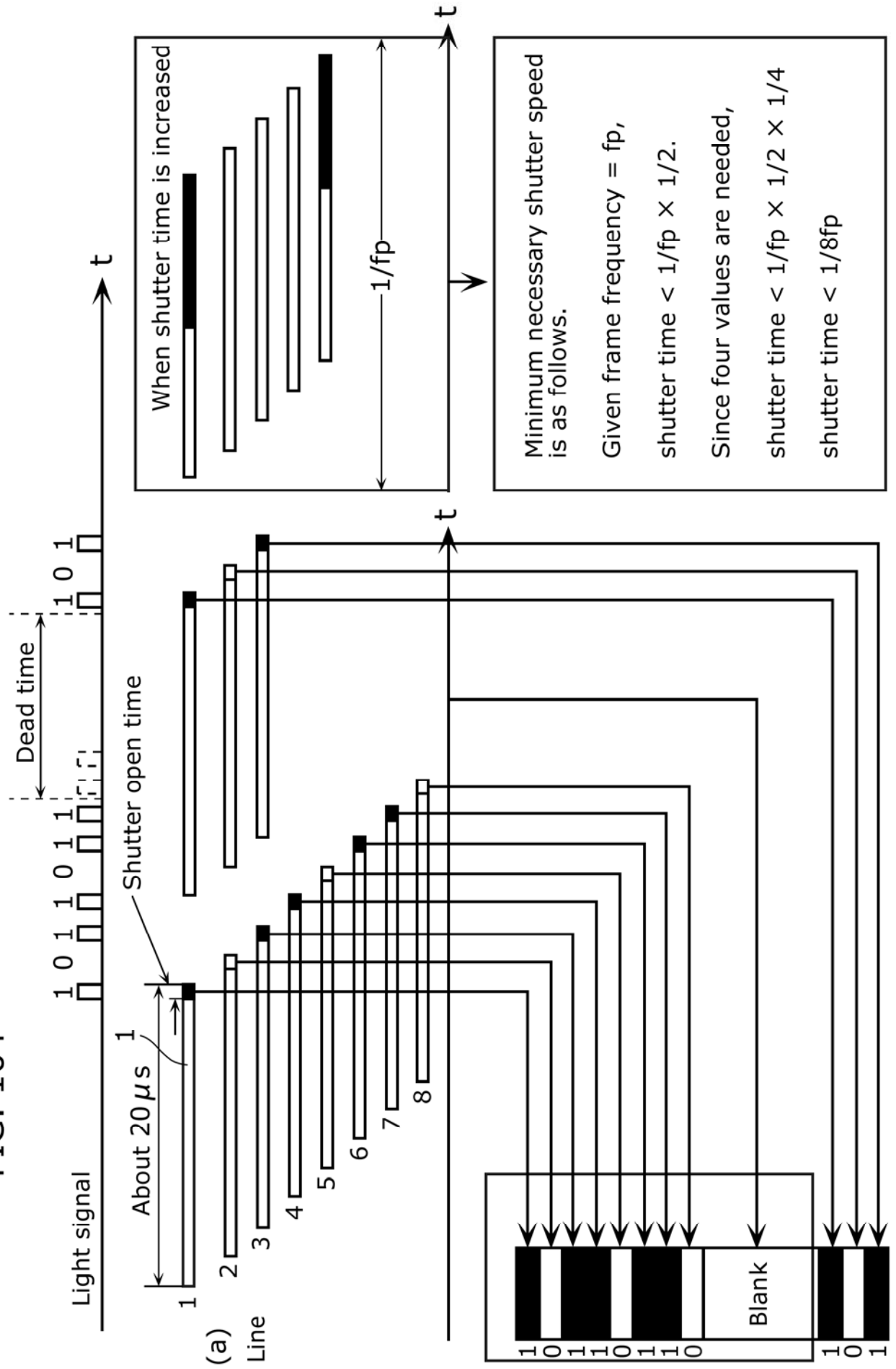


FIG. 105

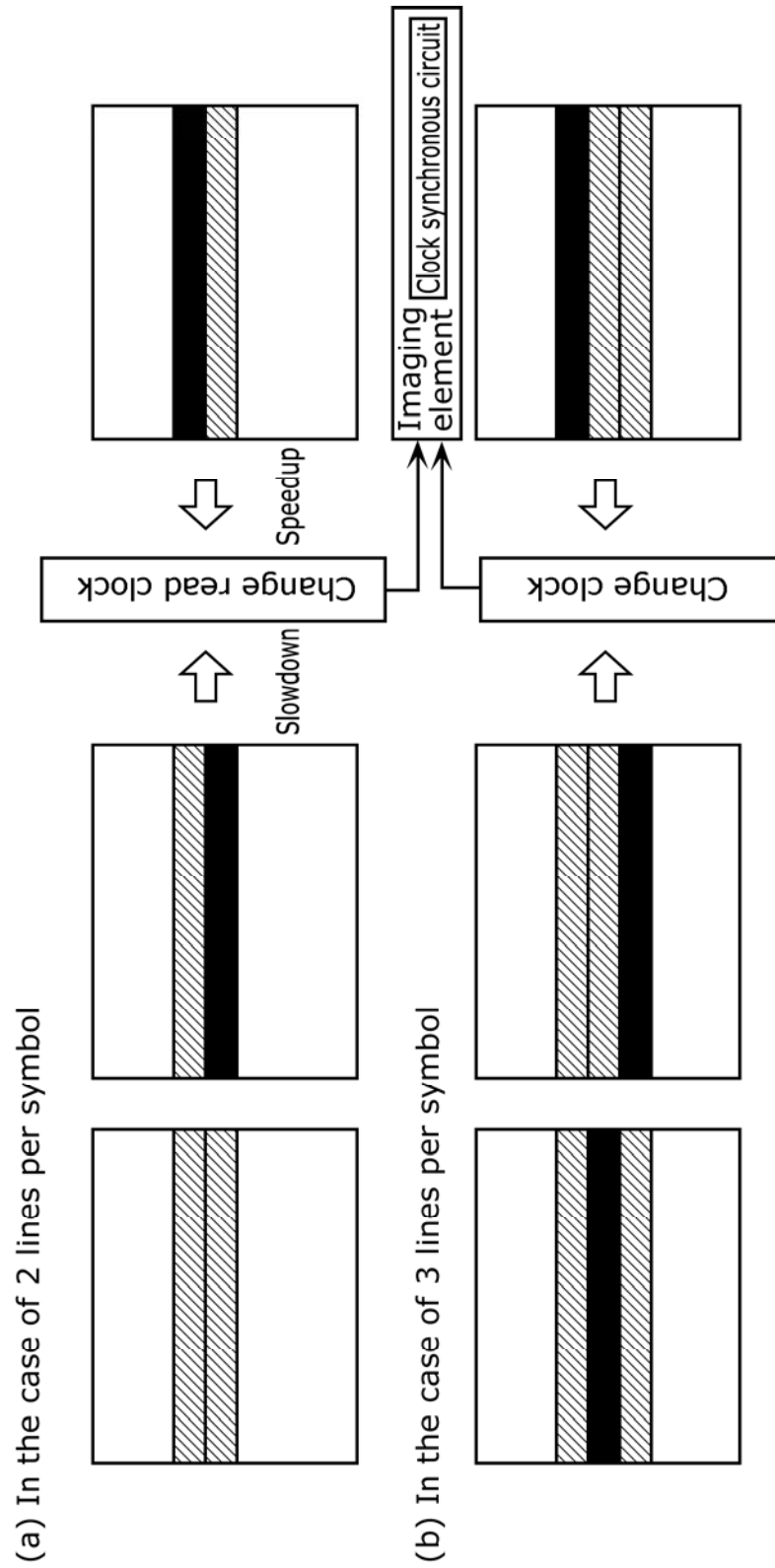


FIG. 106

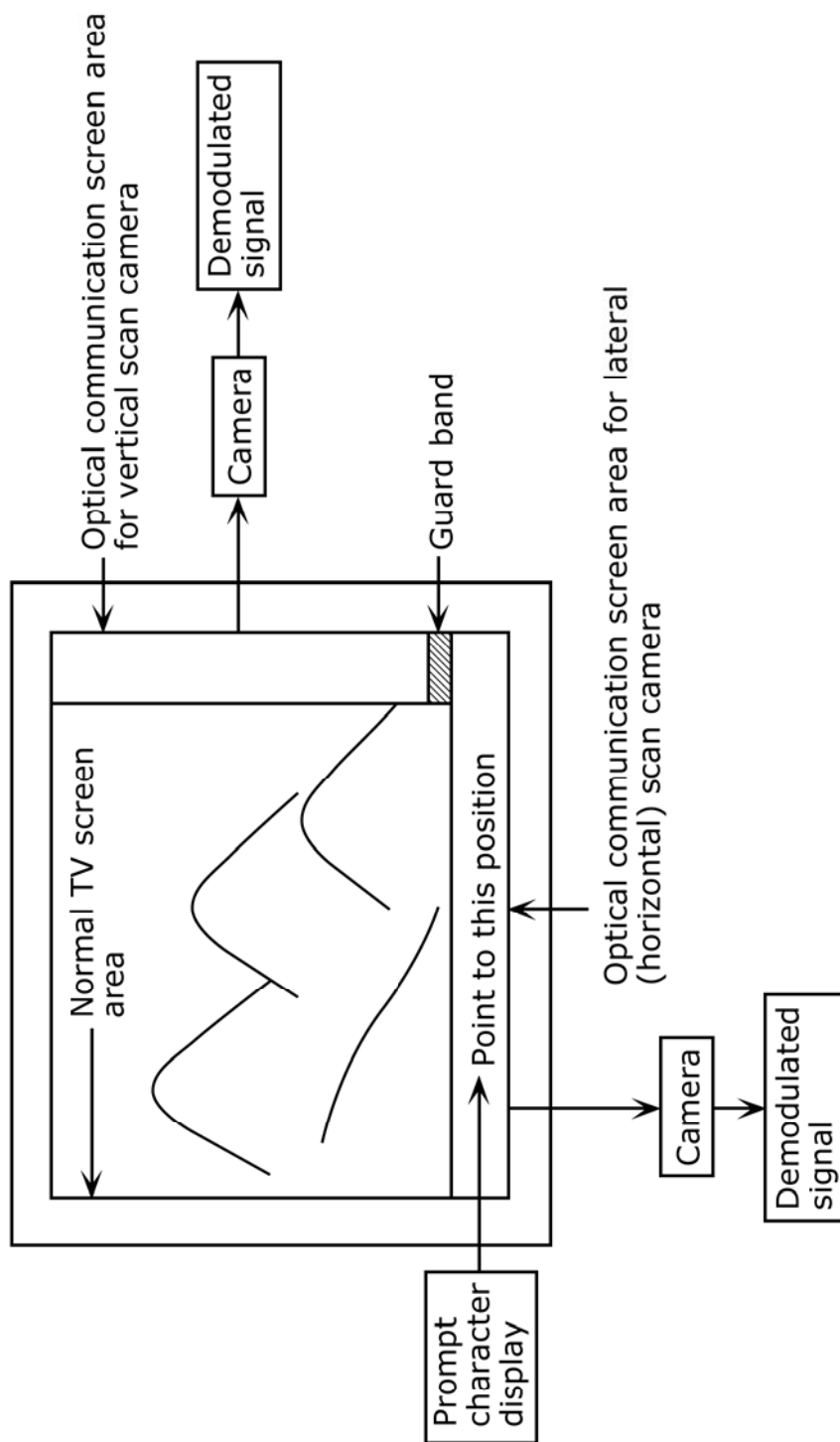


FIG. 107

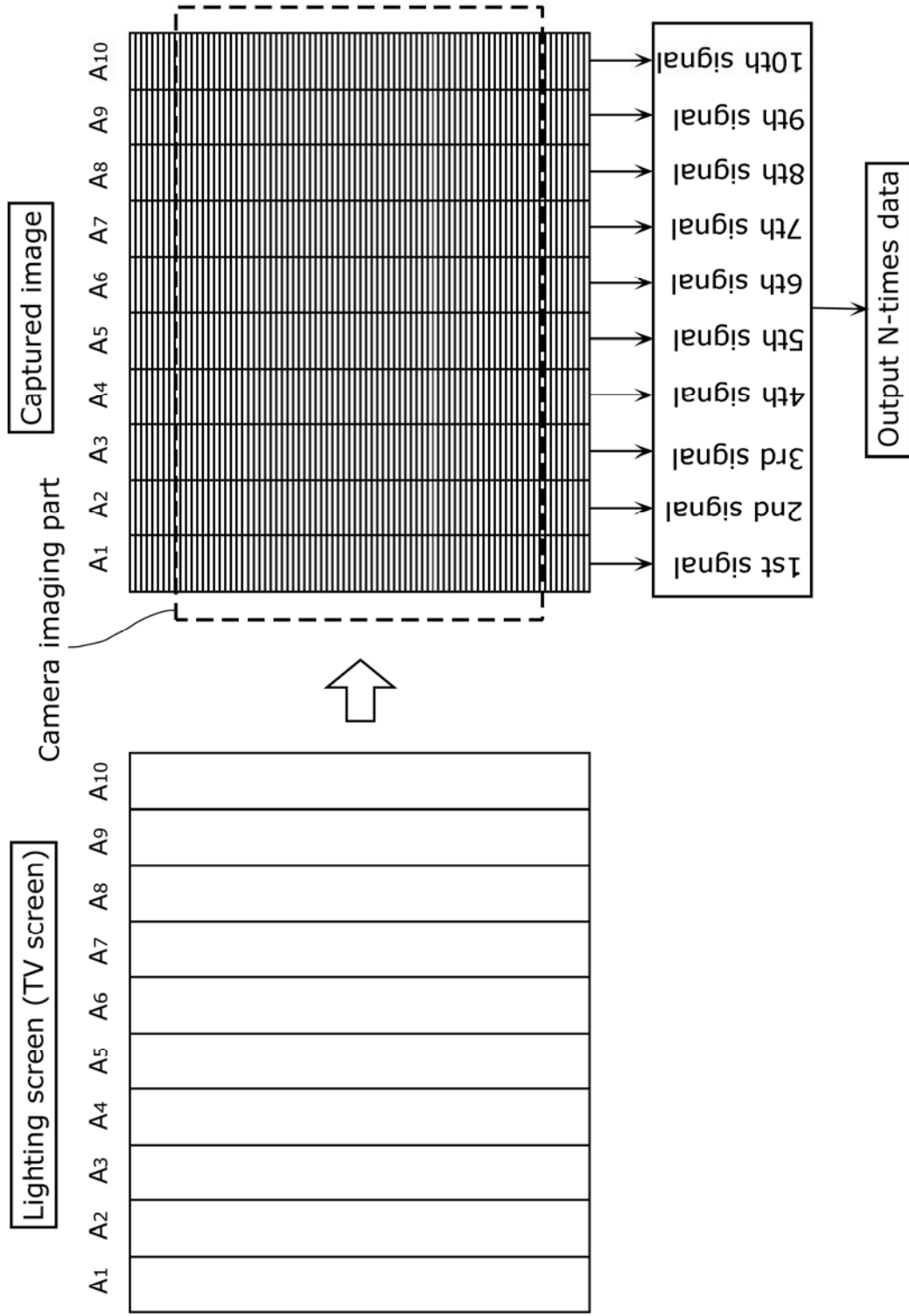


FIG. 108

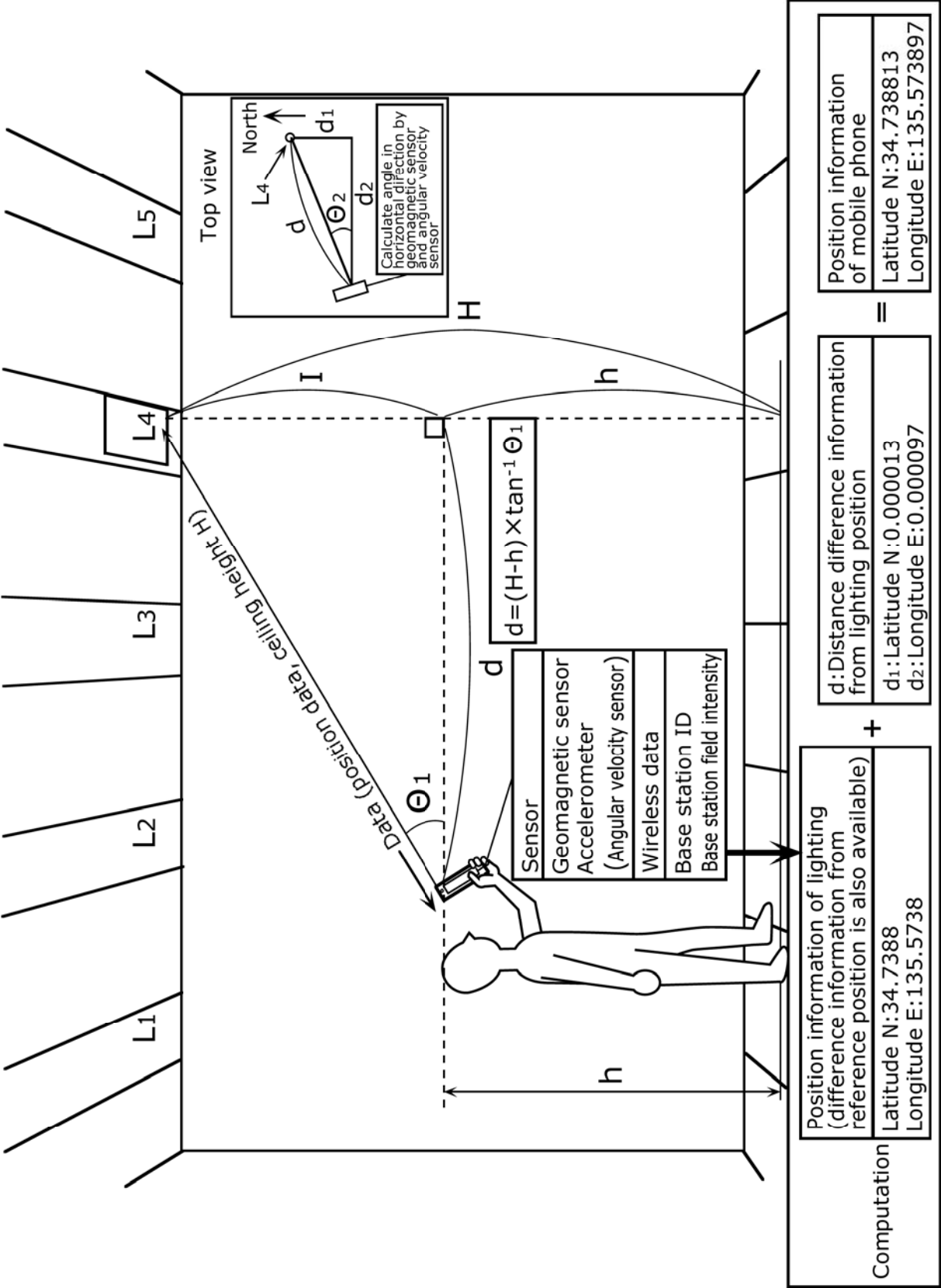


FIG. 109A

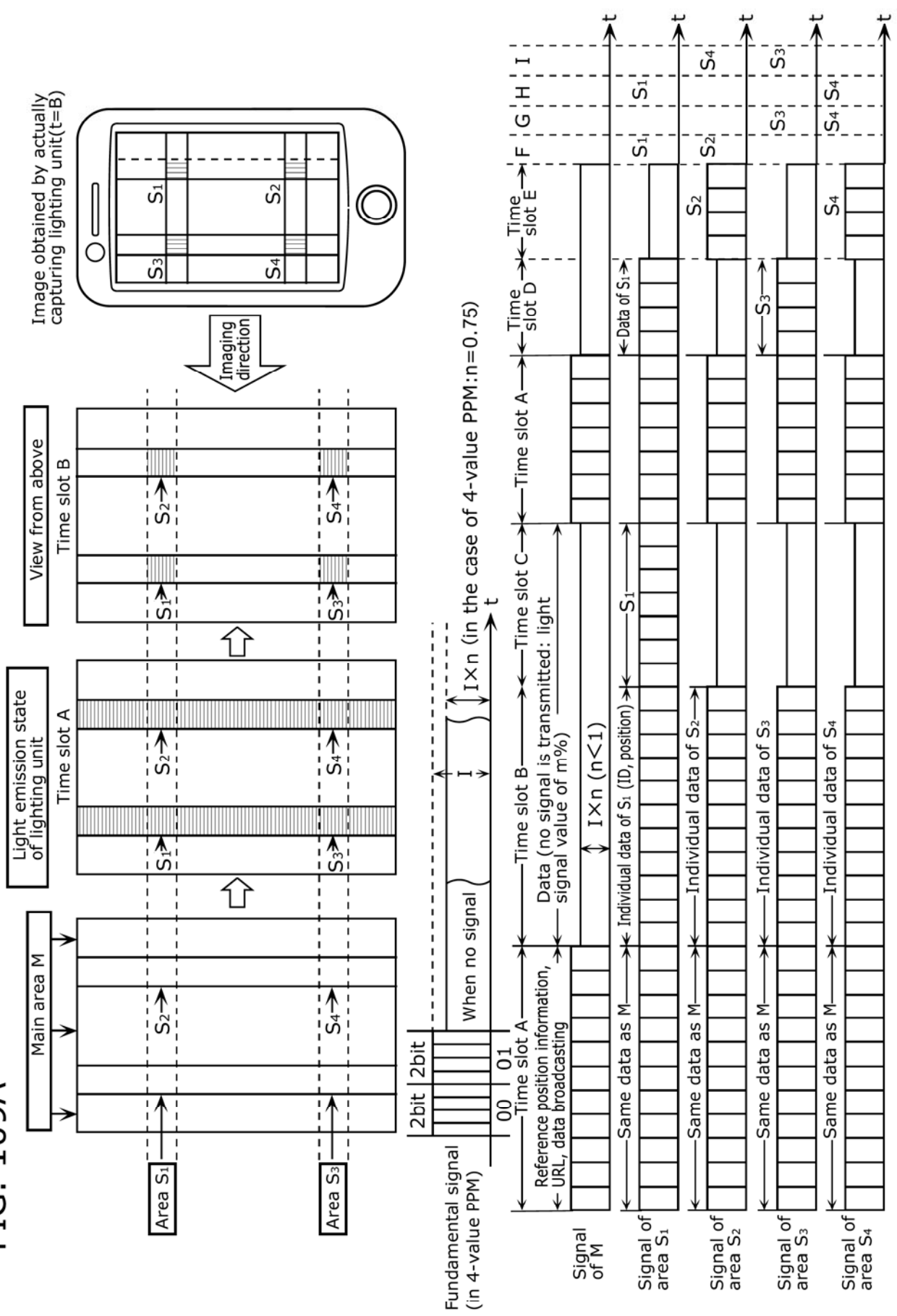


FIG. 109B

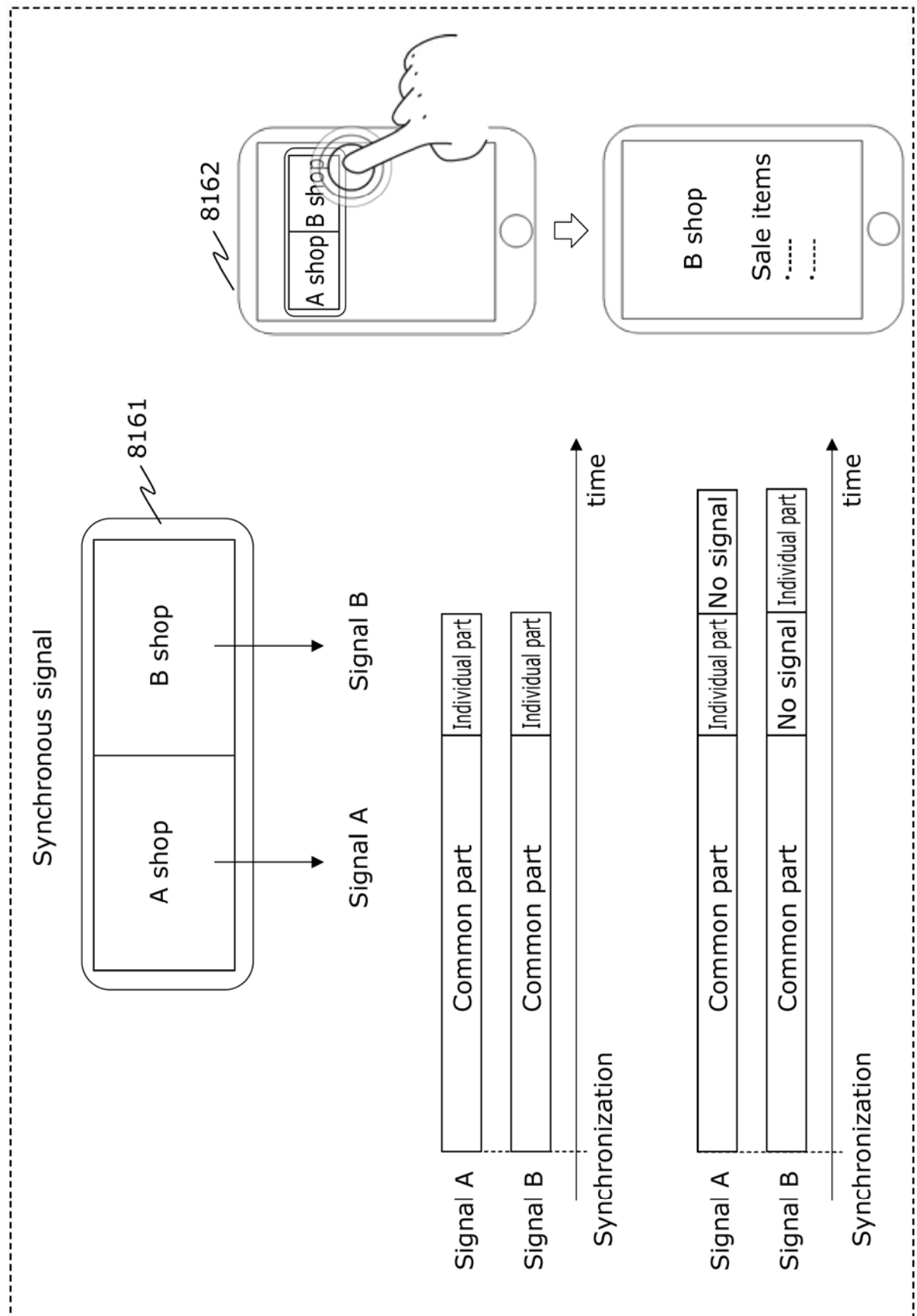


FIG. 109C

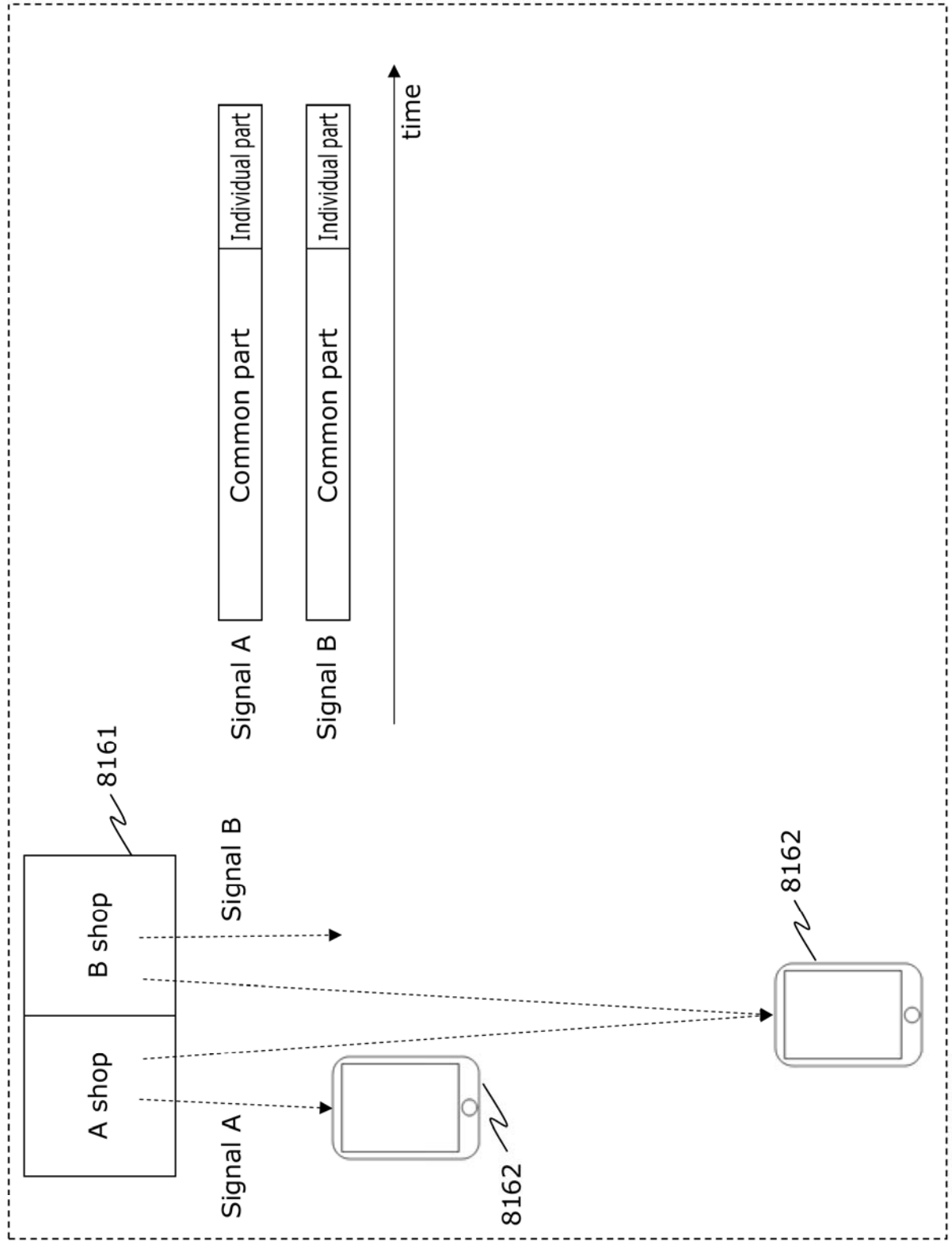


Diagram illustrating the principle of the proposed method. The diagram shows a person holding a smartphone at a distance d and an angle Θ from a target area L_2 on a wall. The wall is divided into five horizontal sections labeled L_1 , L_2 , L_3 , L_4 , and L_5 . A dashed line indicates the line of sight from the smartphone to the target area. The distance from the person's eye level to the target area is labeled $H-h$. A box contains the formula $d = (H-h) \times \tan^{-1} \Theta$.

The smartphone screen shows a camera view with a dashed box around the target area. Below the screen, a diagram shows the detection area and scan area for both horizontal and vertical scans. The detection area is labeled "In the case of horizontal scan" and the scan area is labeled "In the case of vertical scan". A box contains the text "Detect ID data '0101' of L_2 " and a 4-value PPM (01000101010) is shown.

FIG. 111

L0: Transmission of common data: reference position information (latitude, longitude), ceiling height information, server URL, room shape information, difference information between ID number of each individual lighting and reference position information or relative position information or arrangement information of each ID, area-specific data broadcasting

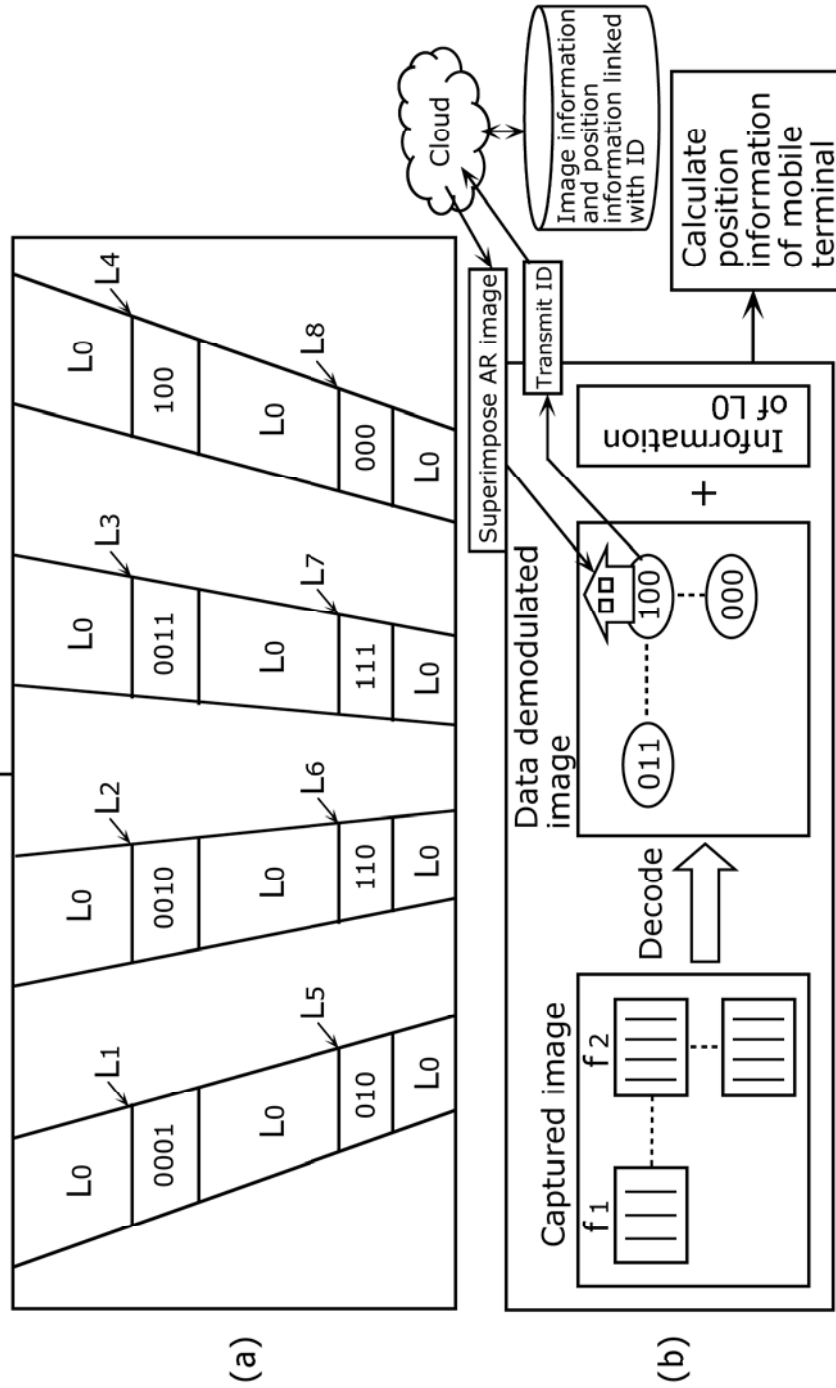


FIG. 112

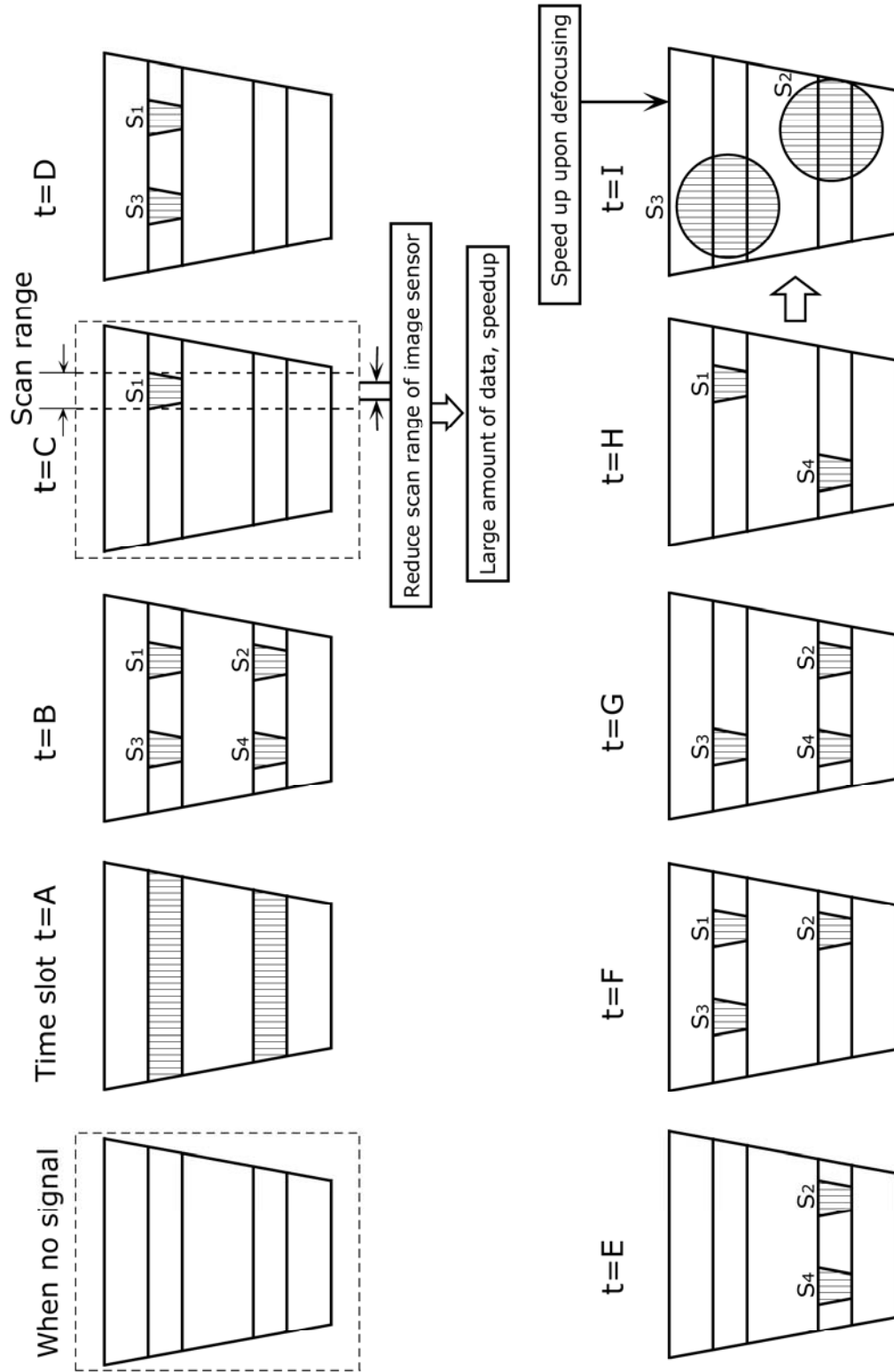


FIG. 113

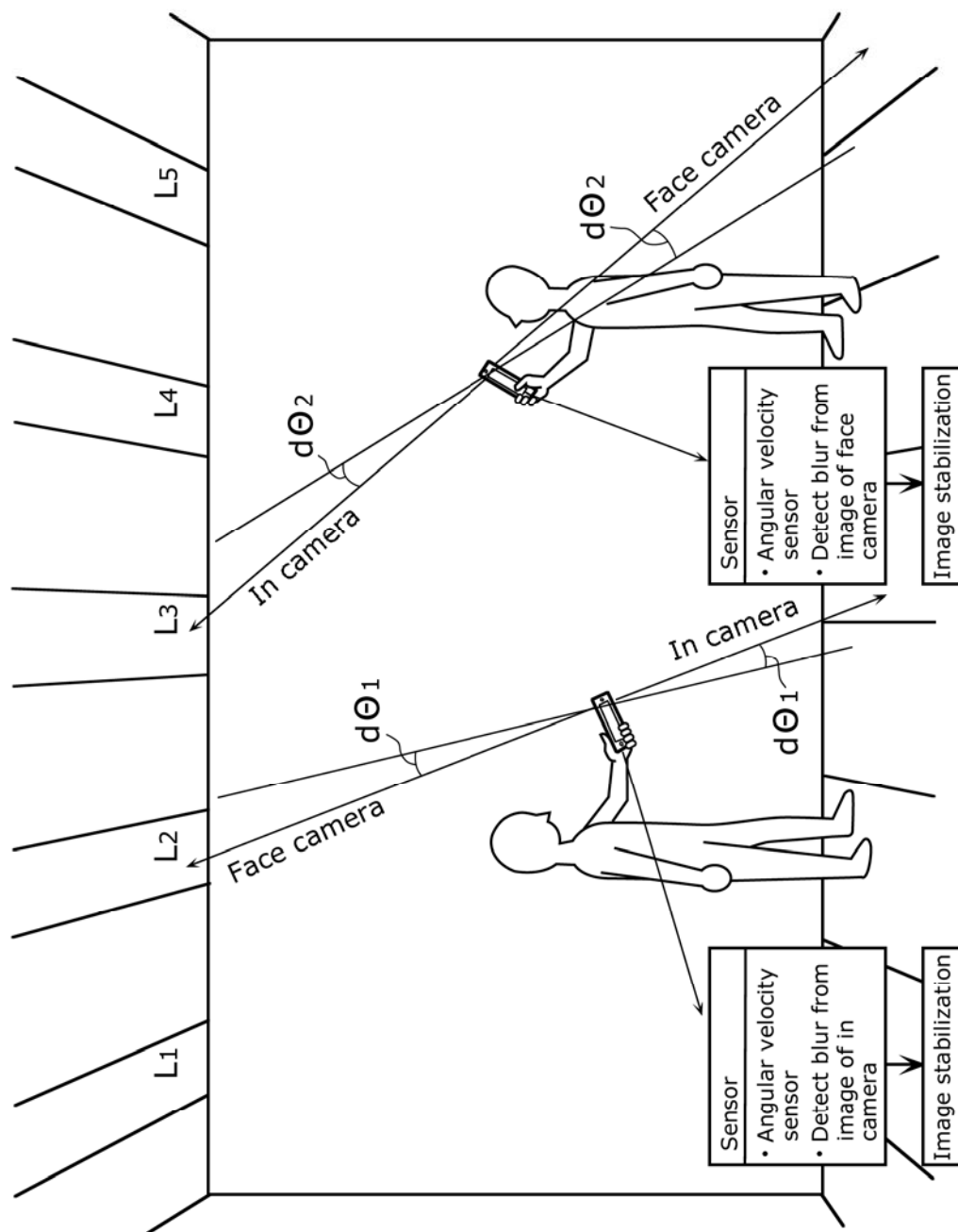


FIG. 114

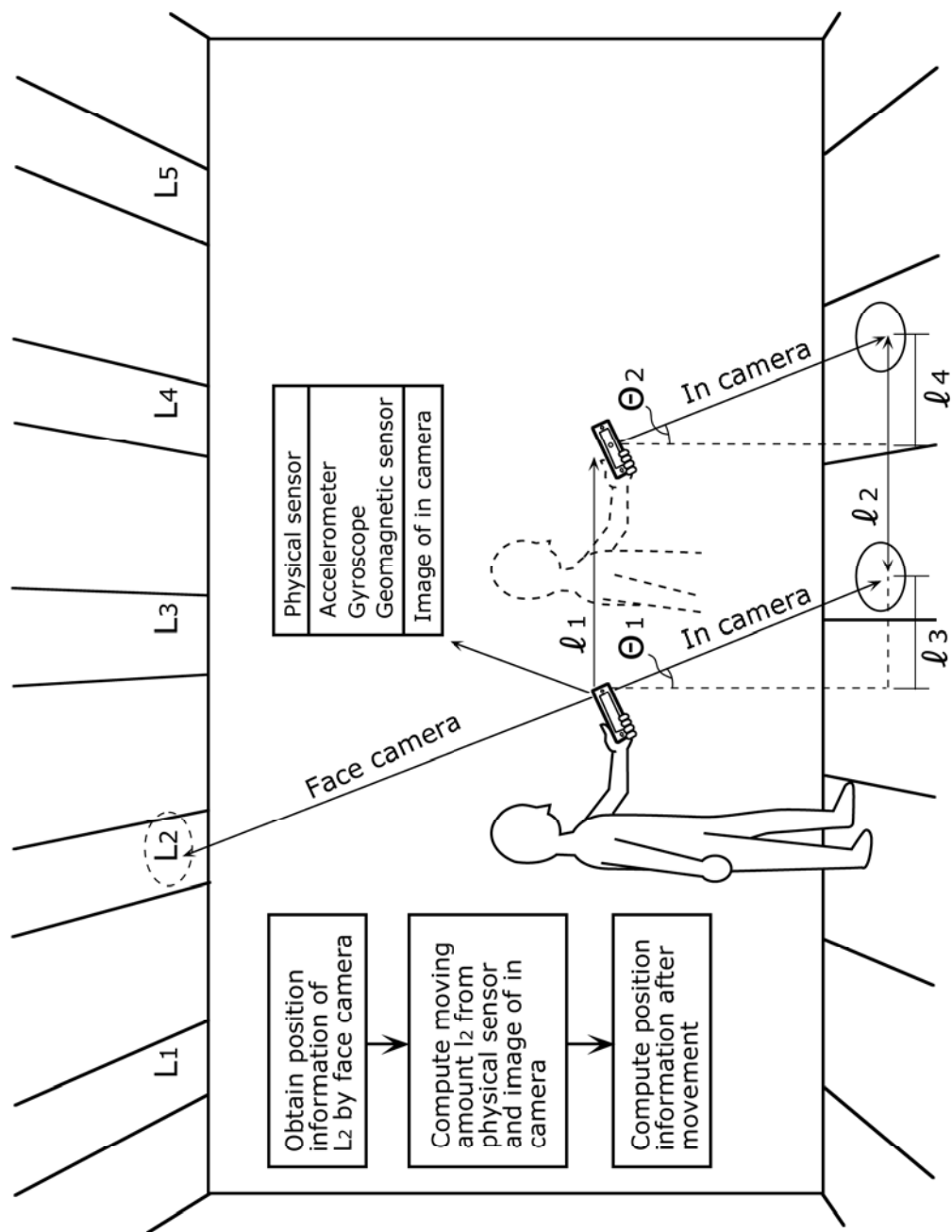


FIG. 115

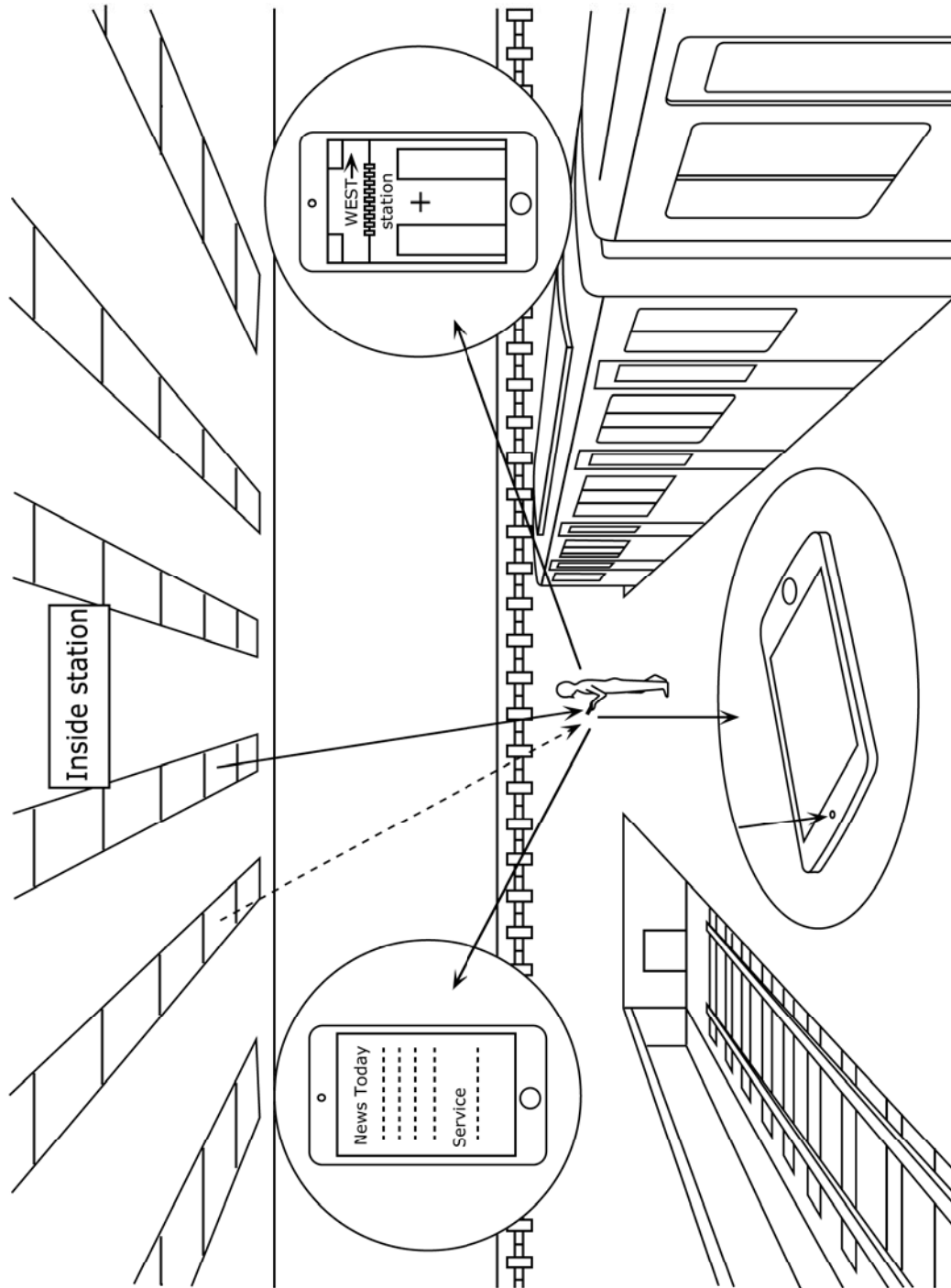


FIG. 116

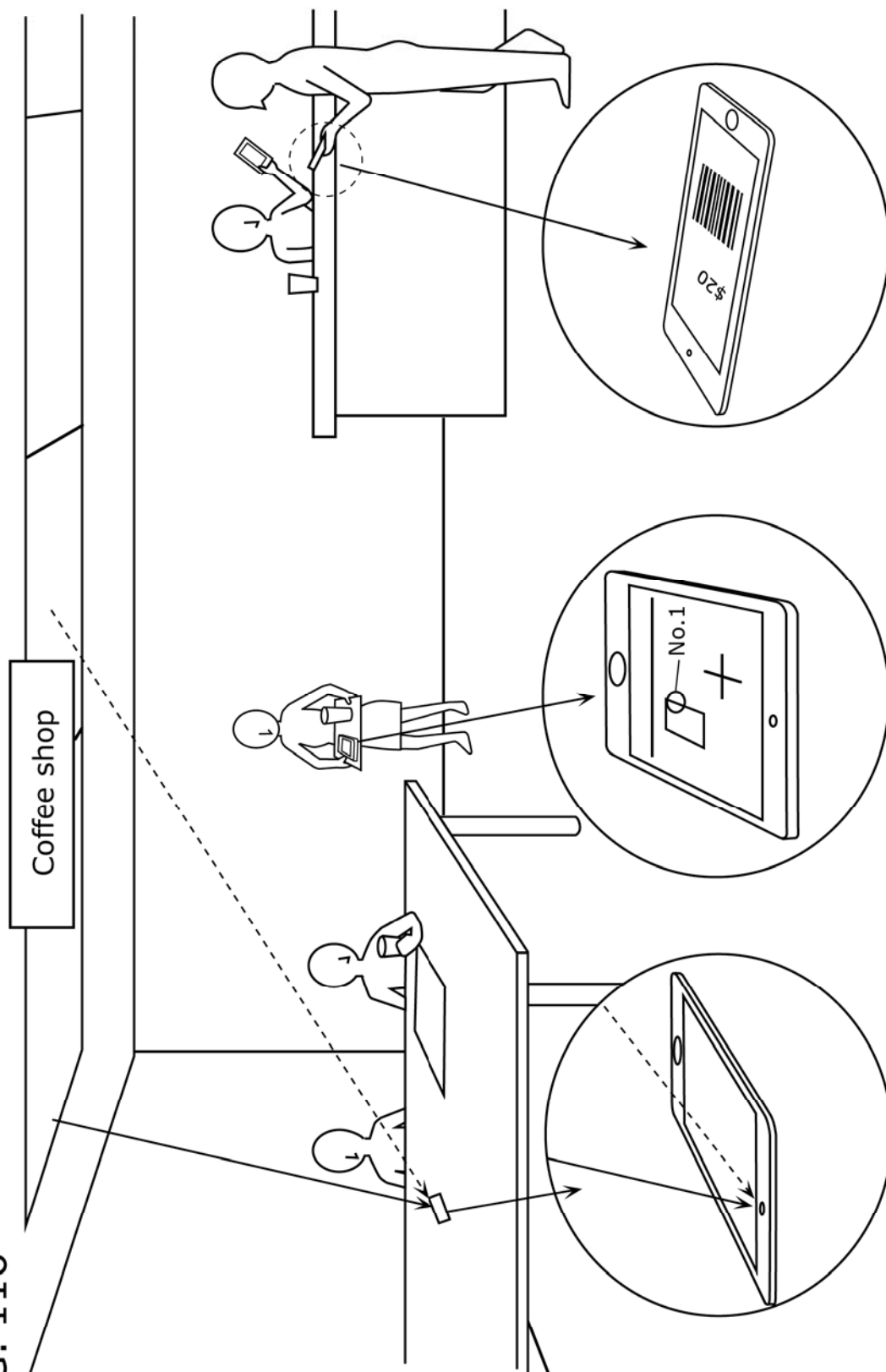


FIG. 117

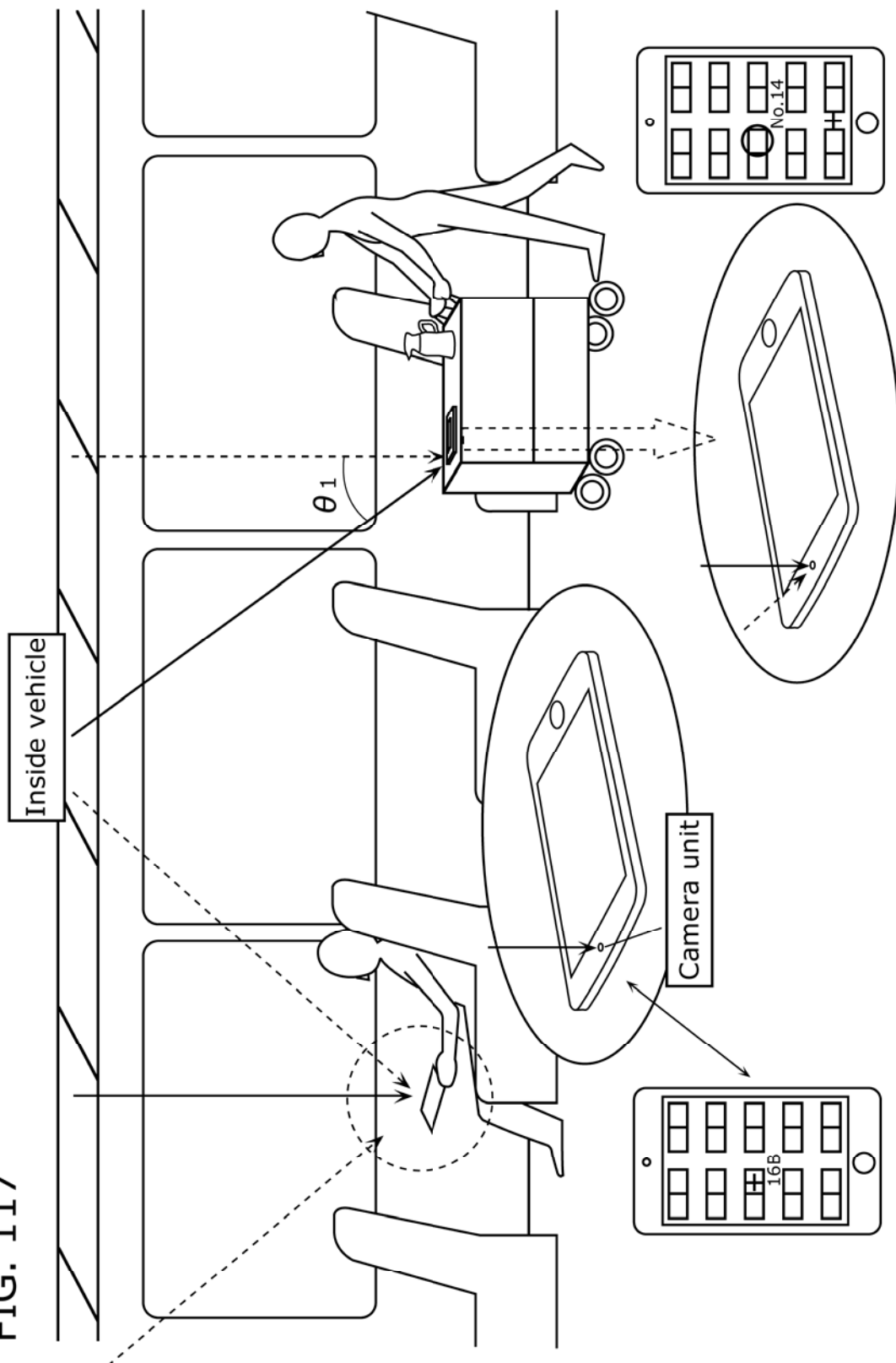


FIG. 118

In the case of 1bit per symbol

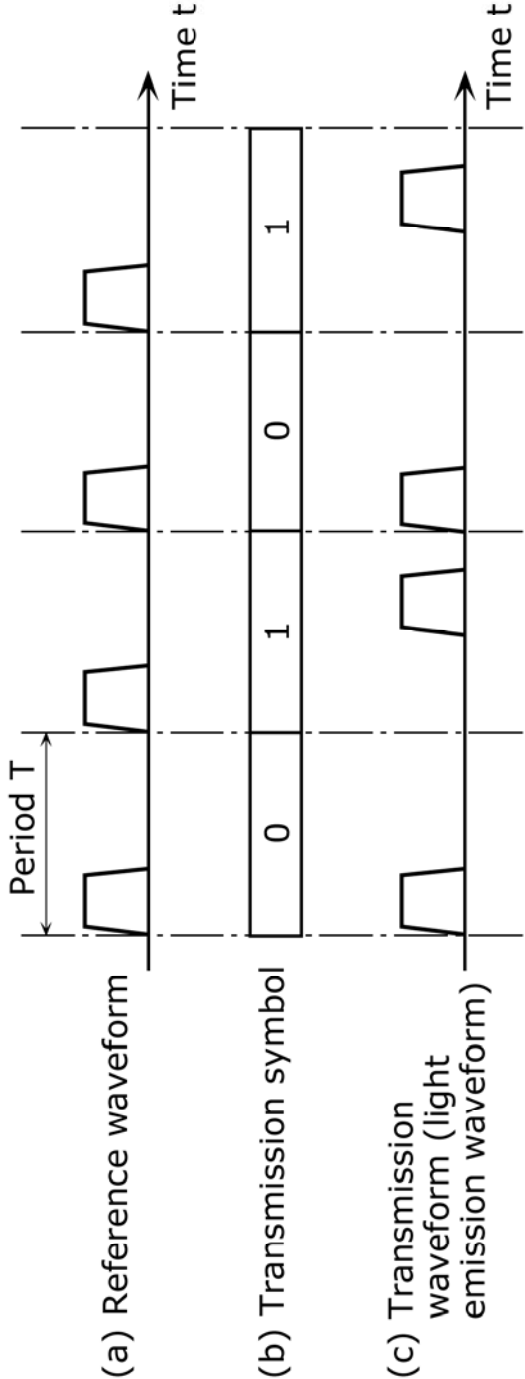


FIG. 119

In the case of symbol $0 \rightarrow 0$

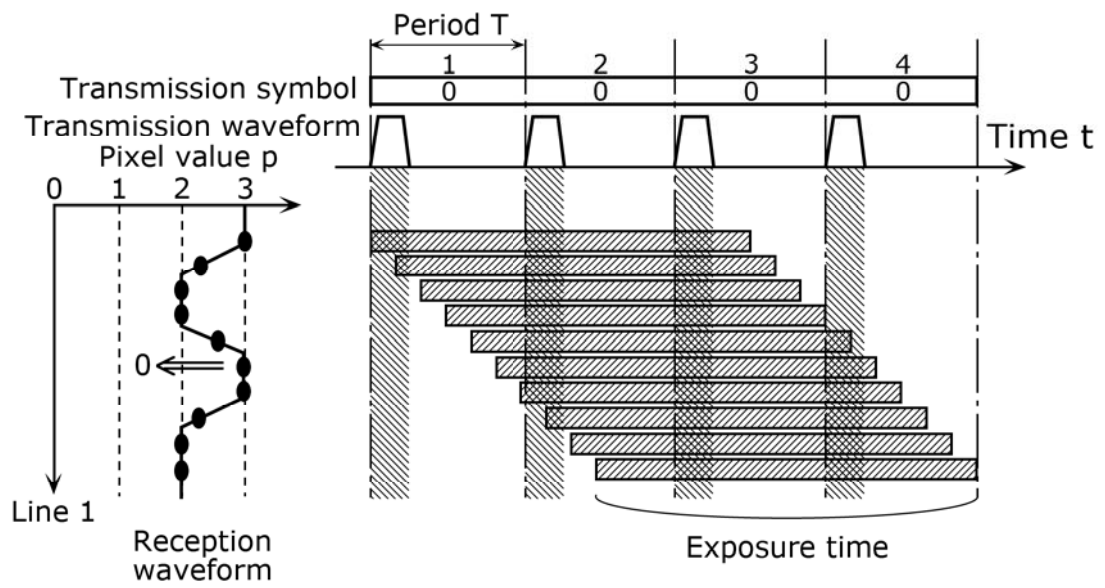


FIG. 120

In the case of symbol $0 \rightarrow 1$

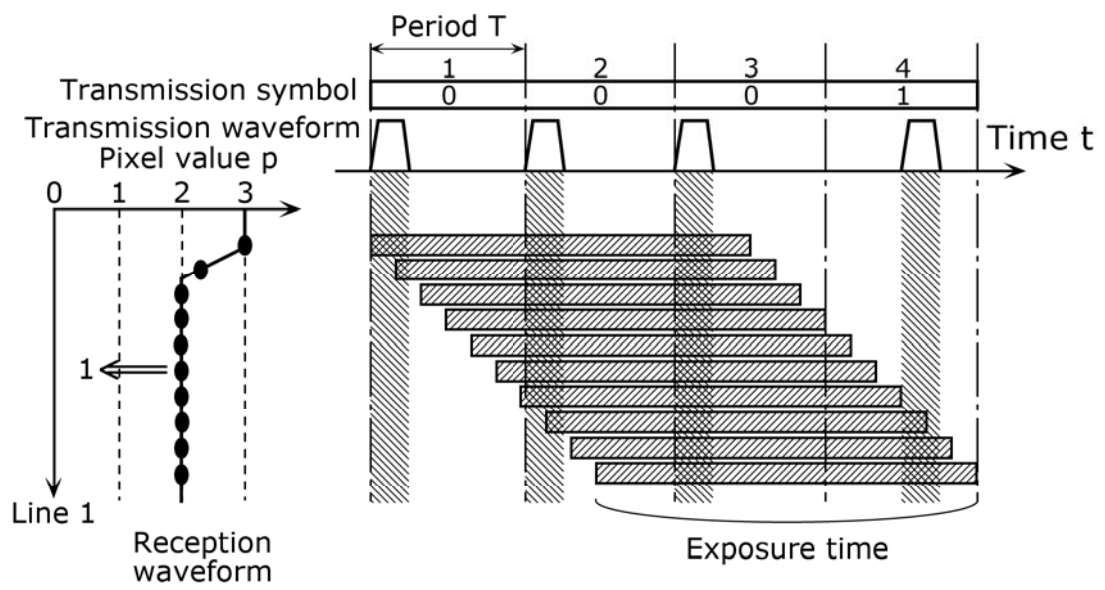


FIG. 121

In the case of symbol 1 $\rightarrow$ 0

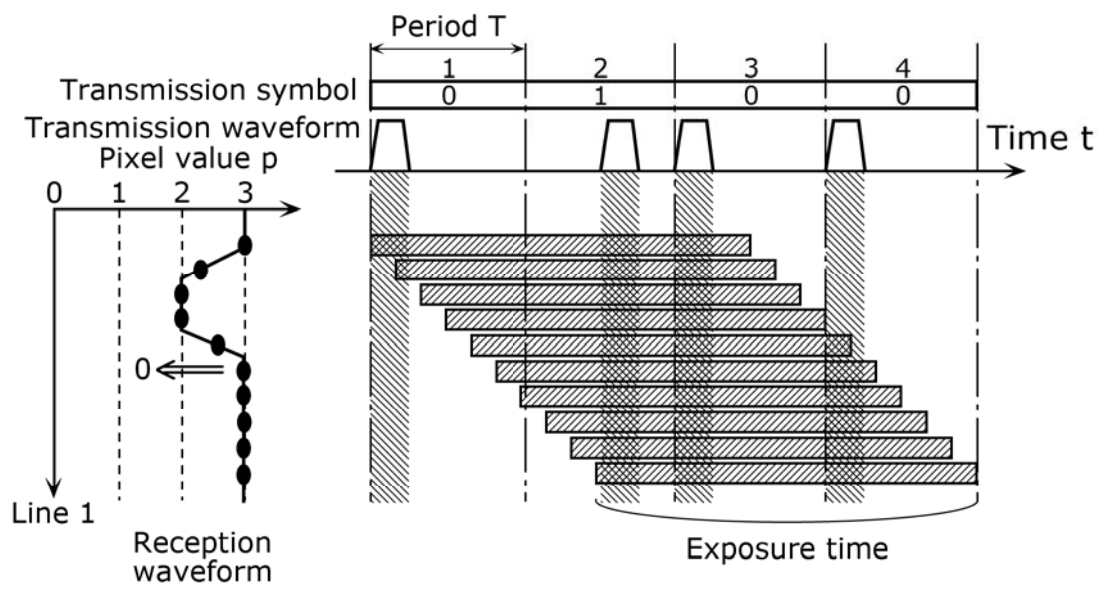


FIG. 122

In the case of symbol 1 $\rightarrow$ 1

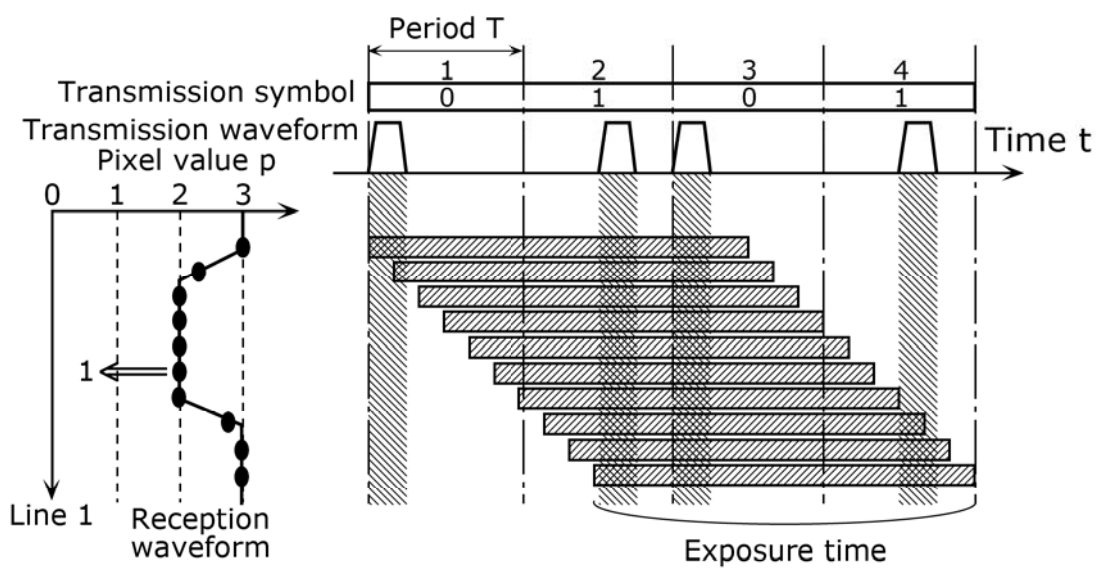


FIG. 123

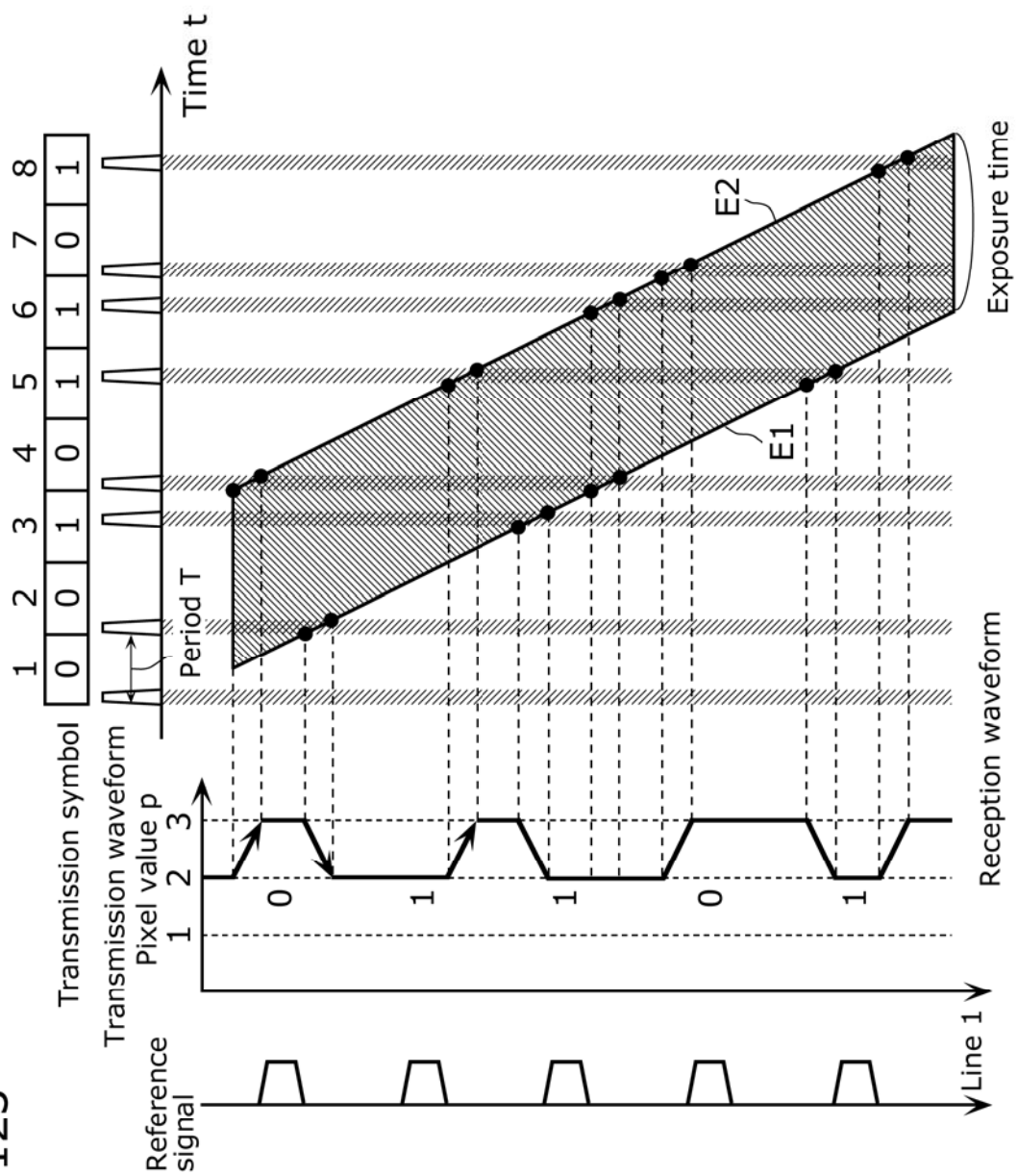


FIG. 124

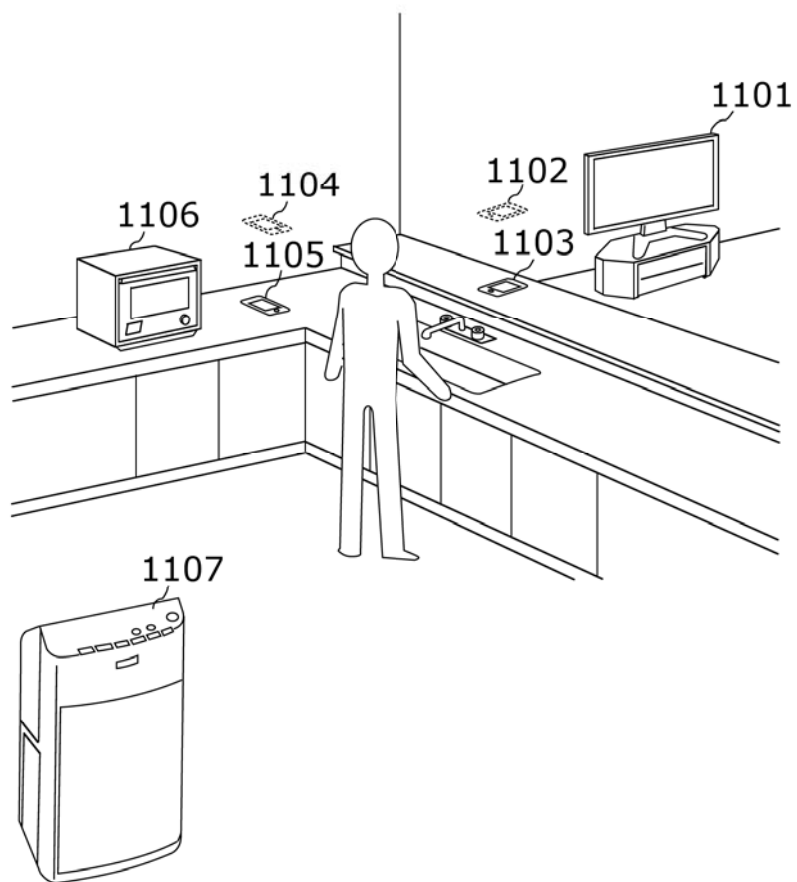


FIG. 125

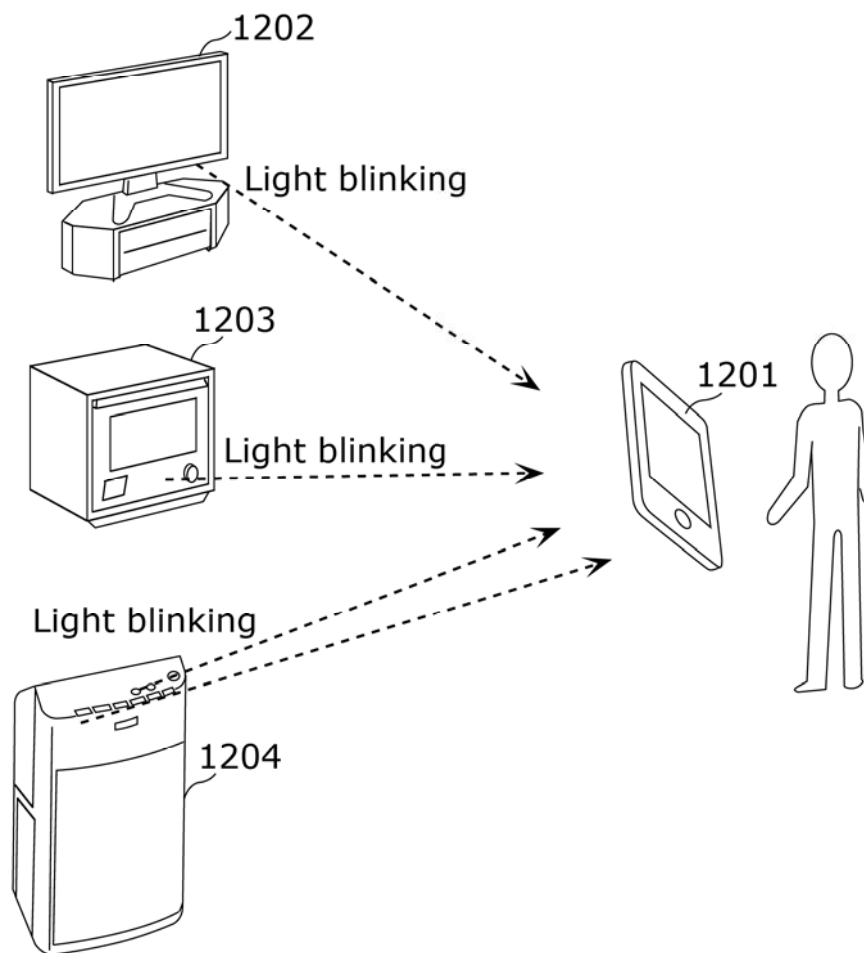


FIG. 126

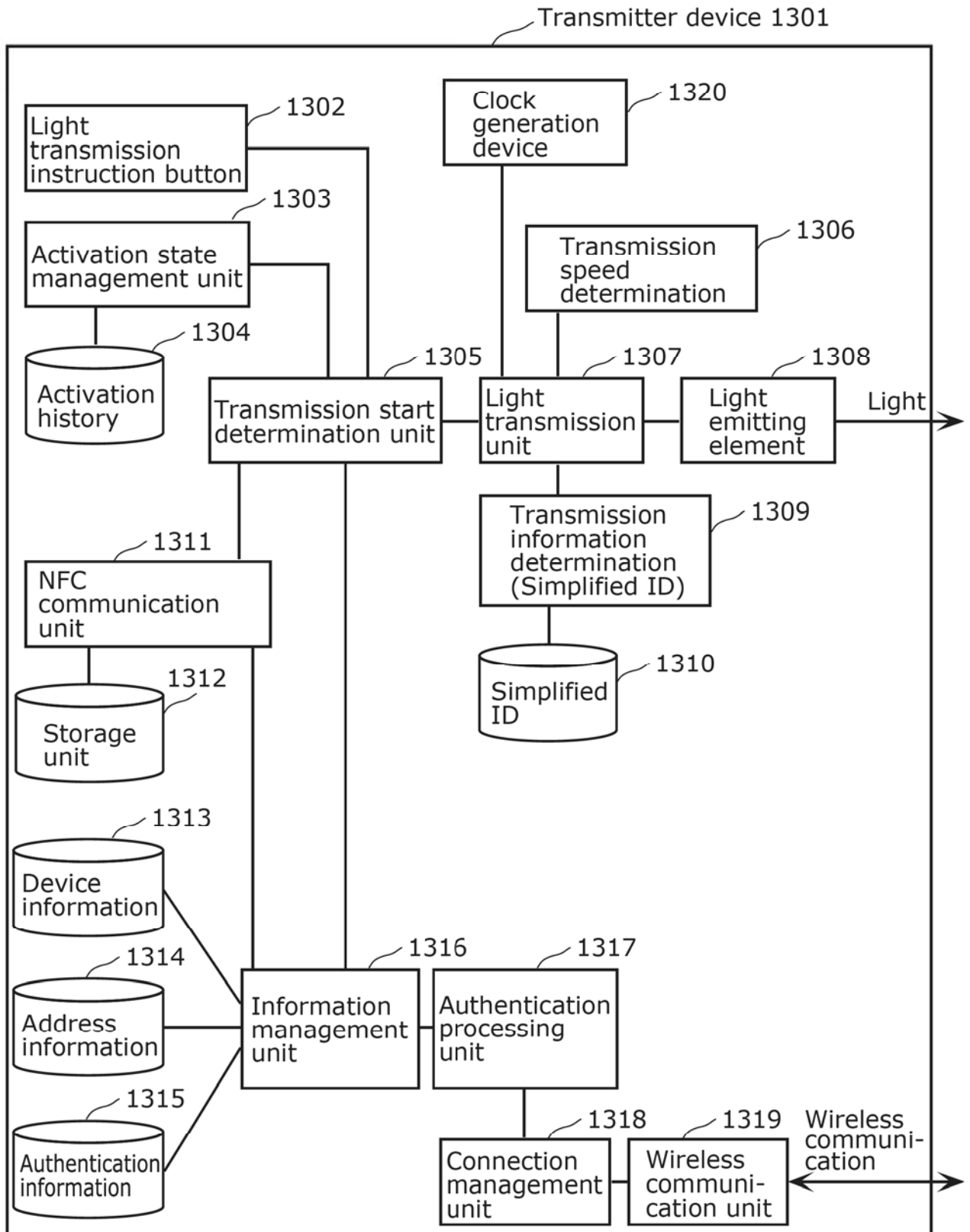


FIG. 127

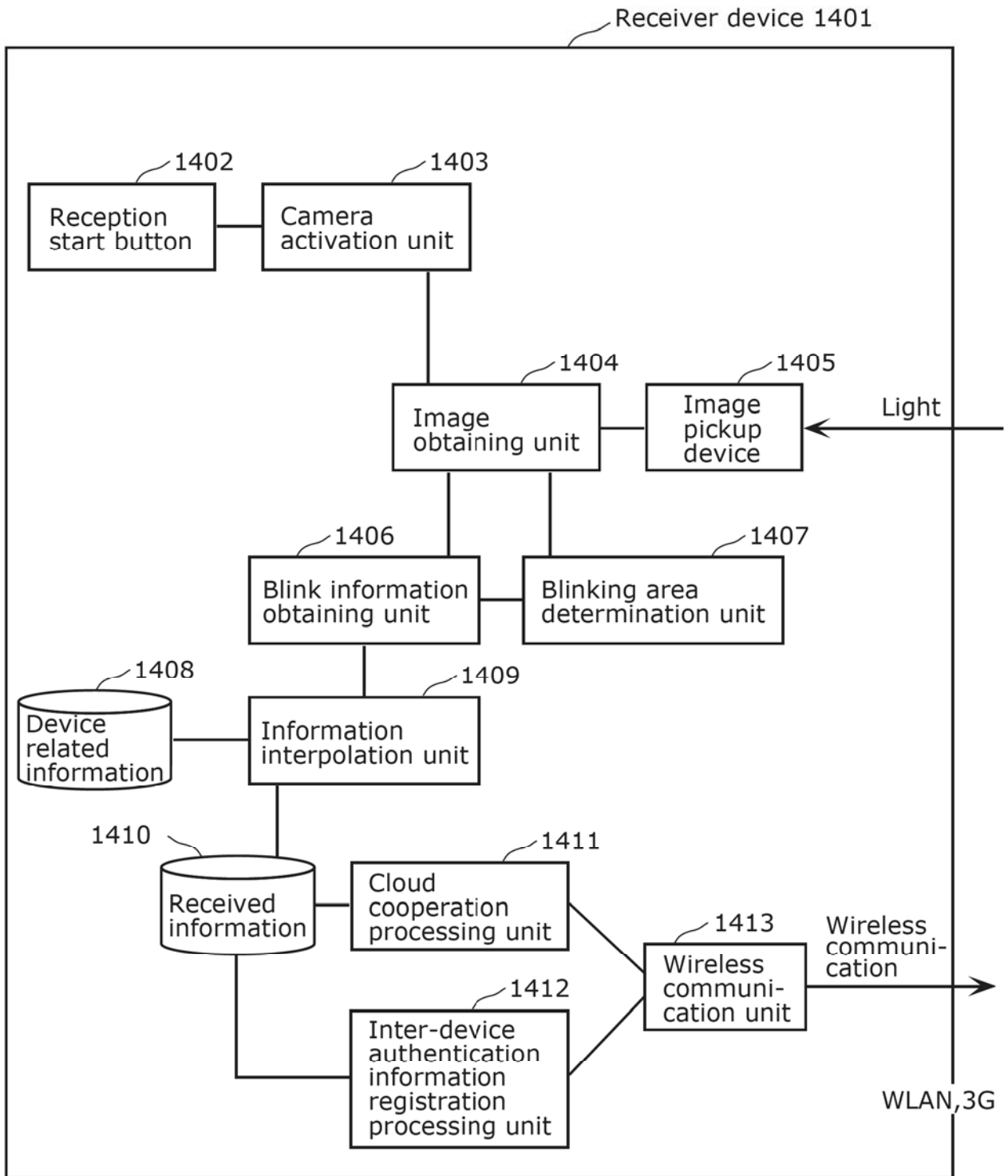


FIG. 128

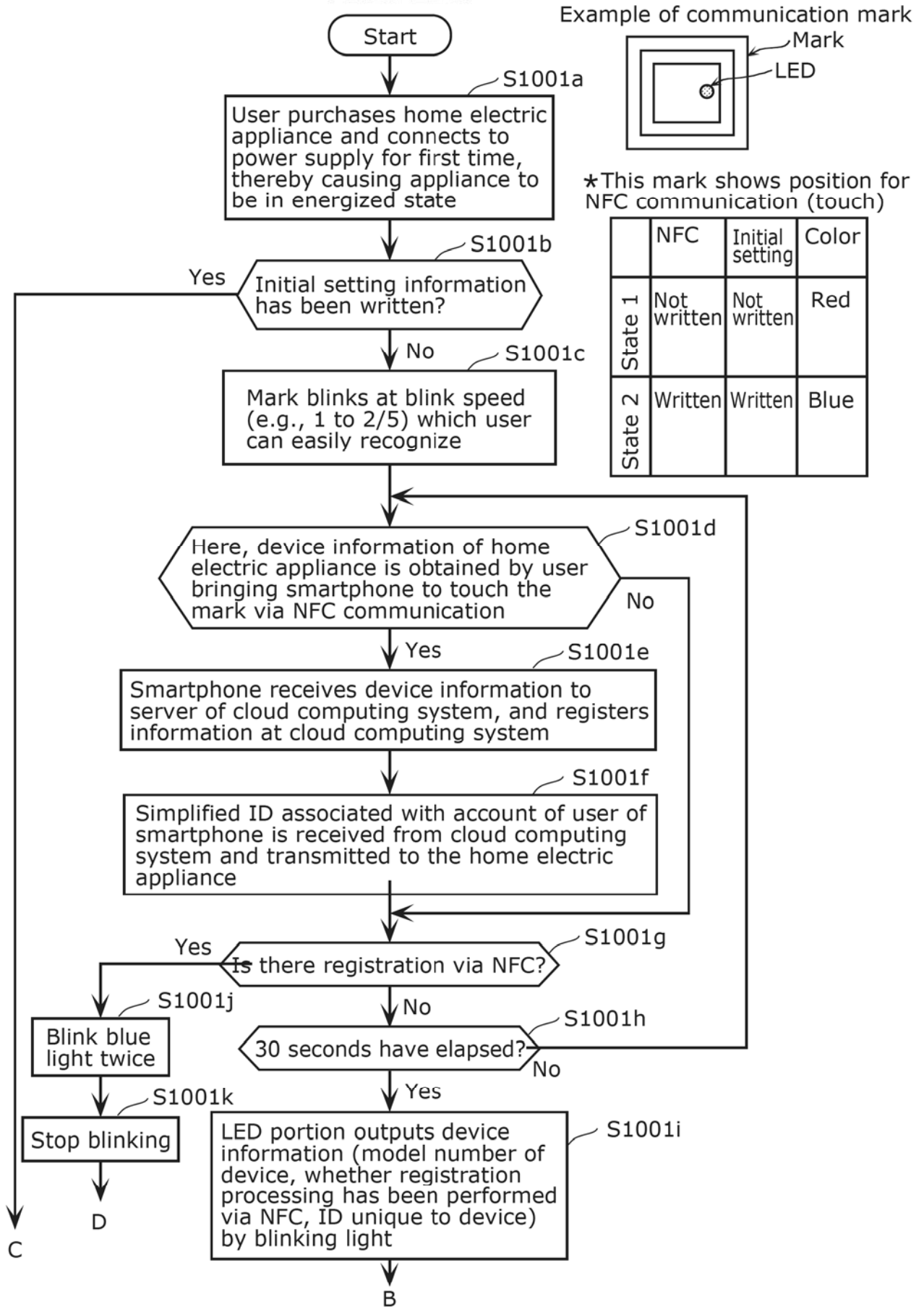


FIG. 129

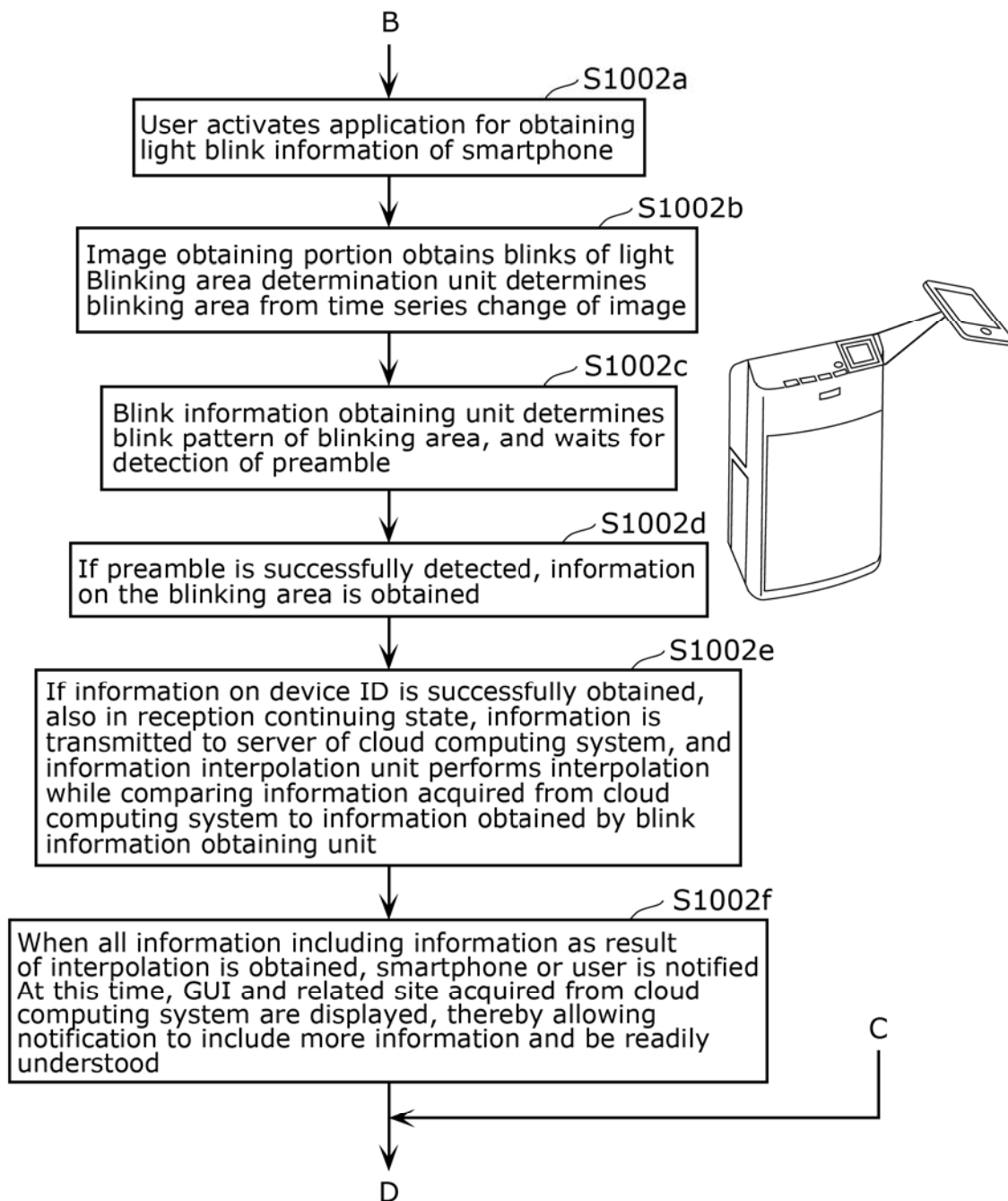
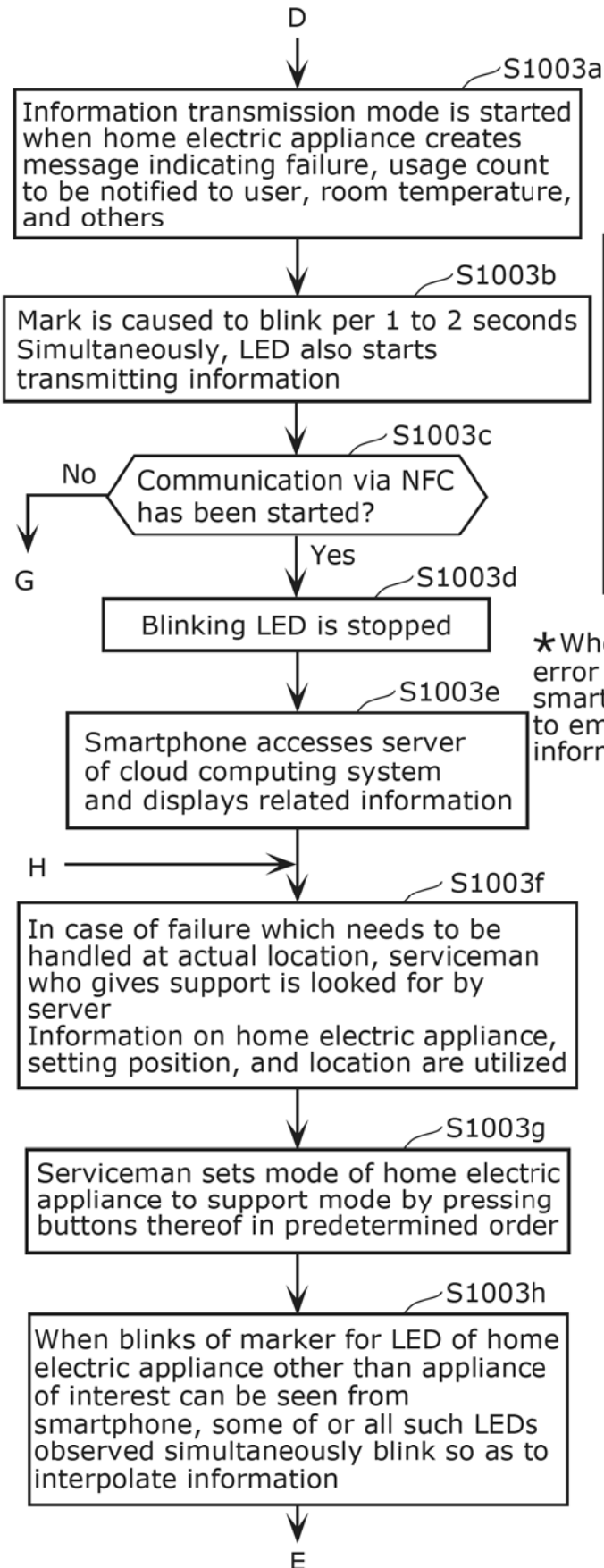


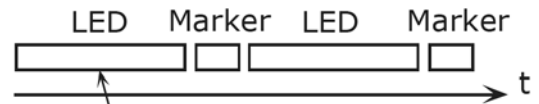
FIG. 130



Example of data to be transmitted

Mode				Information
Serviceman mode NFC	Serviceman mode Light	NFC	Light	Device information for notification code
				User operation information
				Internal sensor information

★ When mark and LED blink simultaneously, error in obtaining information by camera of smartphone can be reduced by causing mark to emit light during intervals of successive information transmissions by LED



Information transmission for one time

FIG. 131

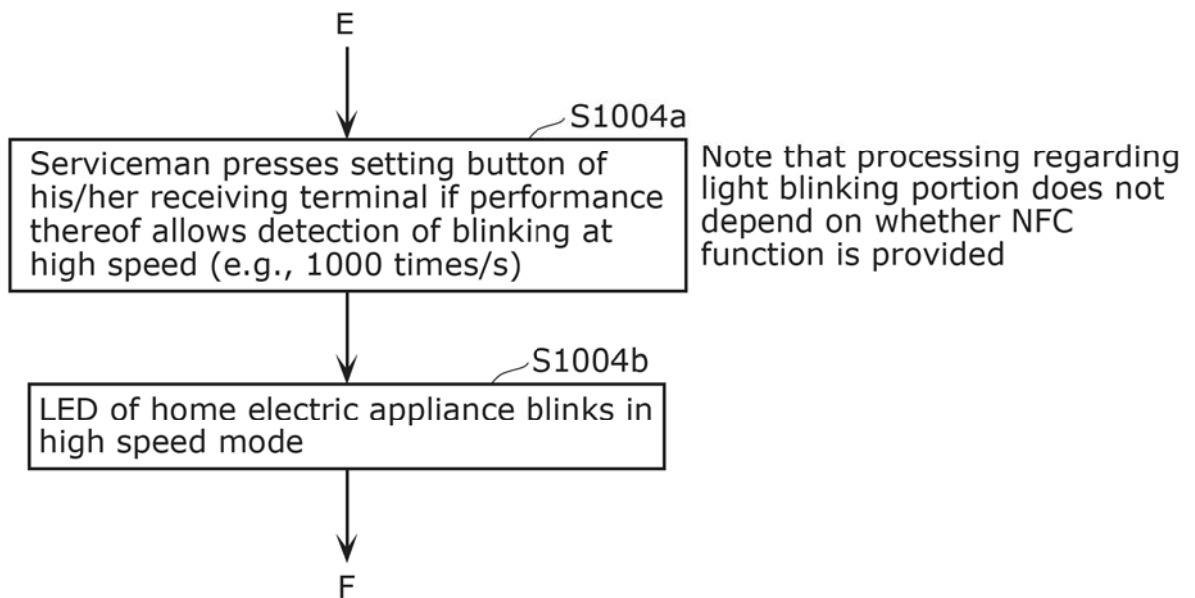


FIG. 132

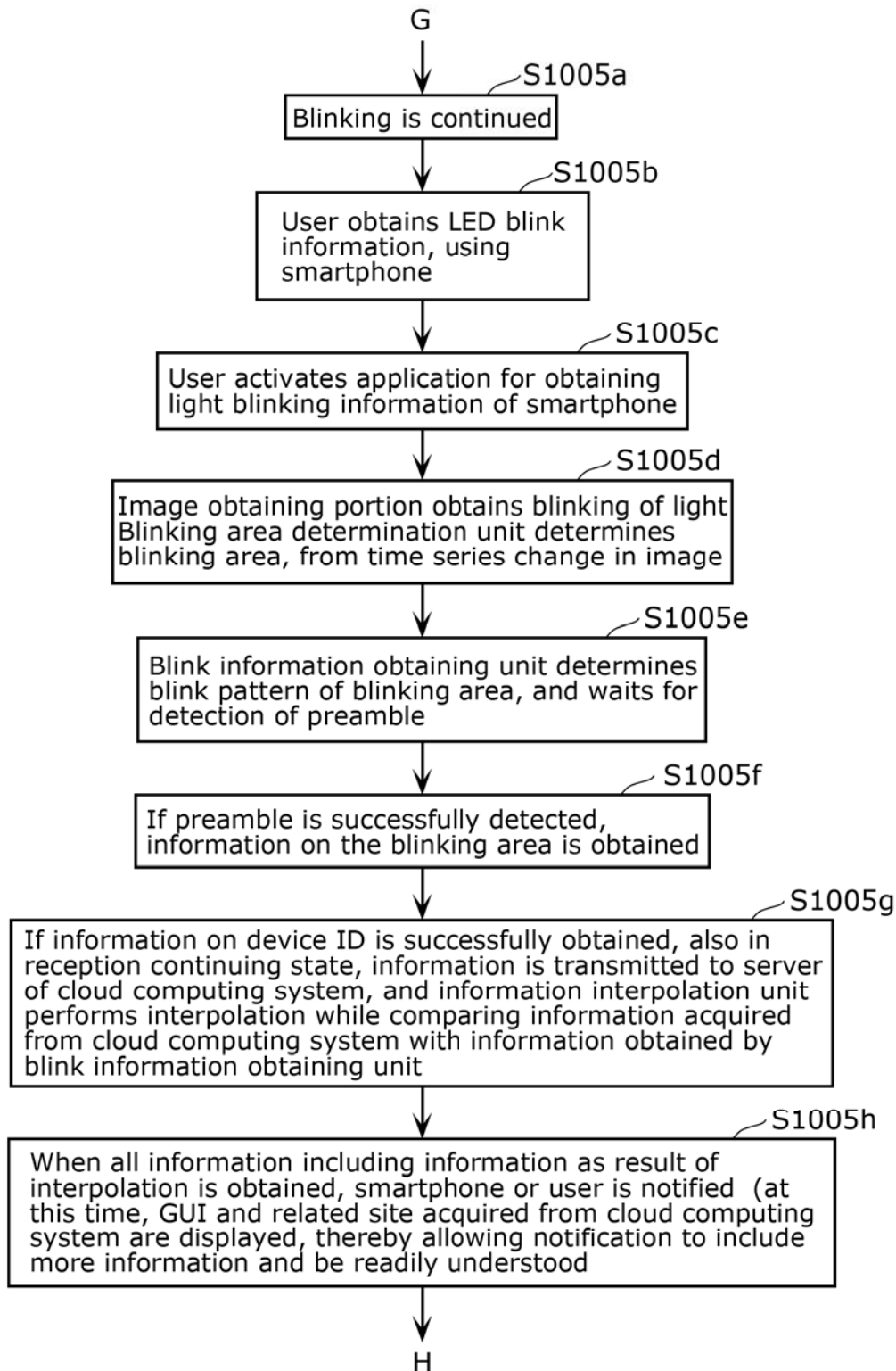


FIG. 133

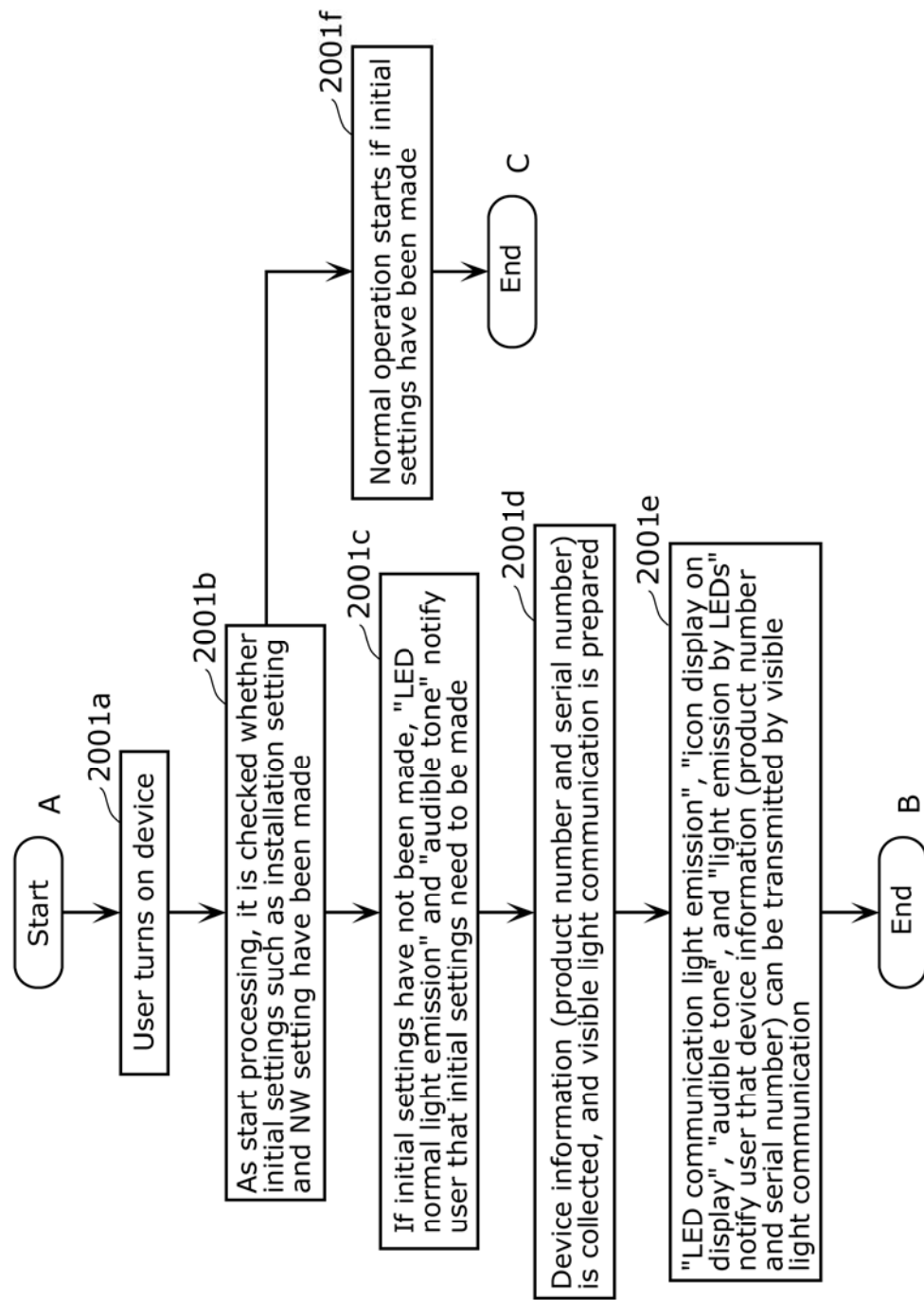


FIG. 134

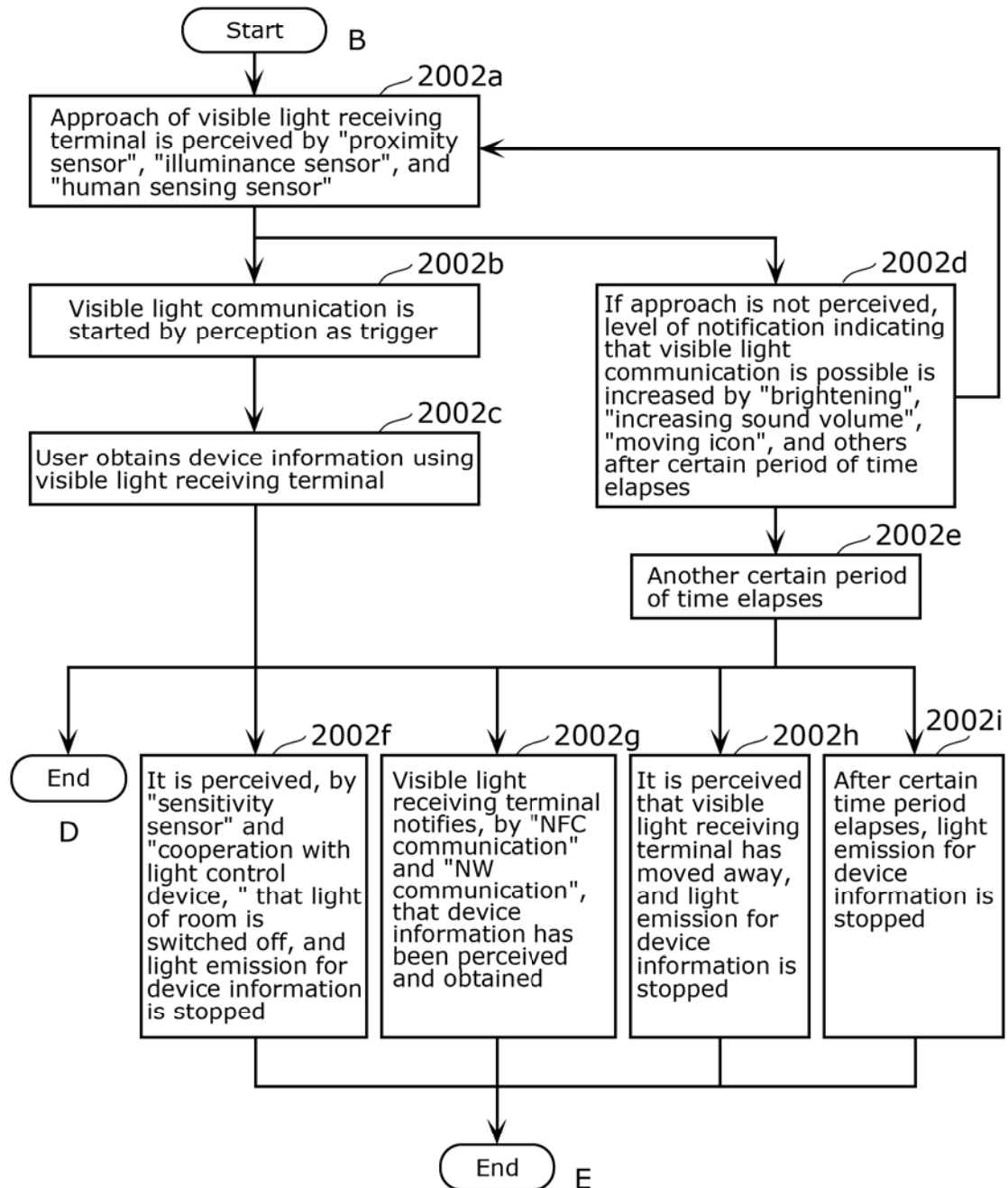


FIG. 135

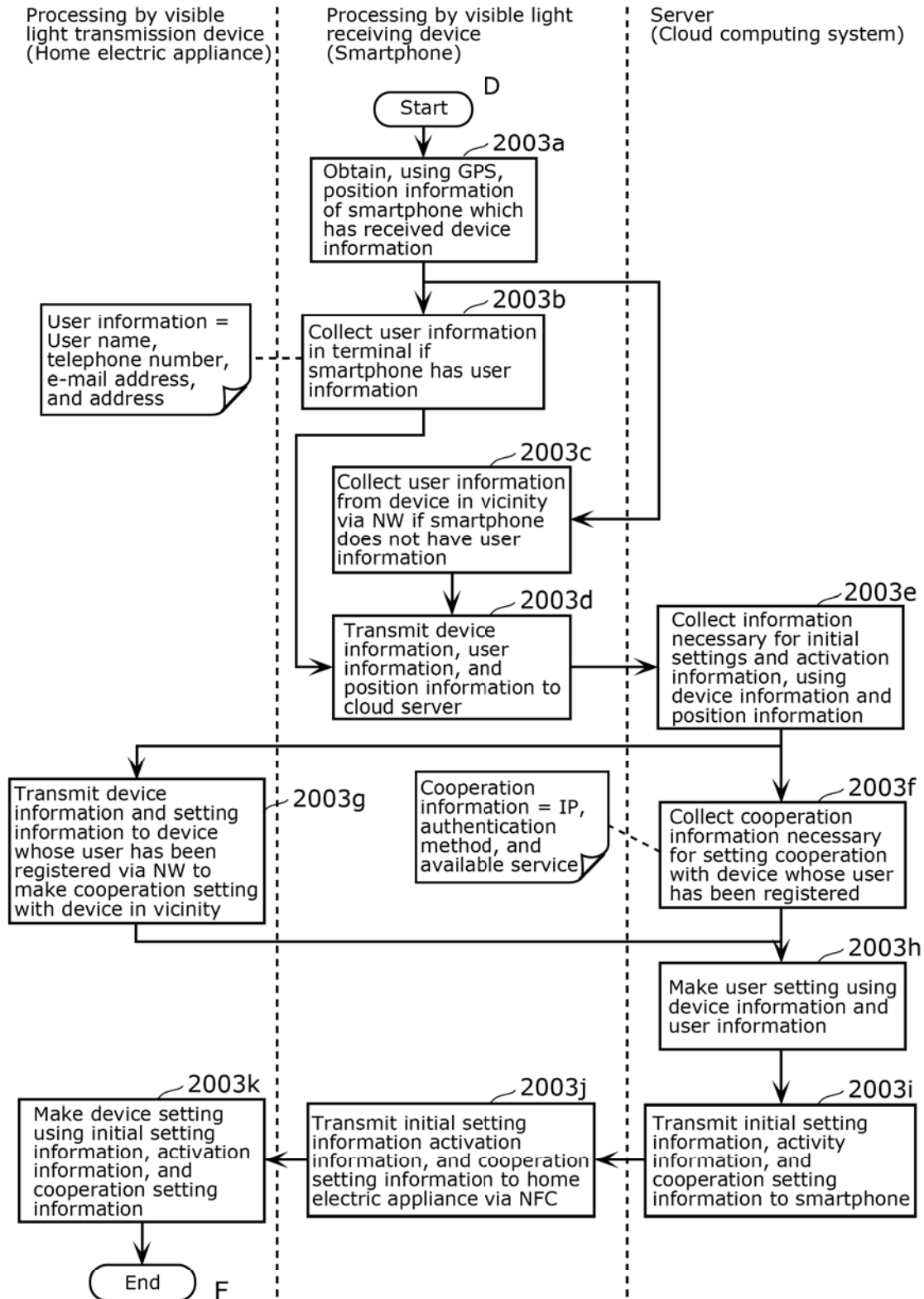


FIG. 136

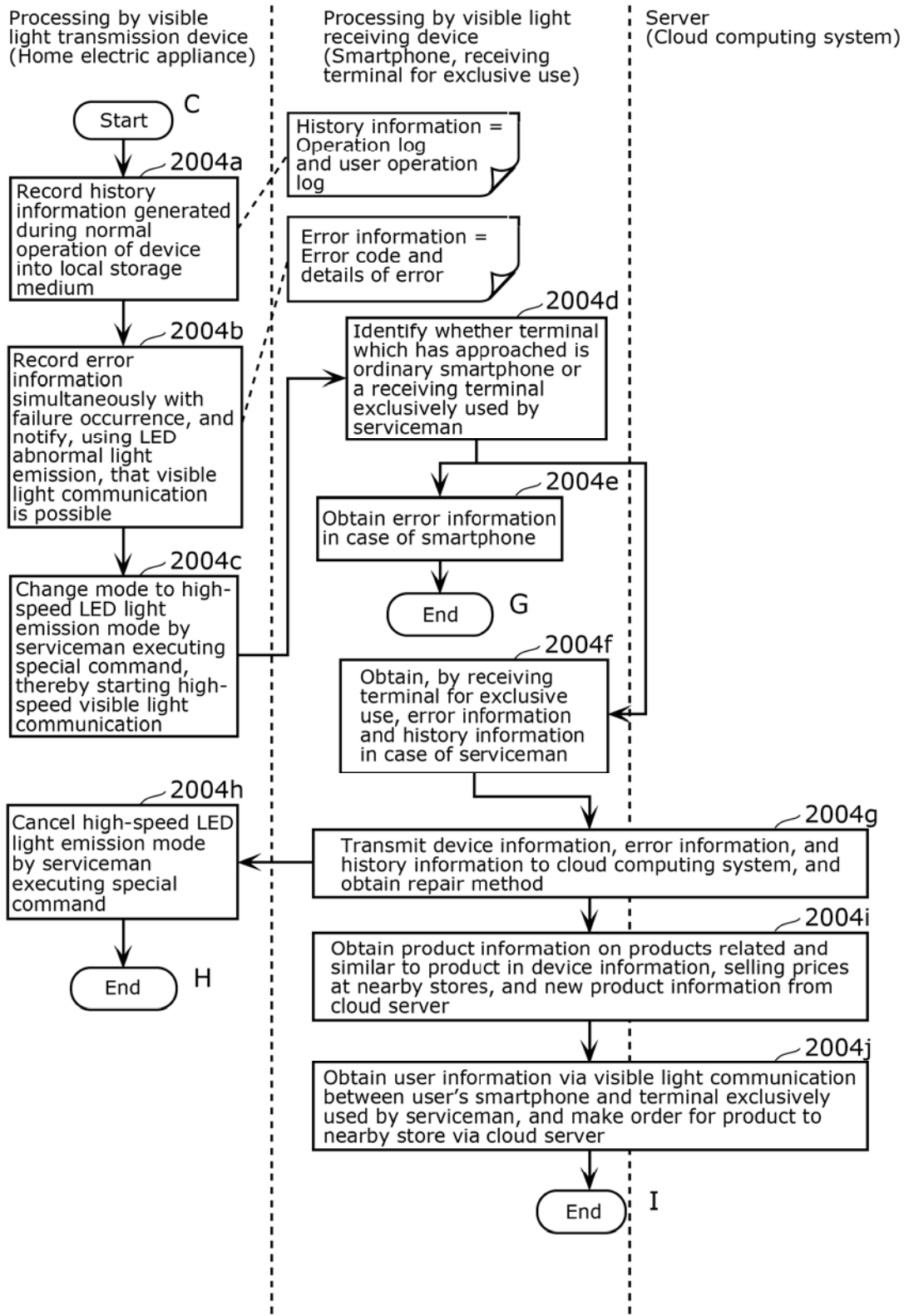


FIG. 137

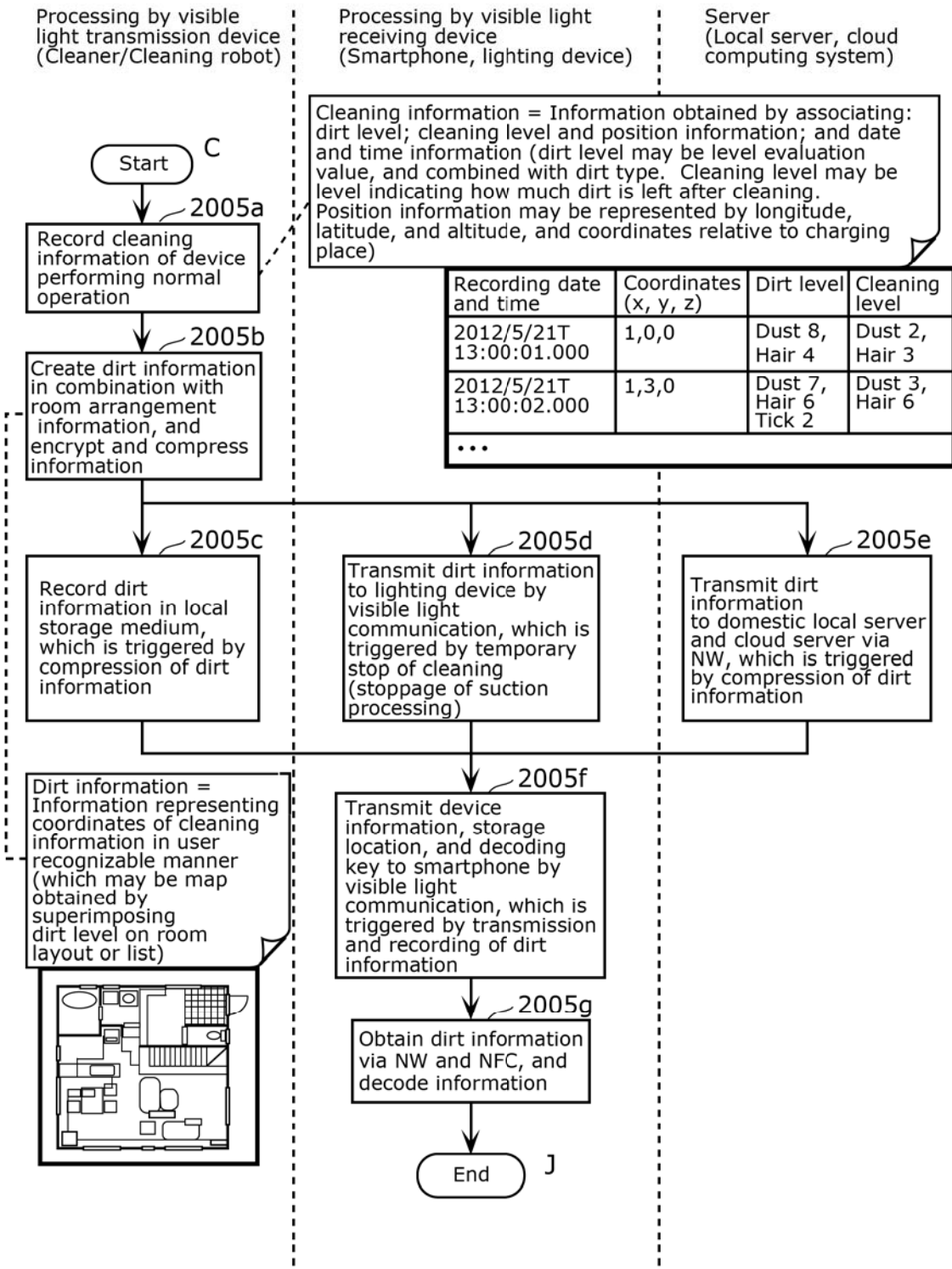


FIG. 138

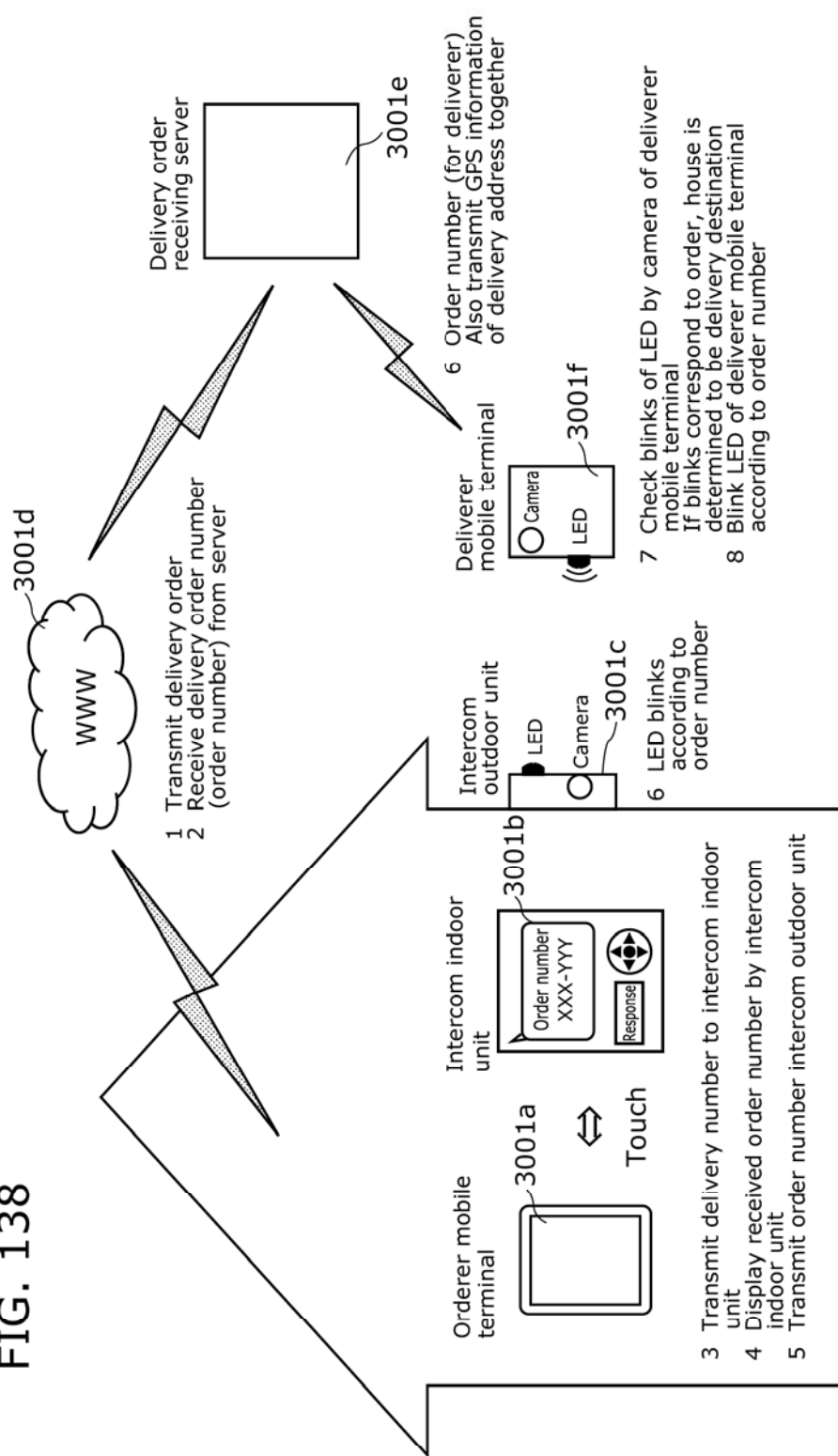


FIG. 139

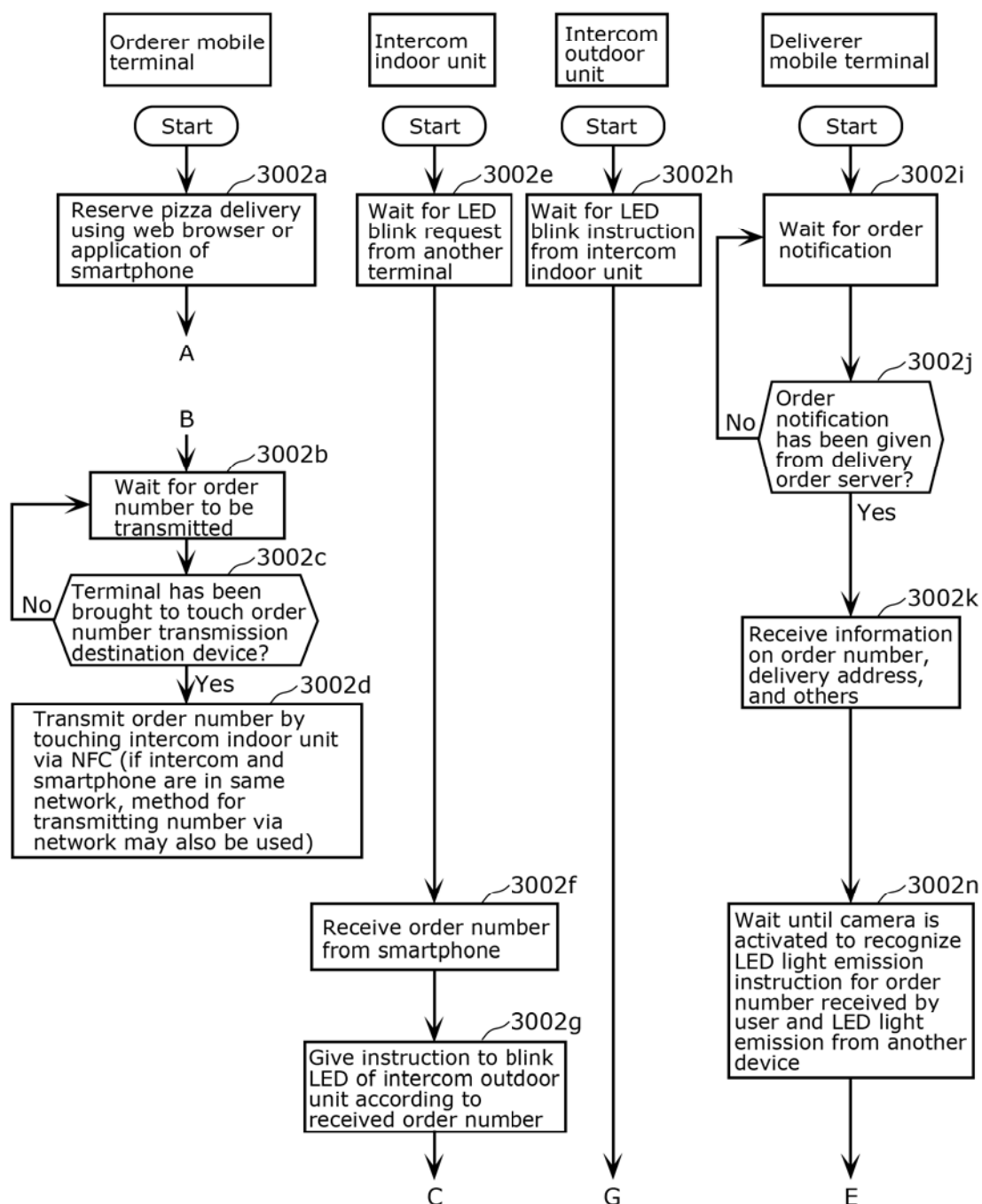


FIG. 140

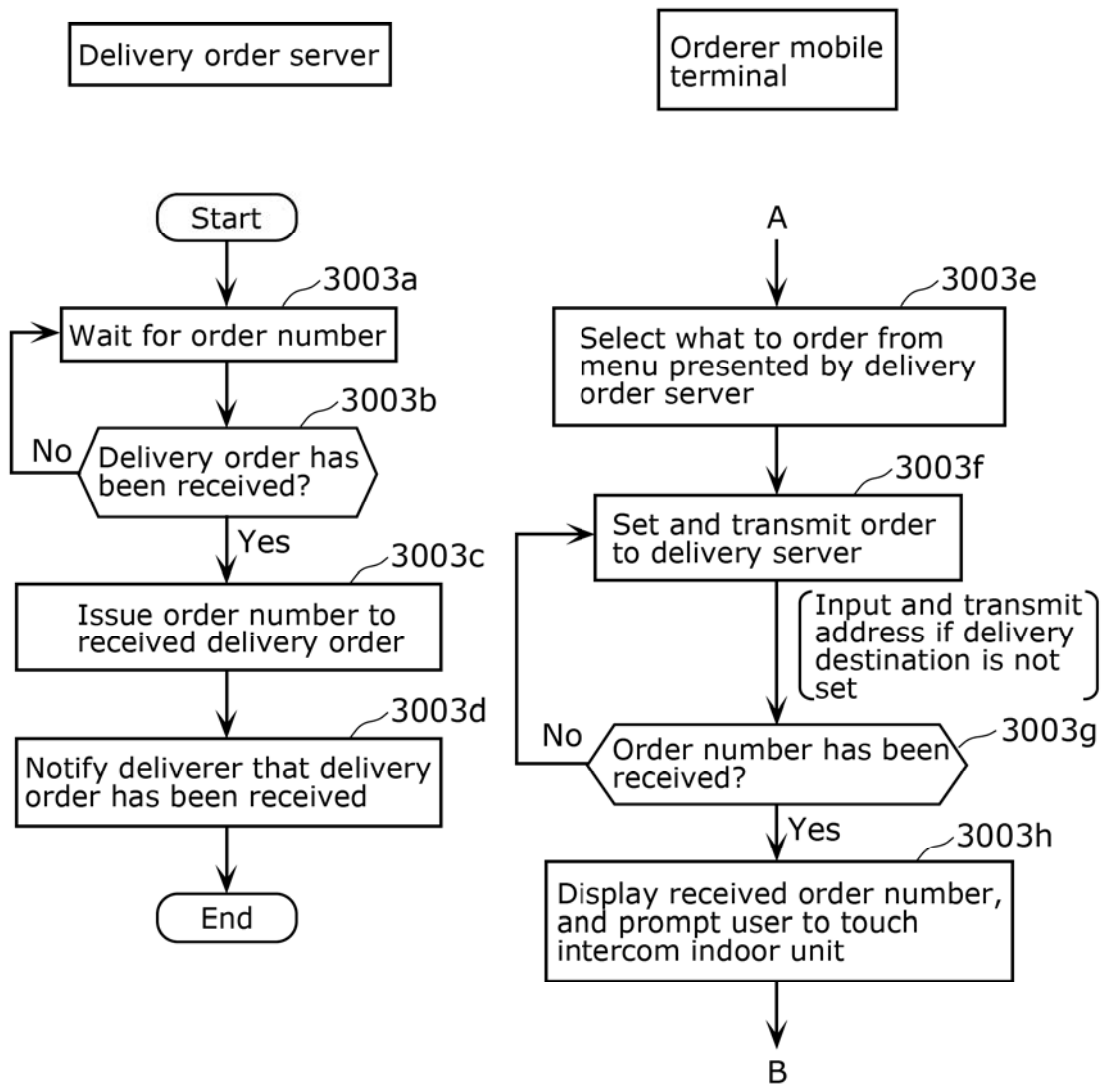


FIG. 141

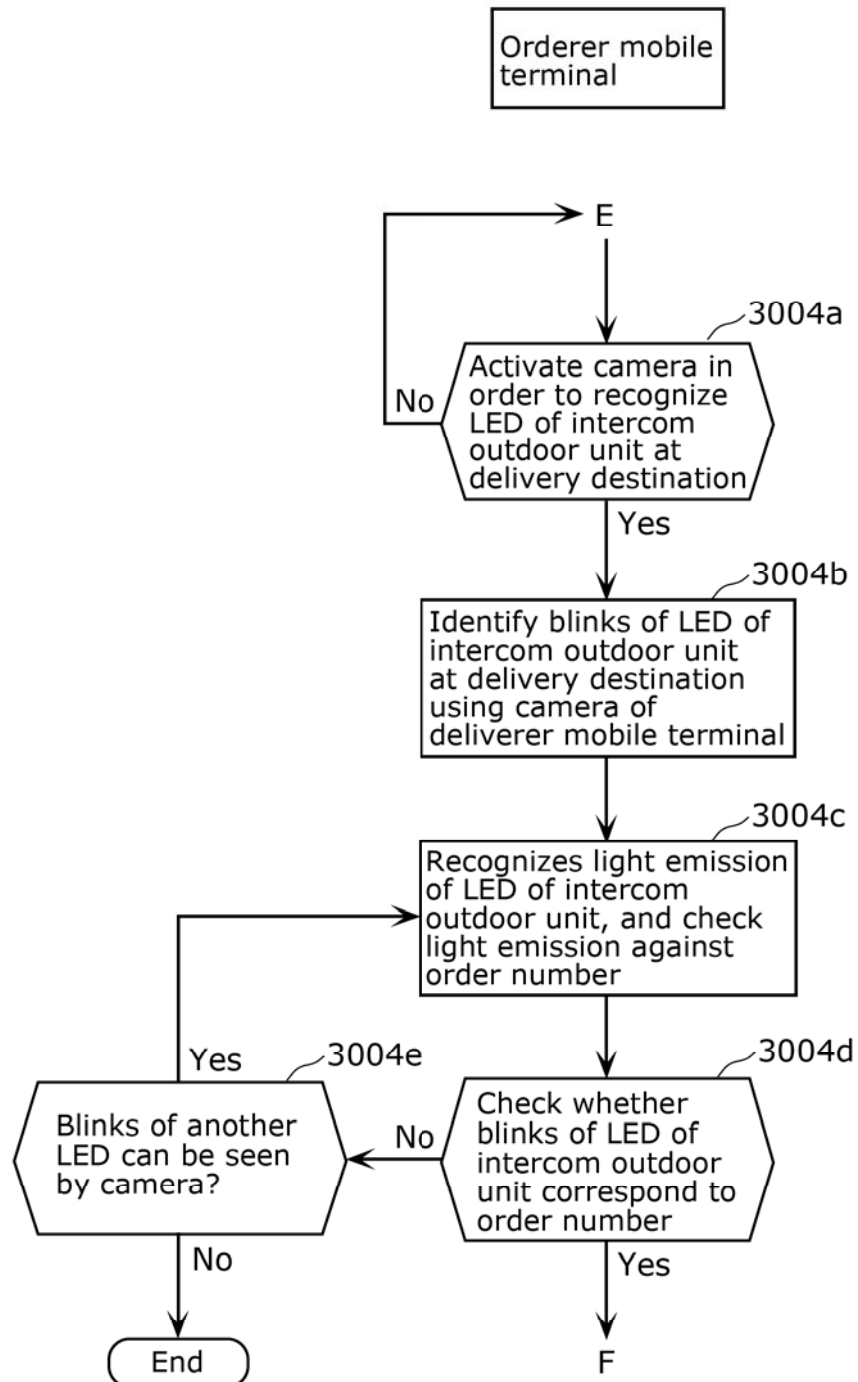


FIG. 142

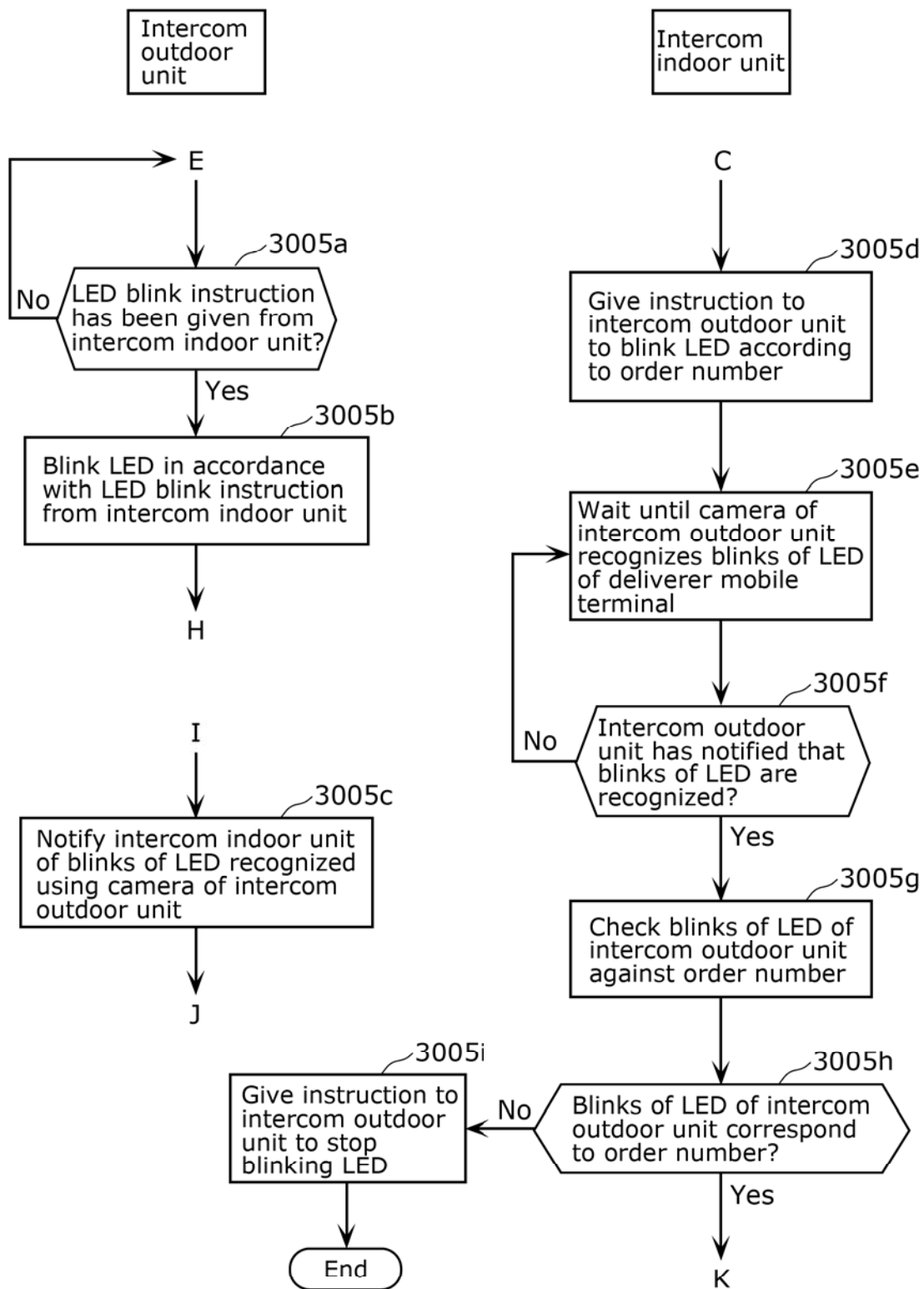


FIG. 143

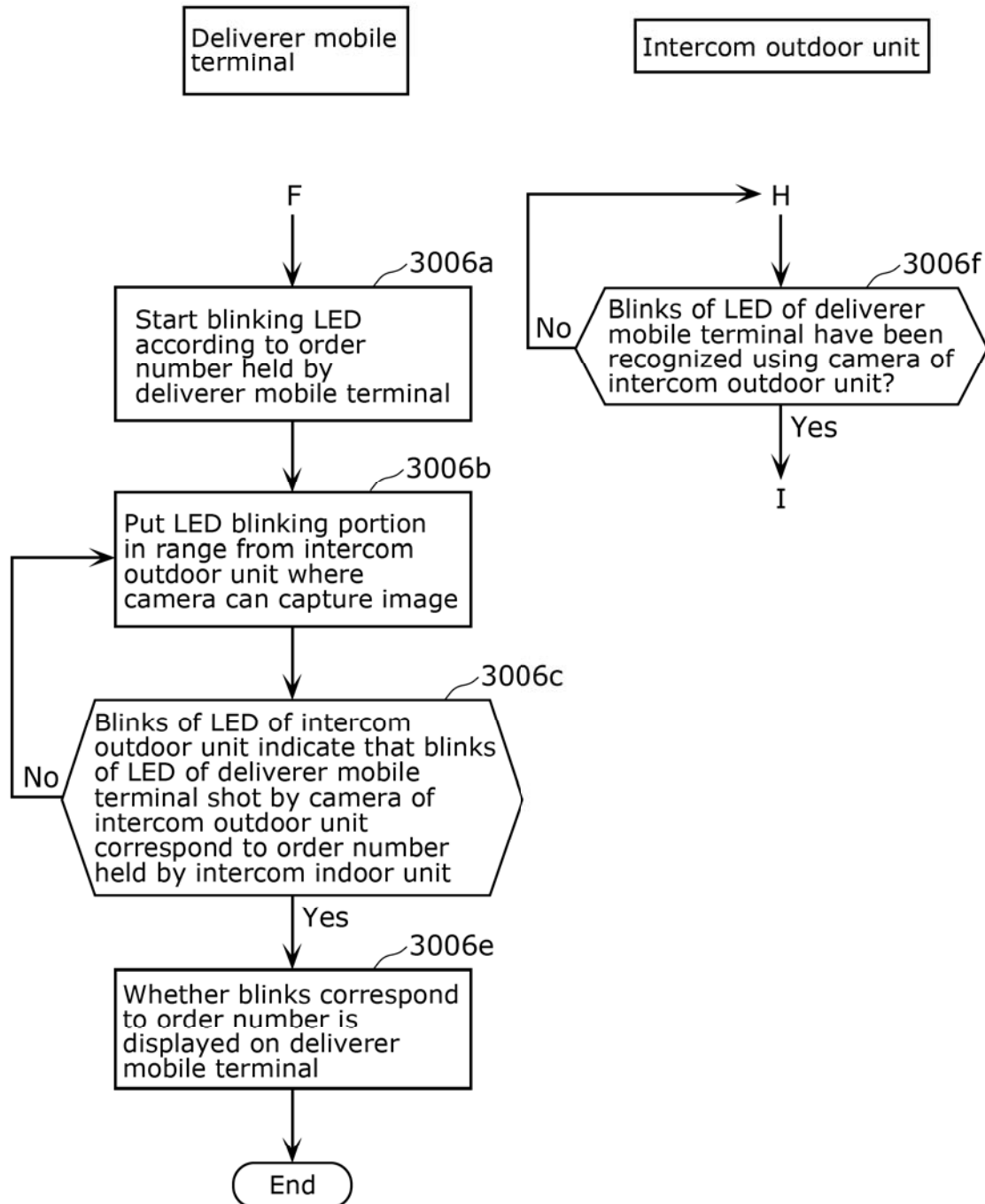


FIG. 144

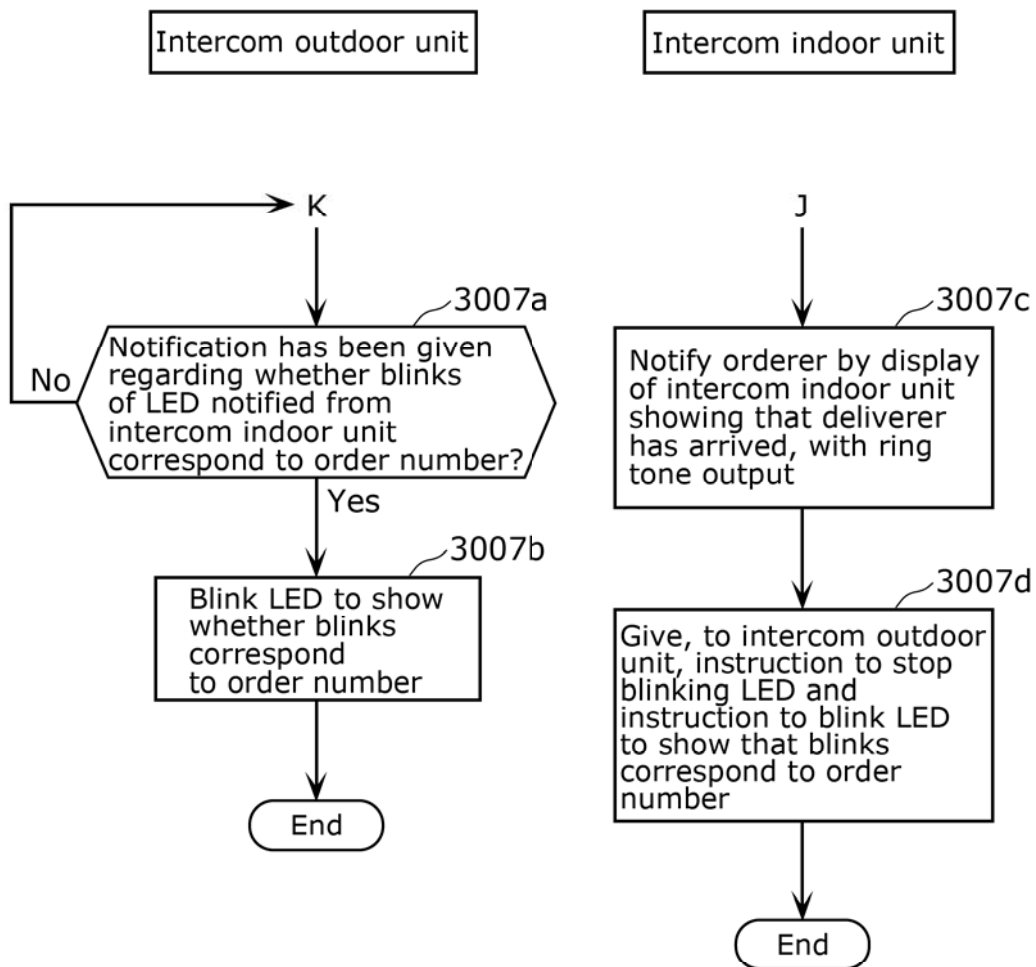


FIG. 145

Register user and mobile phone in use to server

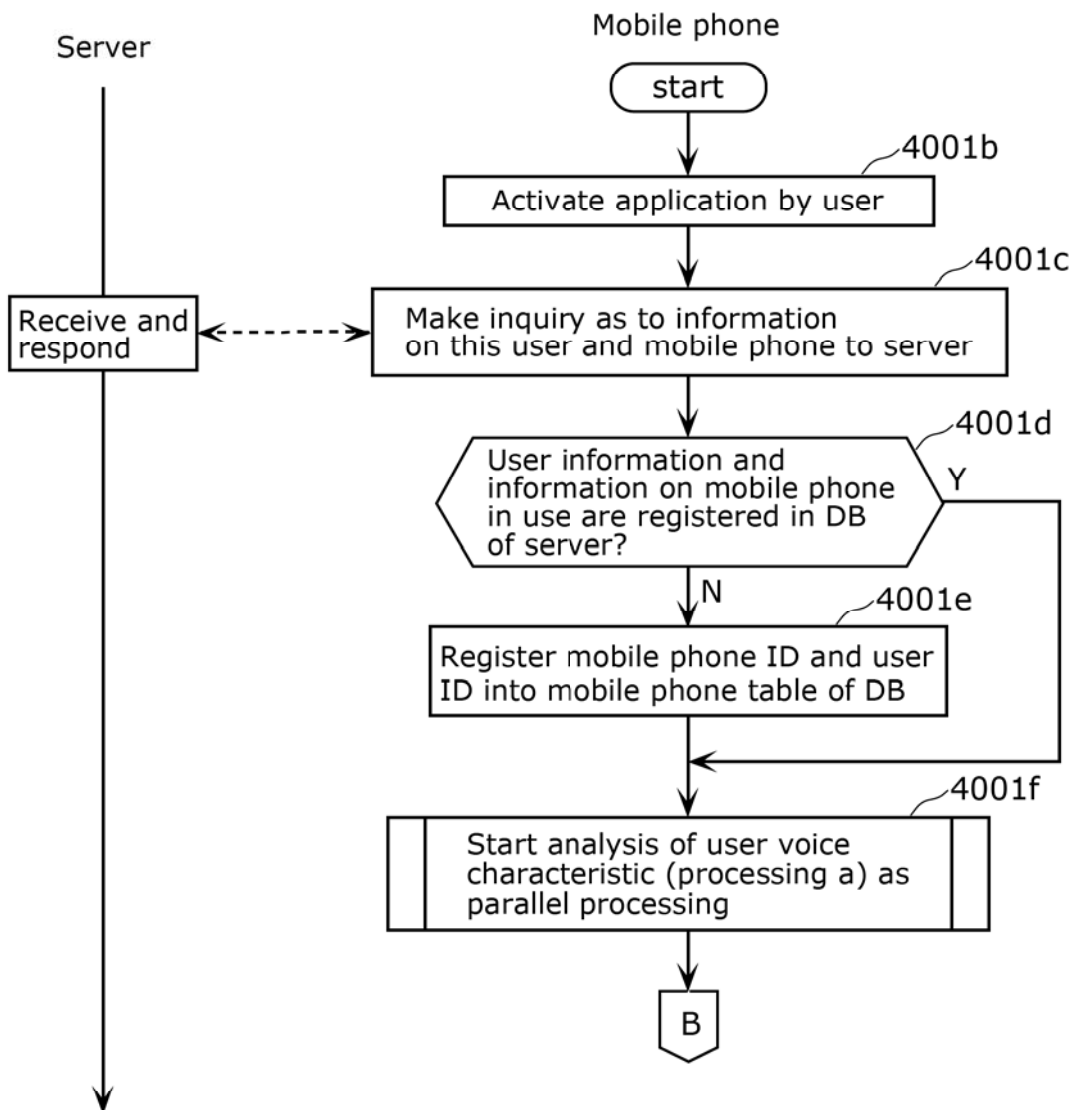


FIG. 146

(Processing a) Analyze user voice characteristics

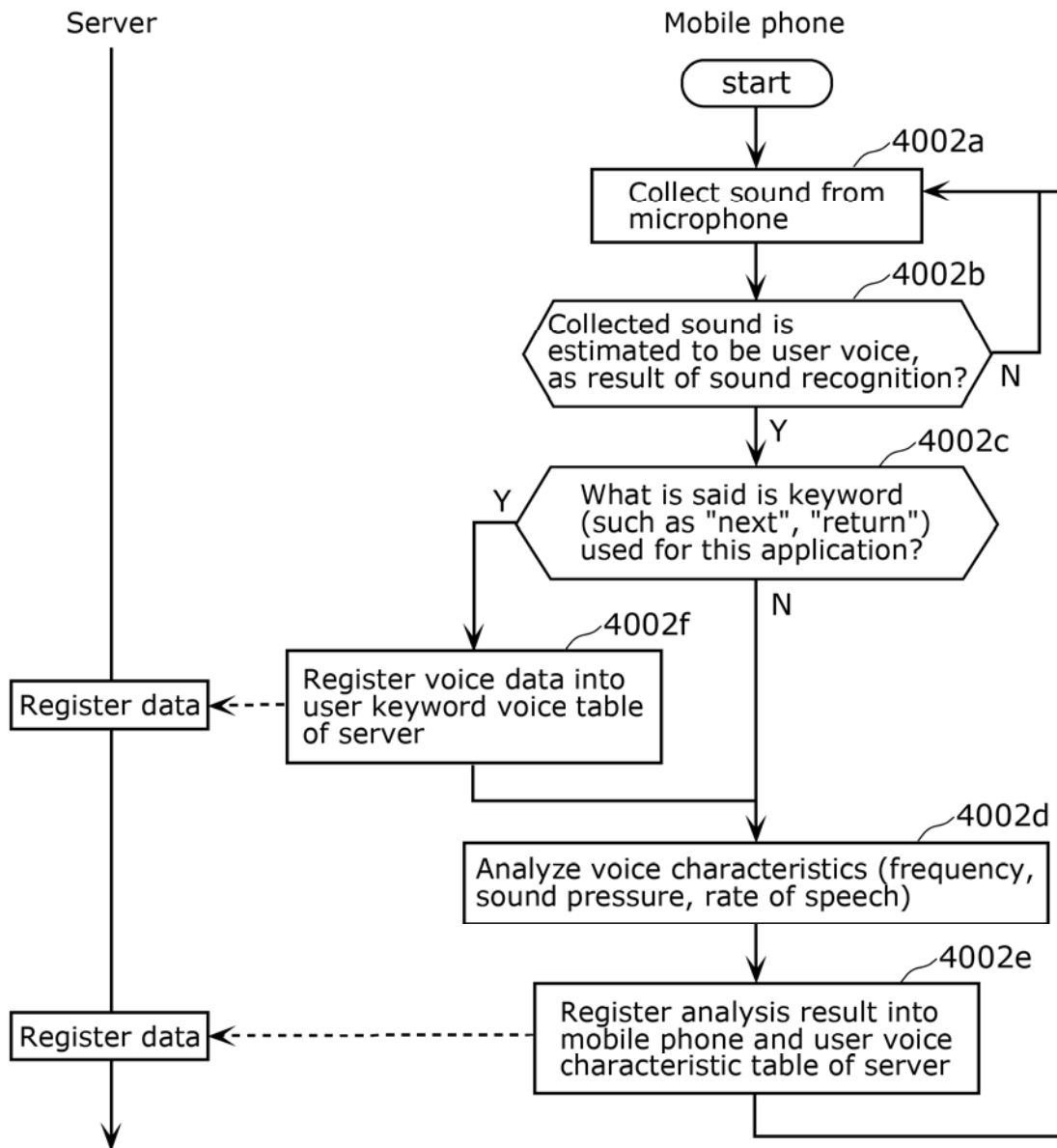


FIG. 147

Prepare sound recognition processing

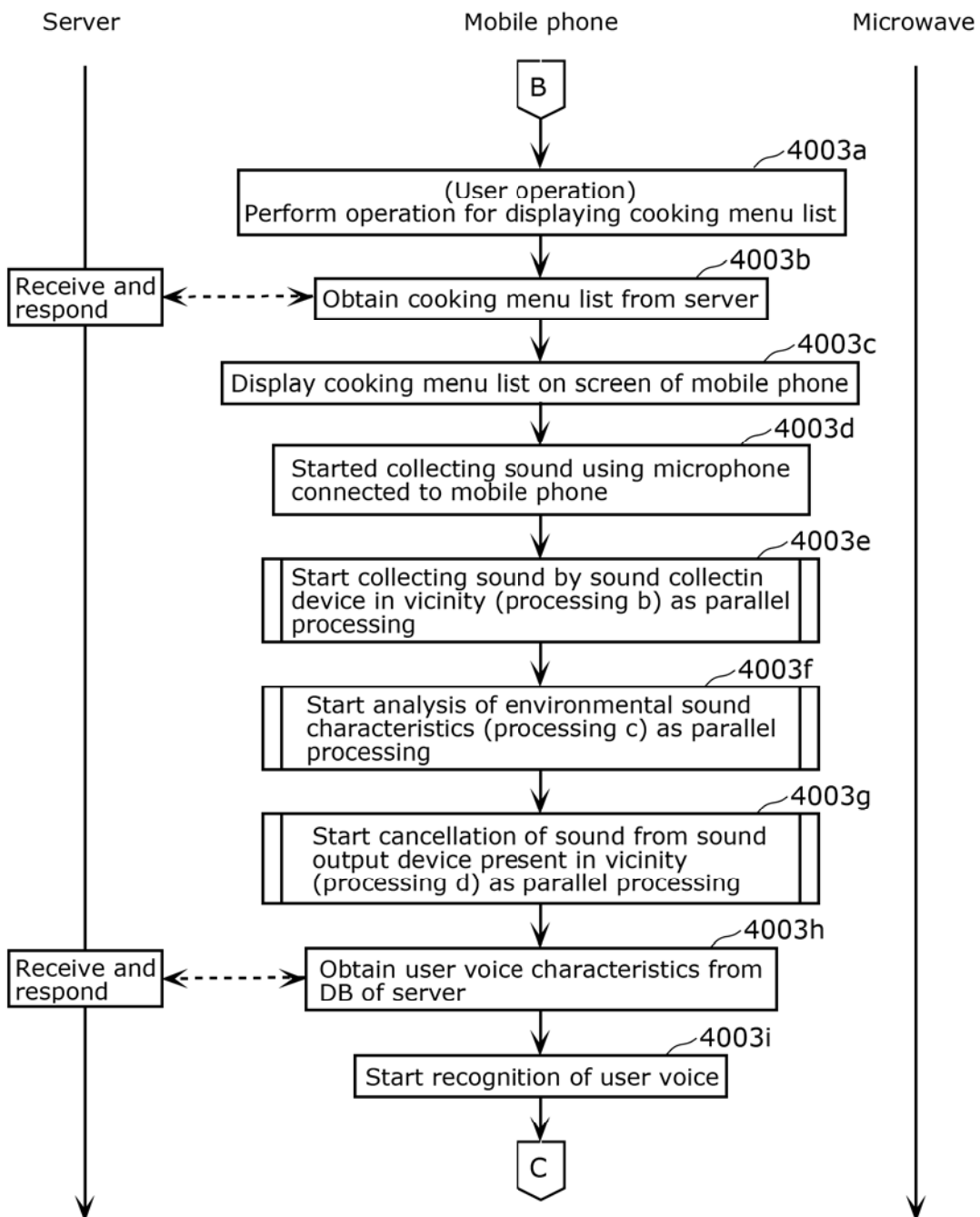


FIG. 148

(Processing b) Collect sound by sound collecting device in vicinity

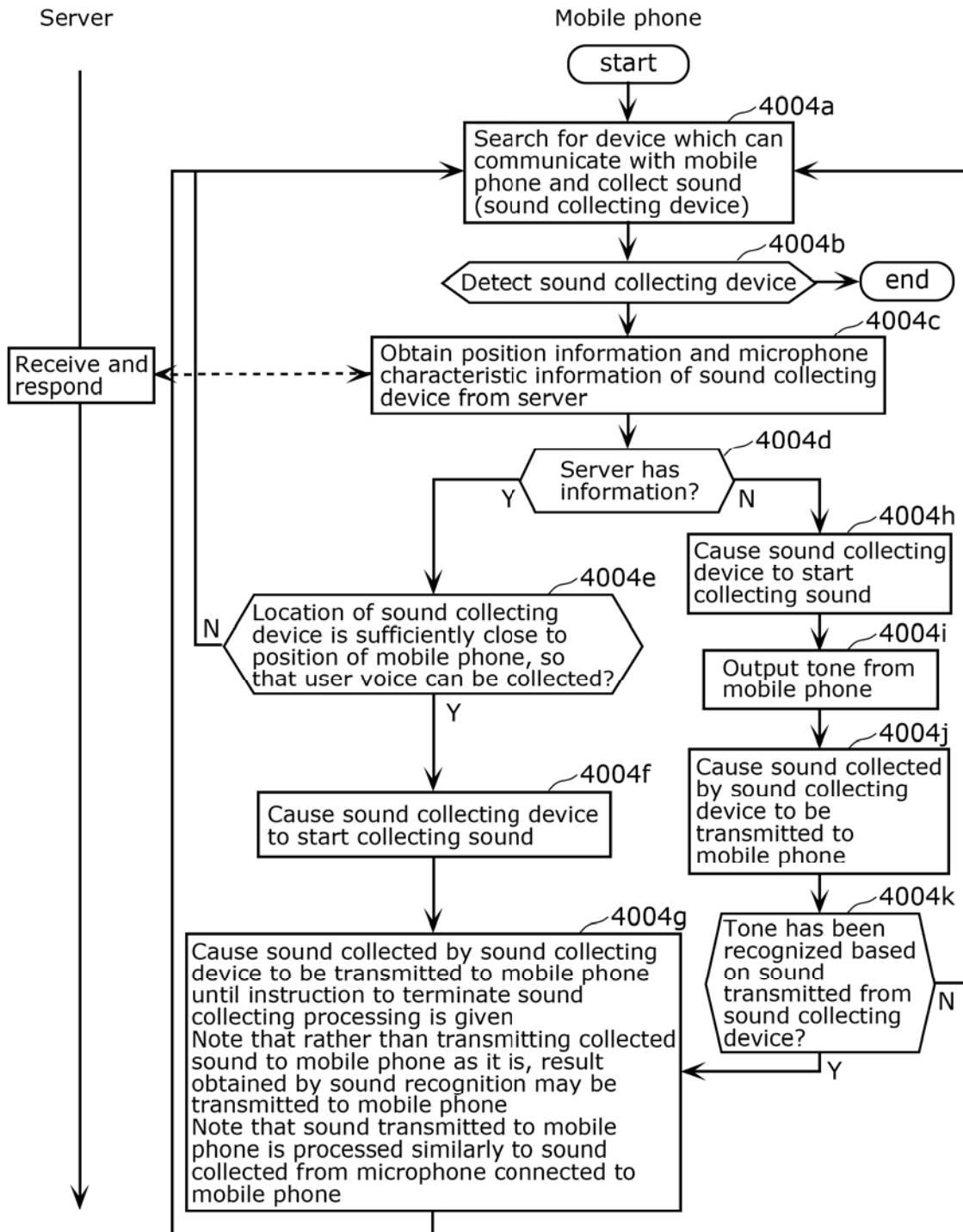


FIG. 149

(Processing c) Analyze environmental sound characteristics

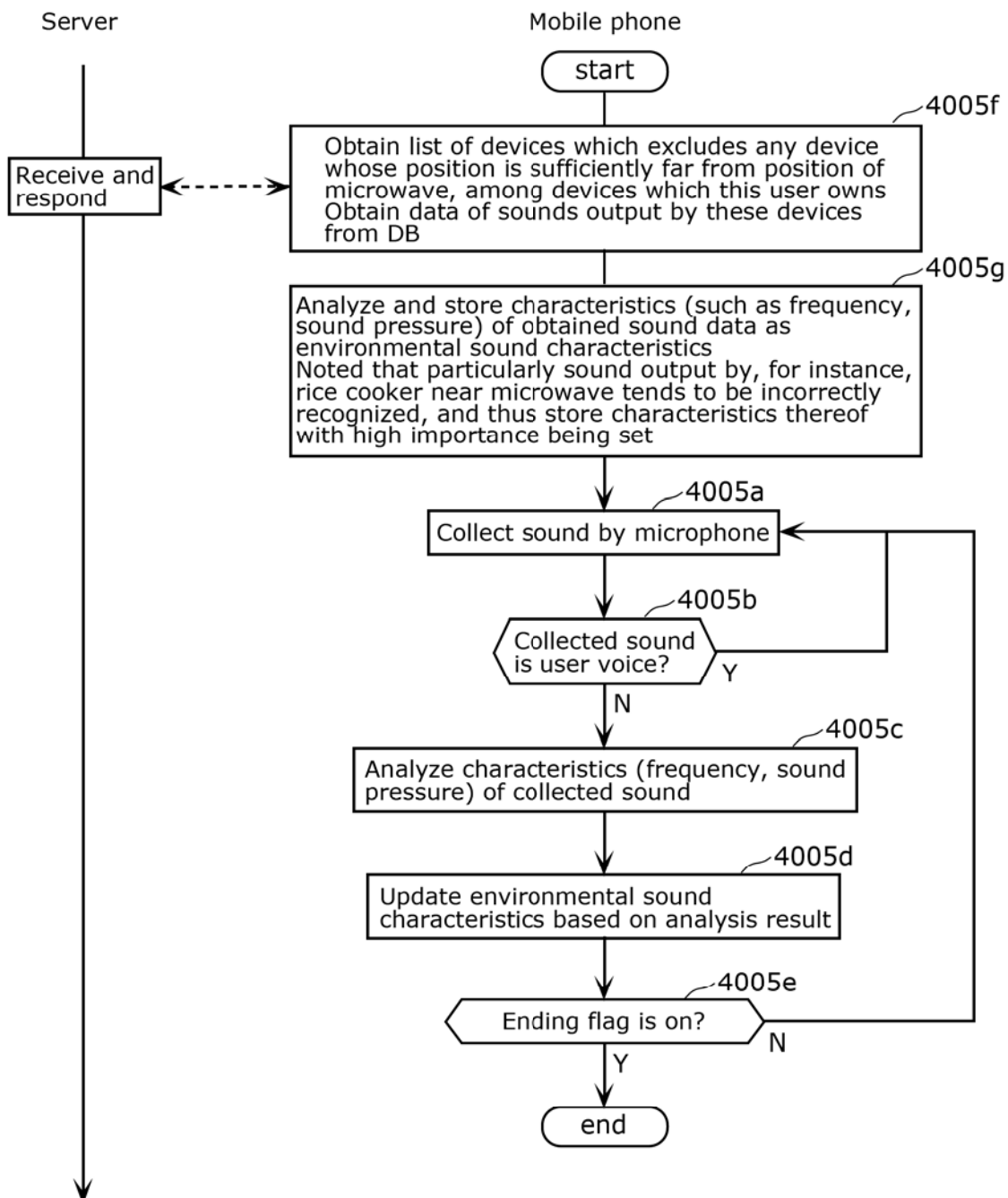


FIG. 150

(Processing d) Cancel sound from sound output device present in vicinity

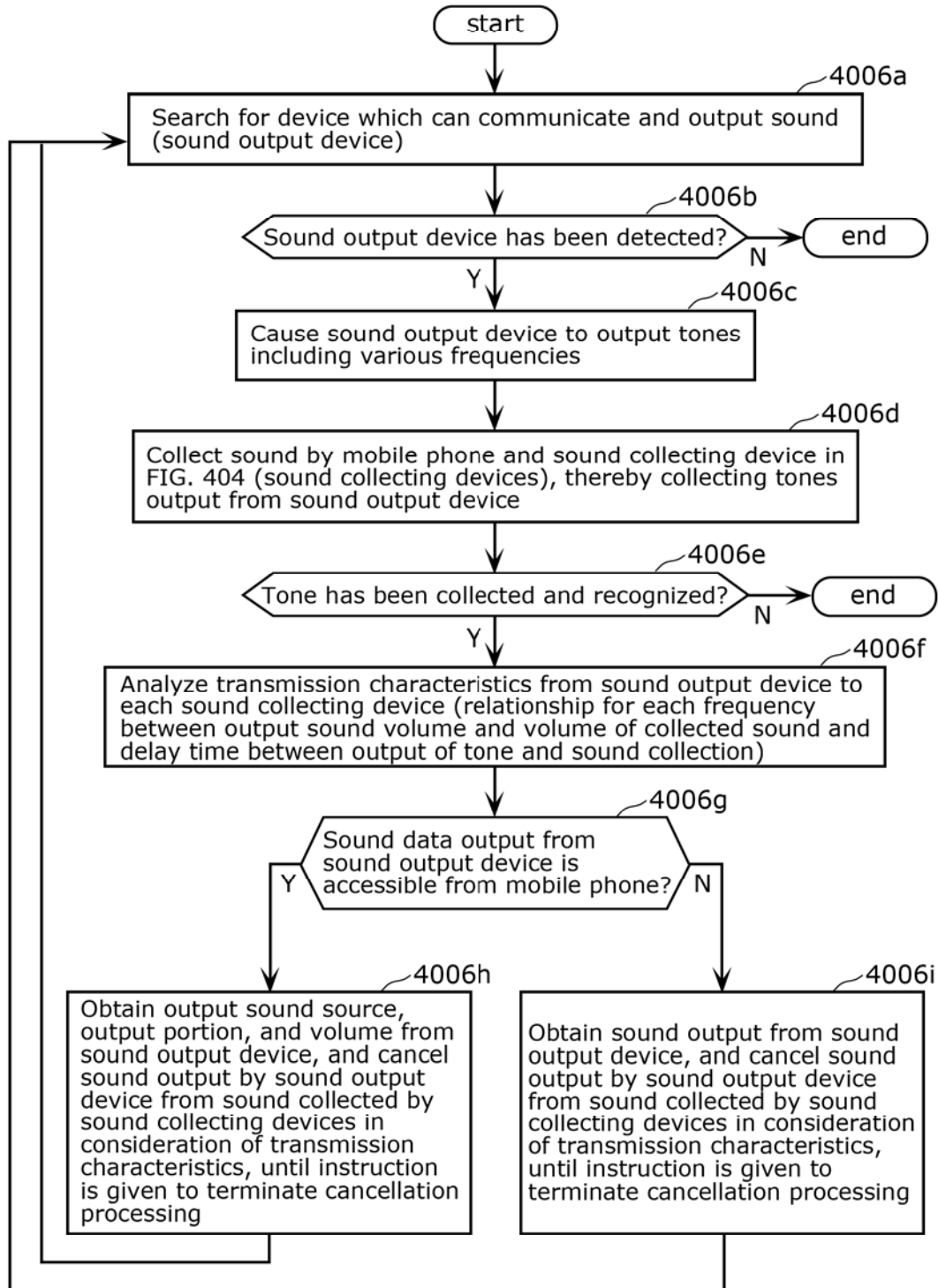


FIG. 151

Select what to cook, and set detailed operation in microwave

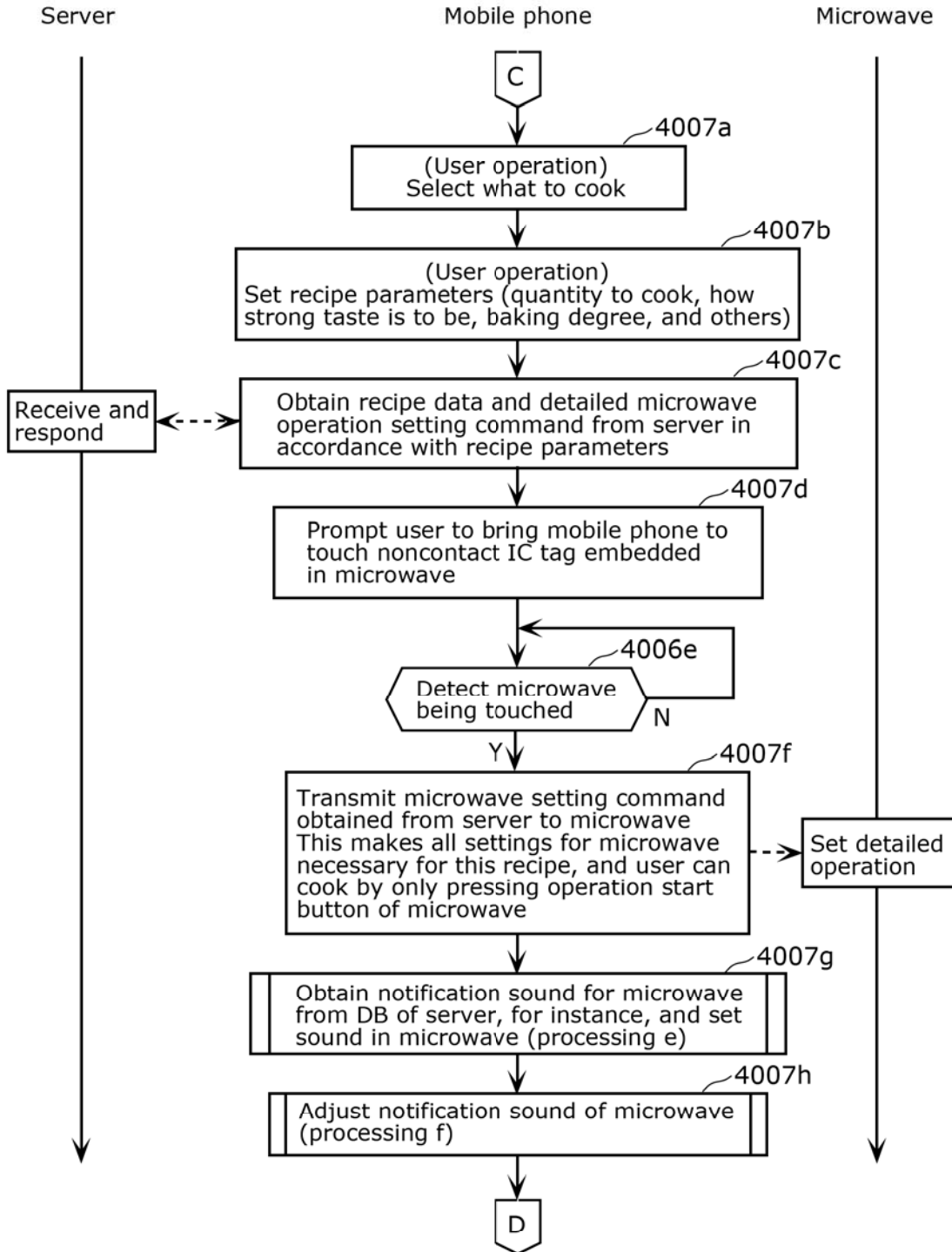


FIG. 152

(Processing e) Obtain notification sound for microwave from DB of server, for instance, and set sound in microwave

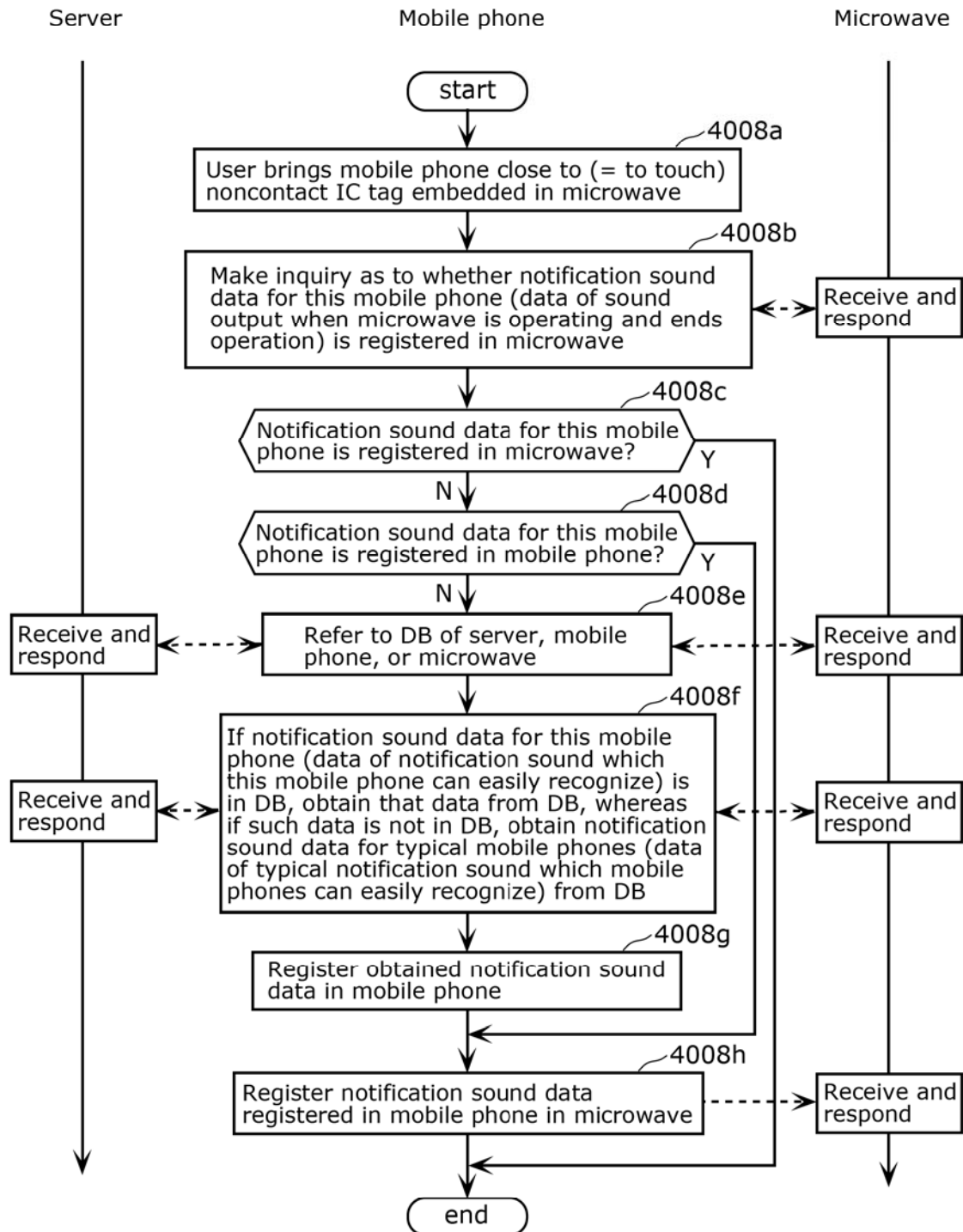


FIG. 153

(Processing f) Adjust notification sound of microwave

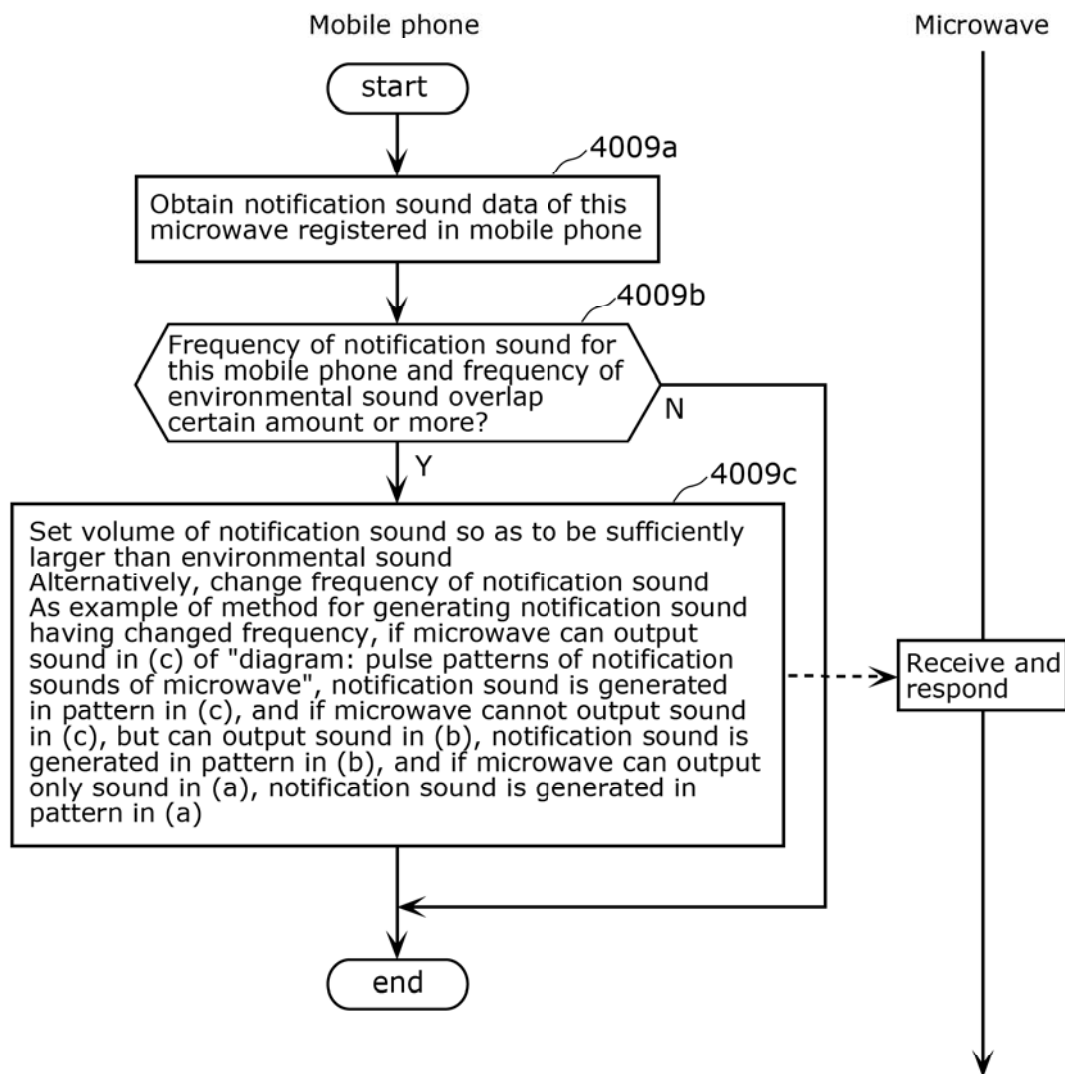


FIG. 154

Diagram: Pulse patterns of notification sounds of microwave

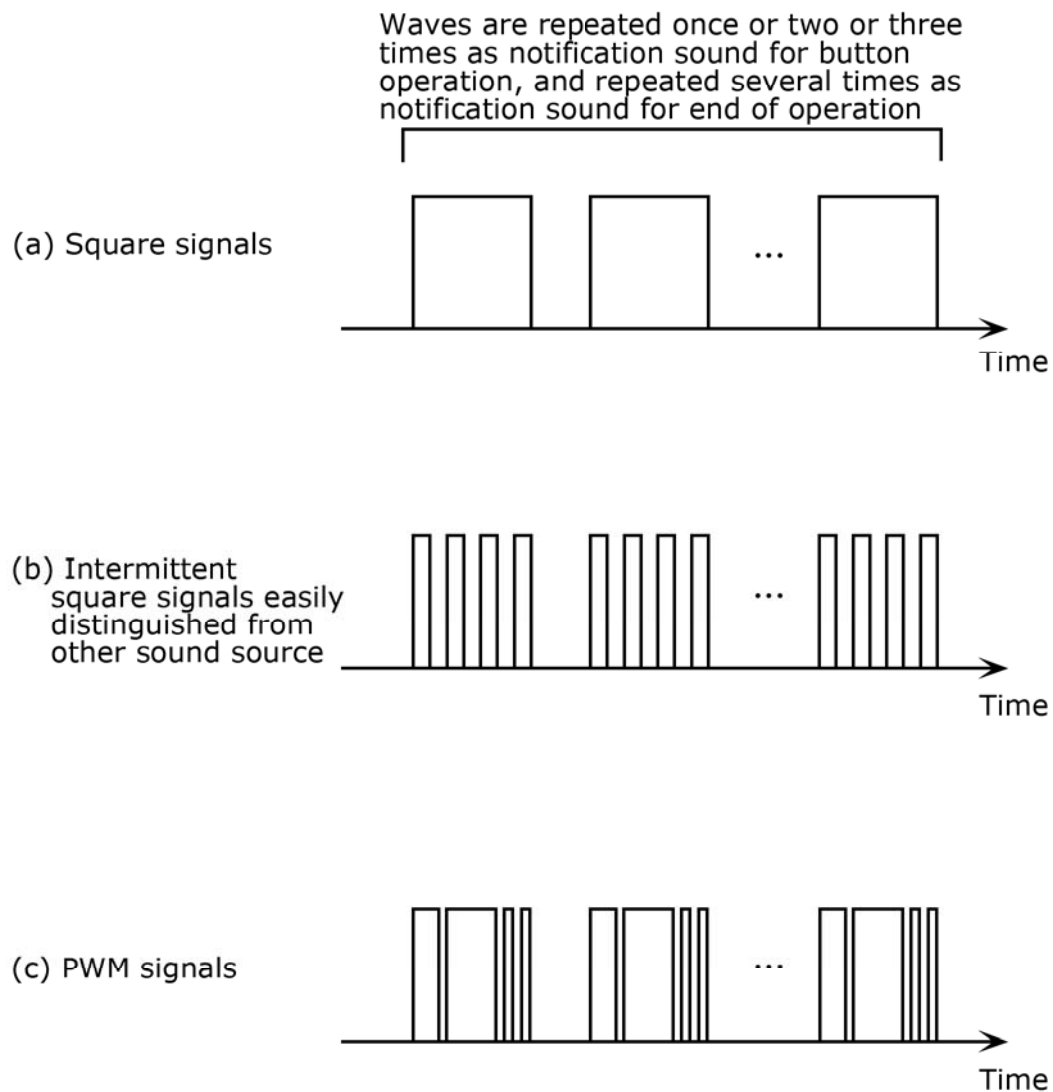


FIG. 155

Display details of cooking

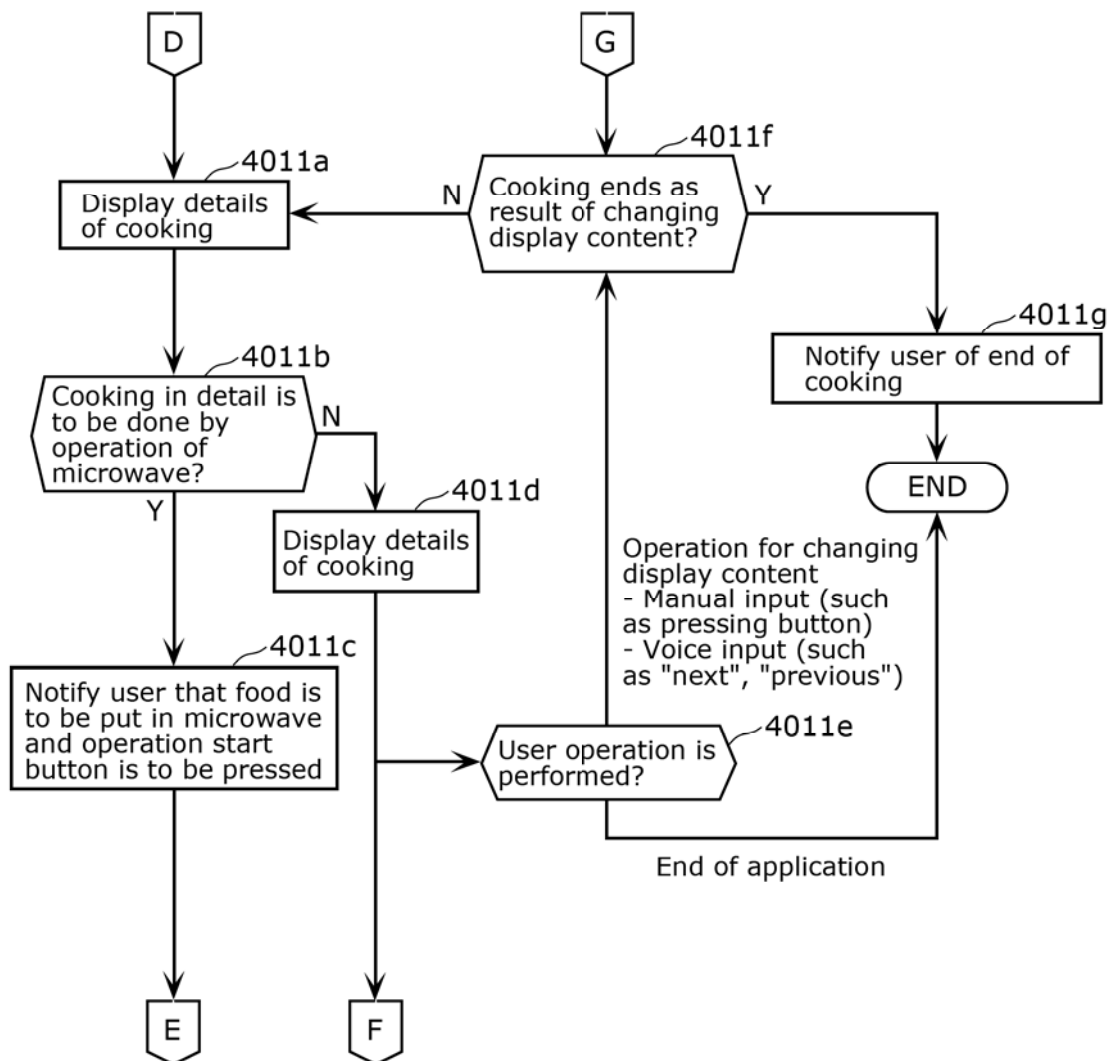
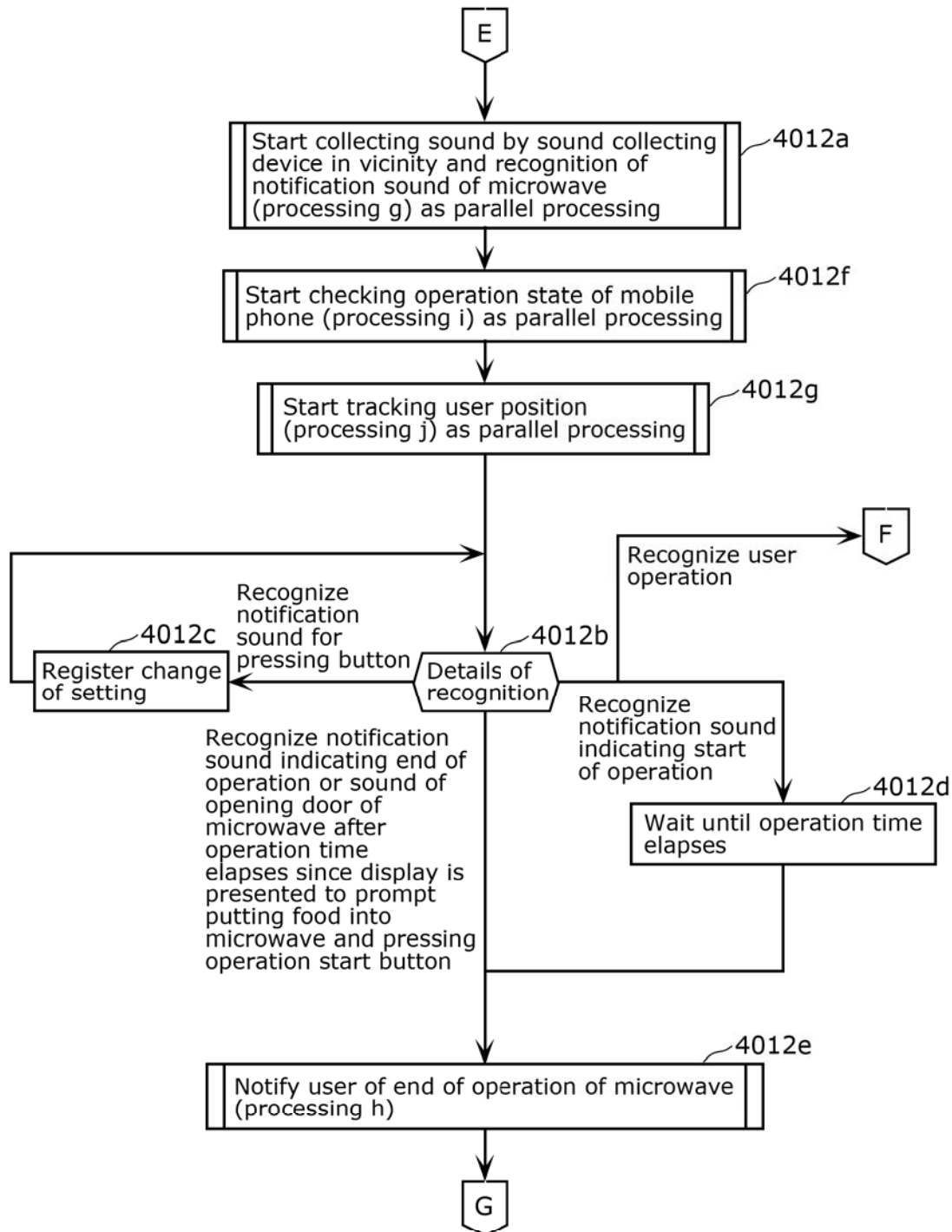


FIG. 156

Recognize notification sound of microwave



(Processing g) Collect sound by sound collecting device in vicinity and recognize notification sound of microwave

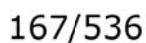


FIG. 158

(Processing h) Notify user of end of operation of microwave

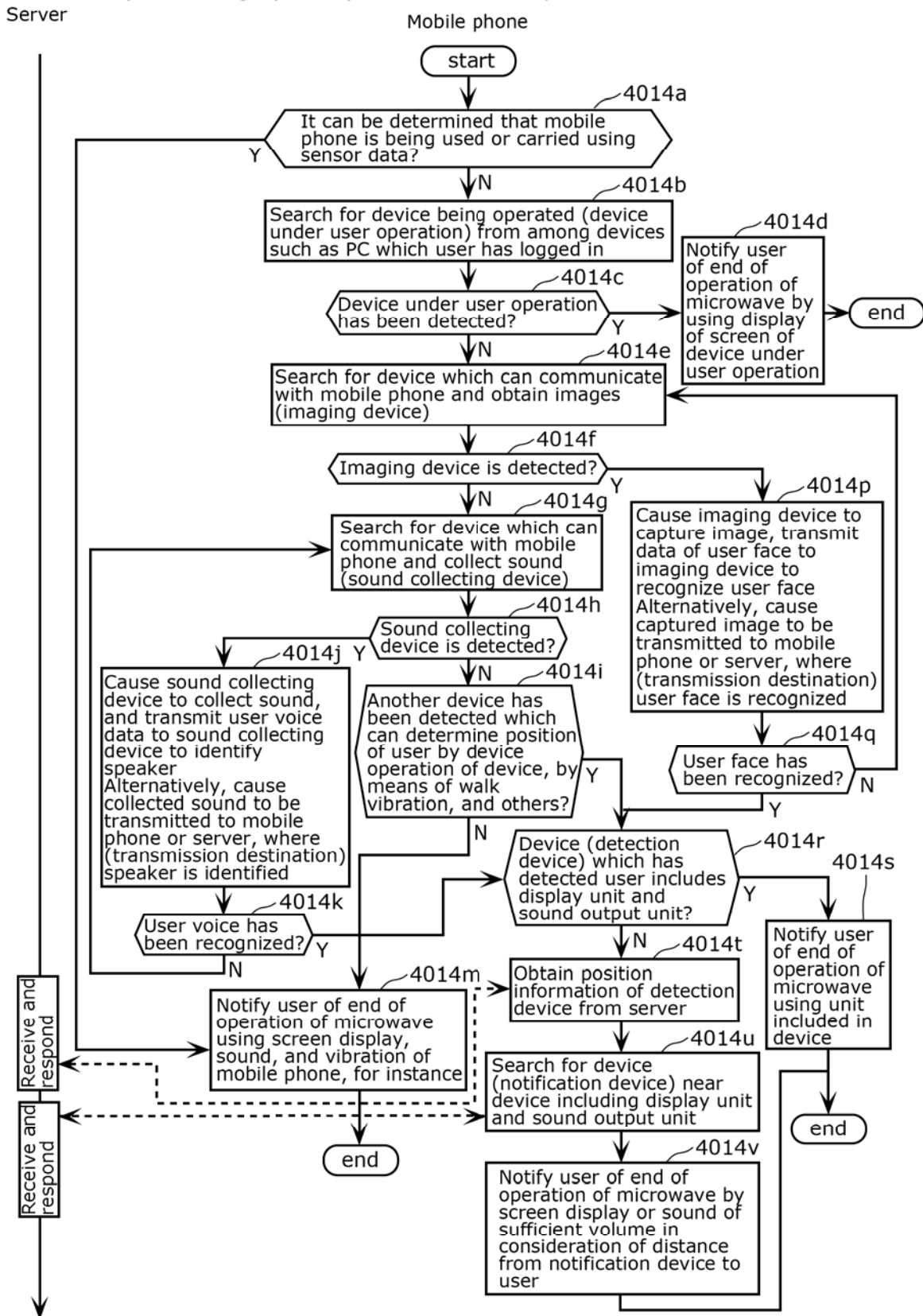


FIG. 159

(Processing i) Check operation state of mobile phone

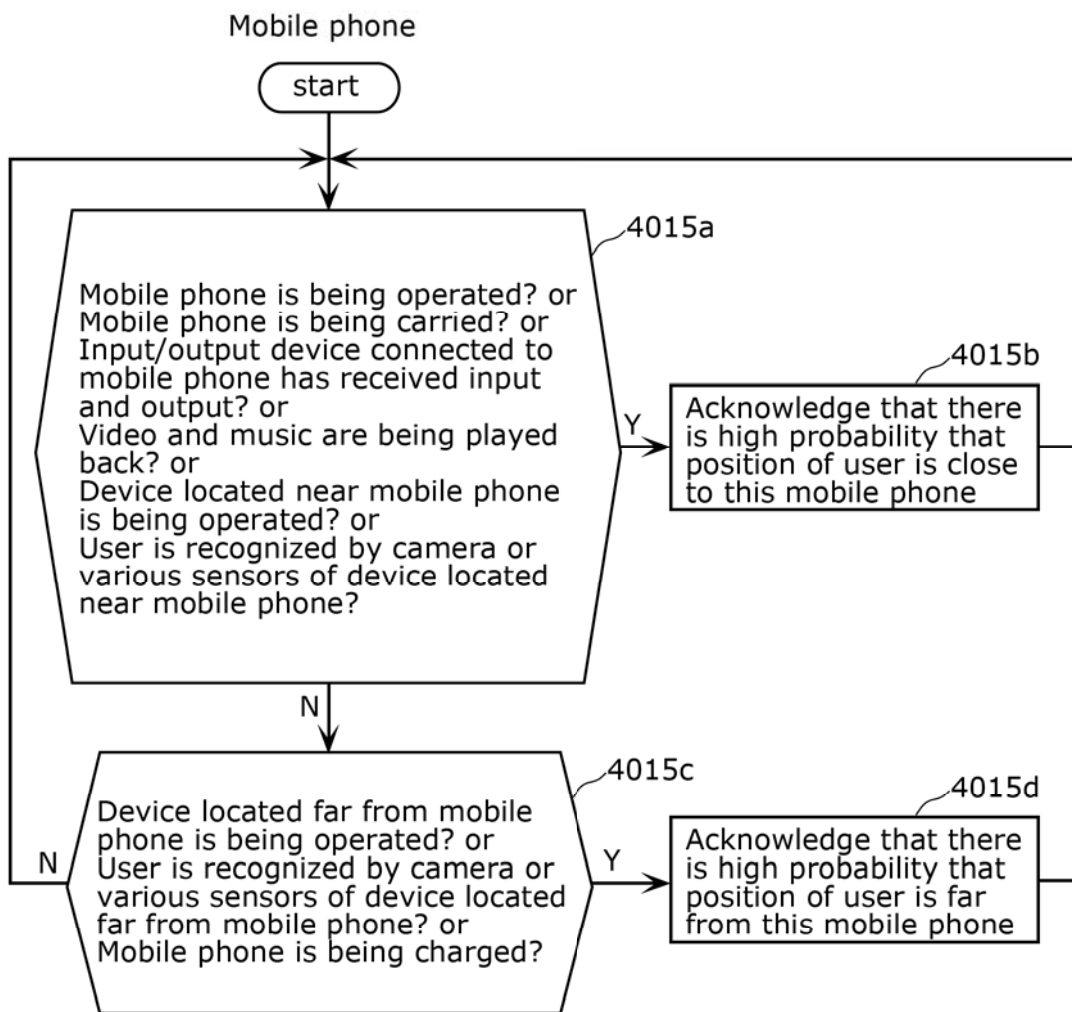


FIG. 160

(Processing j) Track user position

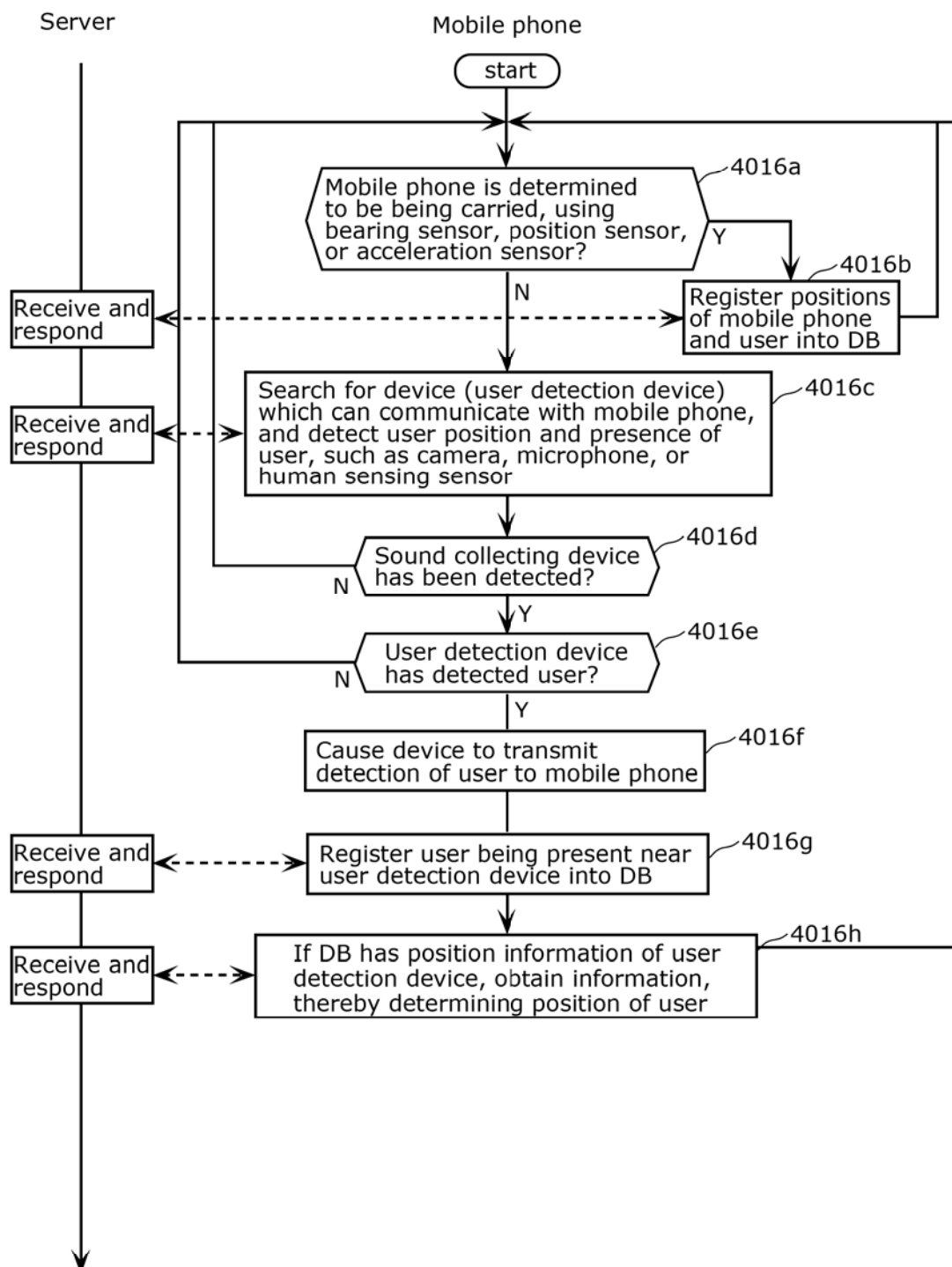


FIG. 161

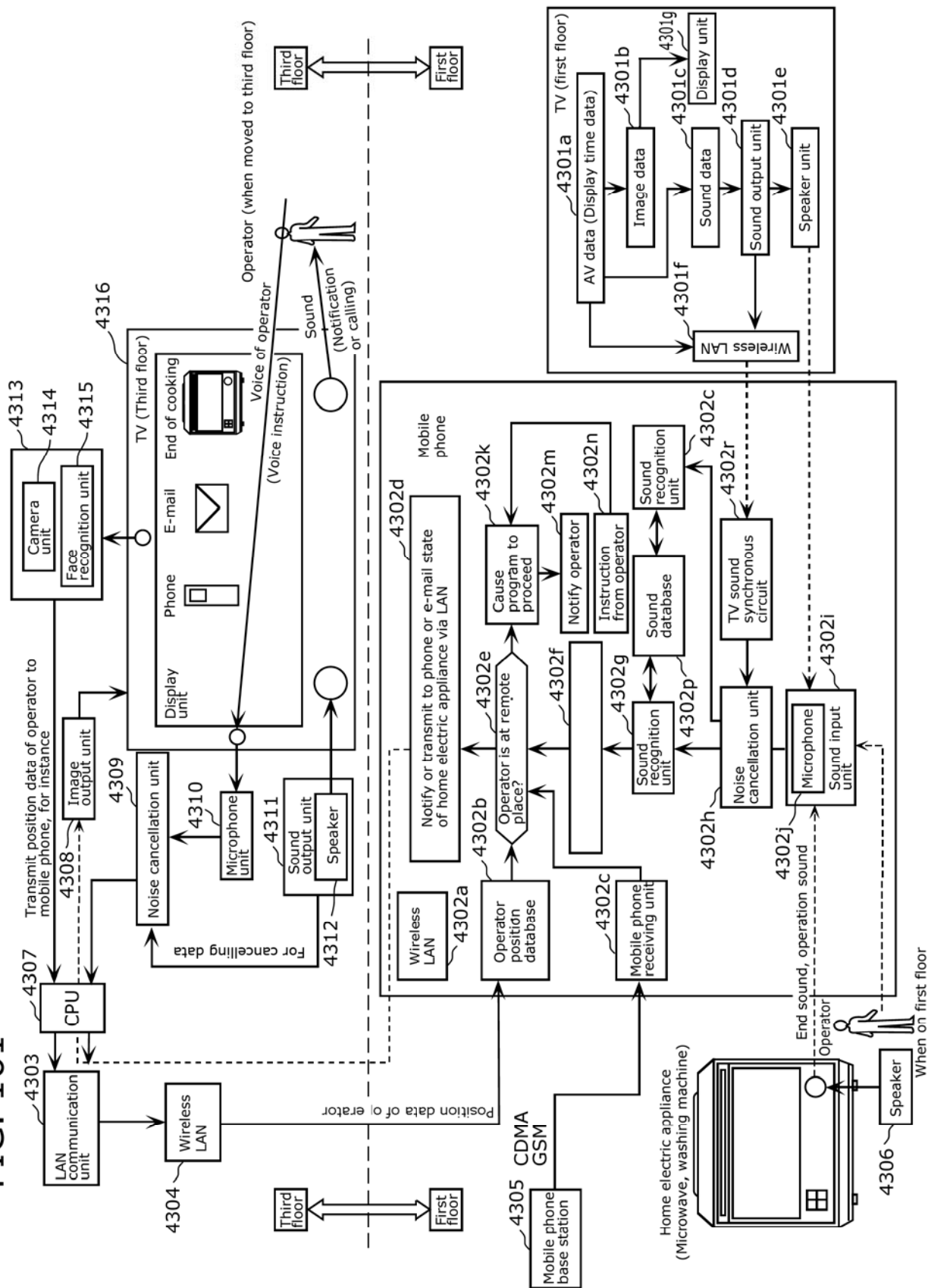


FIG. 162

Database

Microwave table 4040a					
Model ID of microwave	Data for identifying sound which can be output by microwave (speaker characteristics and modulation method, for instance)	Notification sound data for mobile phone model A (sound easily recognized by A)	Notification sound data for mobile phone model B (sound easily recognized by B)	...	Notification sound data for typical mobile phone (sound easily recognized on average)

Mobile phone table 4040a			
Mobile phone ID	Mobile phone model ID	User ID	Mobile phone position data

Mobile phone model table 4040c	
Mobile phone model ID	Sound-collecting characteristics

User voice characteristic table 4040d	
User ID	User voice acoustic feature

User keyword voice table 4040e	
User ID	Voice waveform data obtained when user says keyword

User owned device position table 4040f		
User ID	Owned device ID	Owned device position data

User owned device sound data table 4040g		
User ID	Owned device ID	Sound data output by owned device

User position table 4040h	
User ID	User position data

FIG. 163

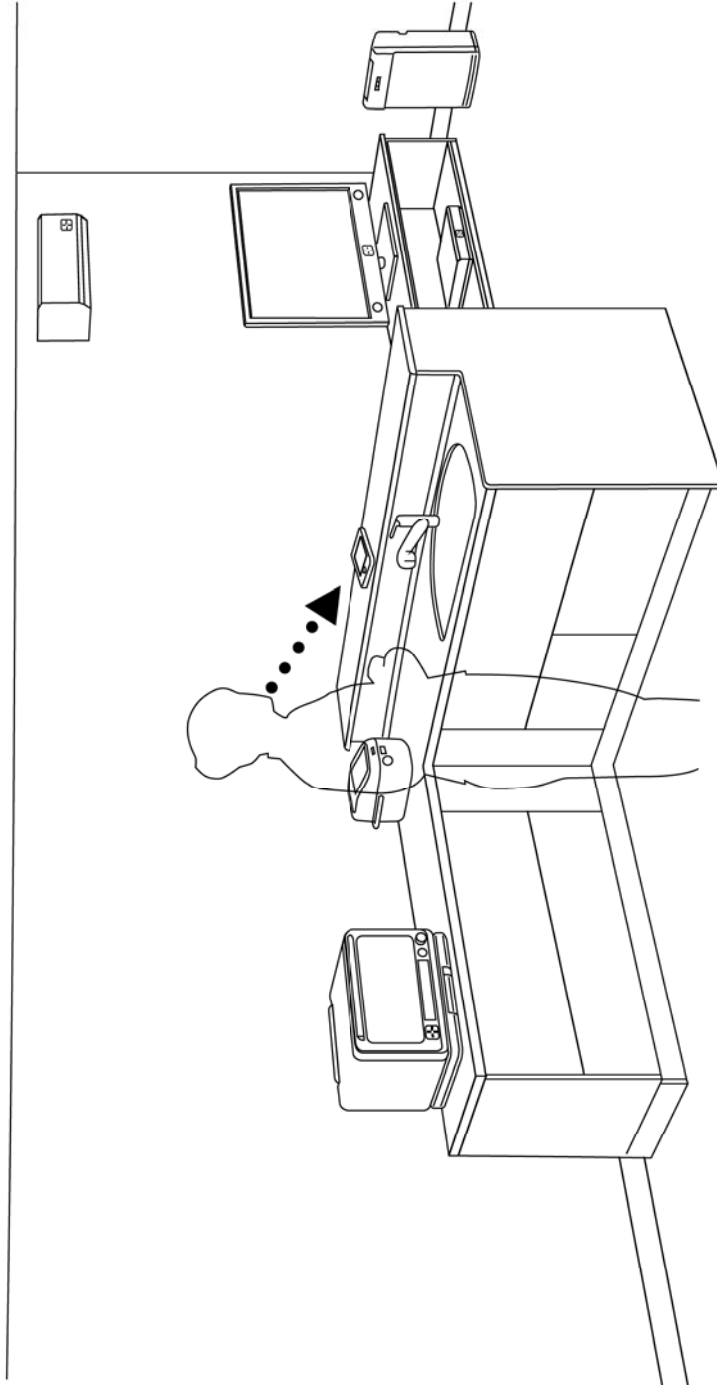


FIG. 164

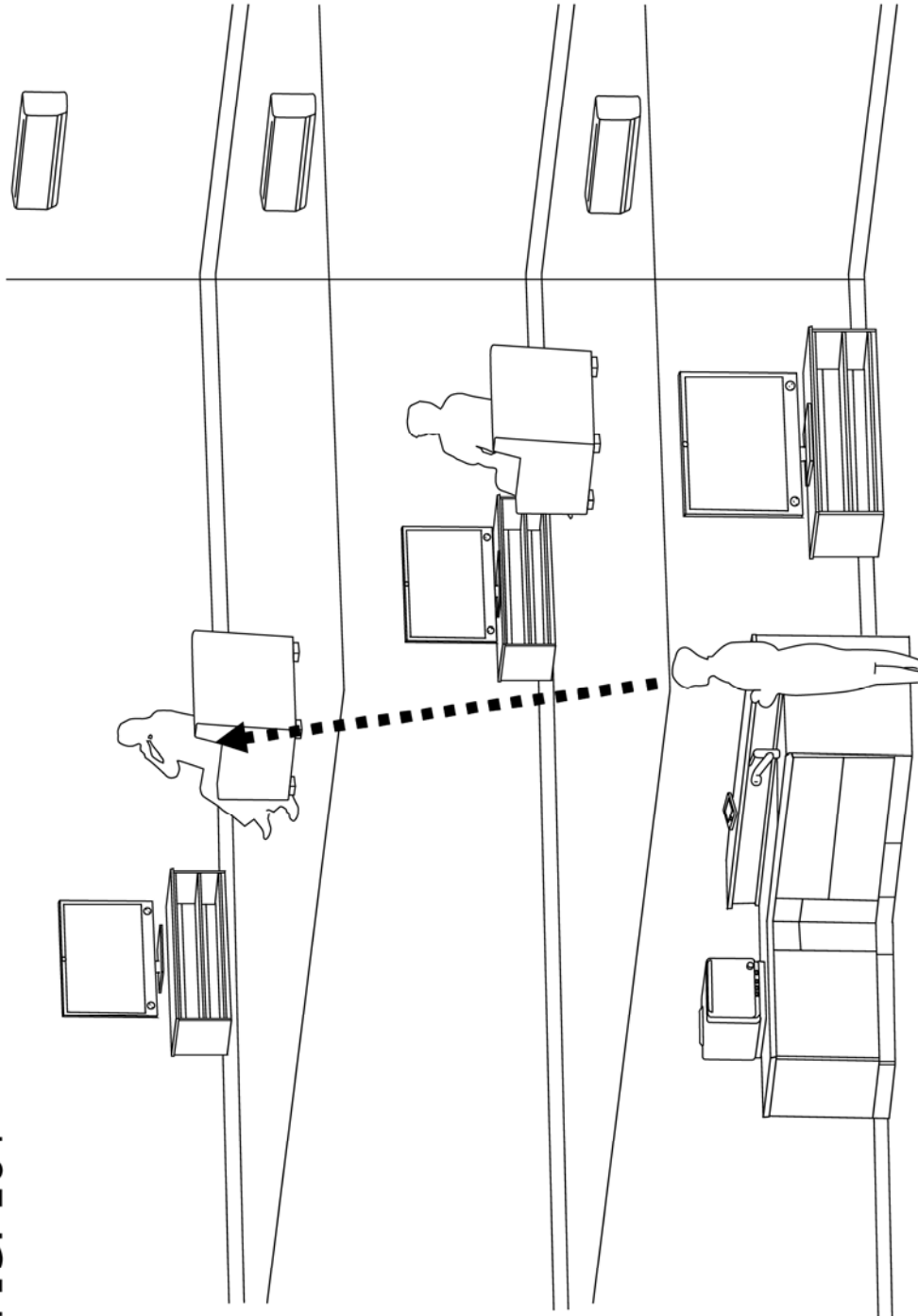


FIG. 165

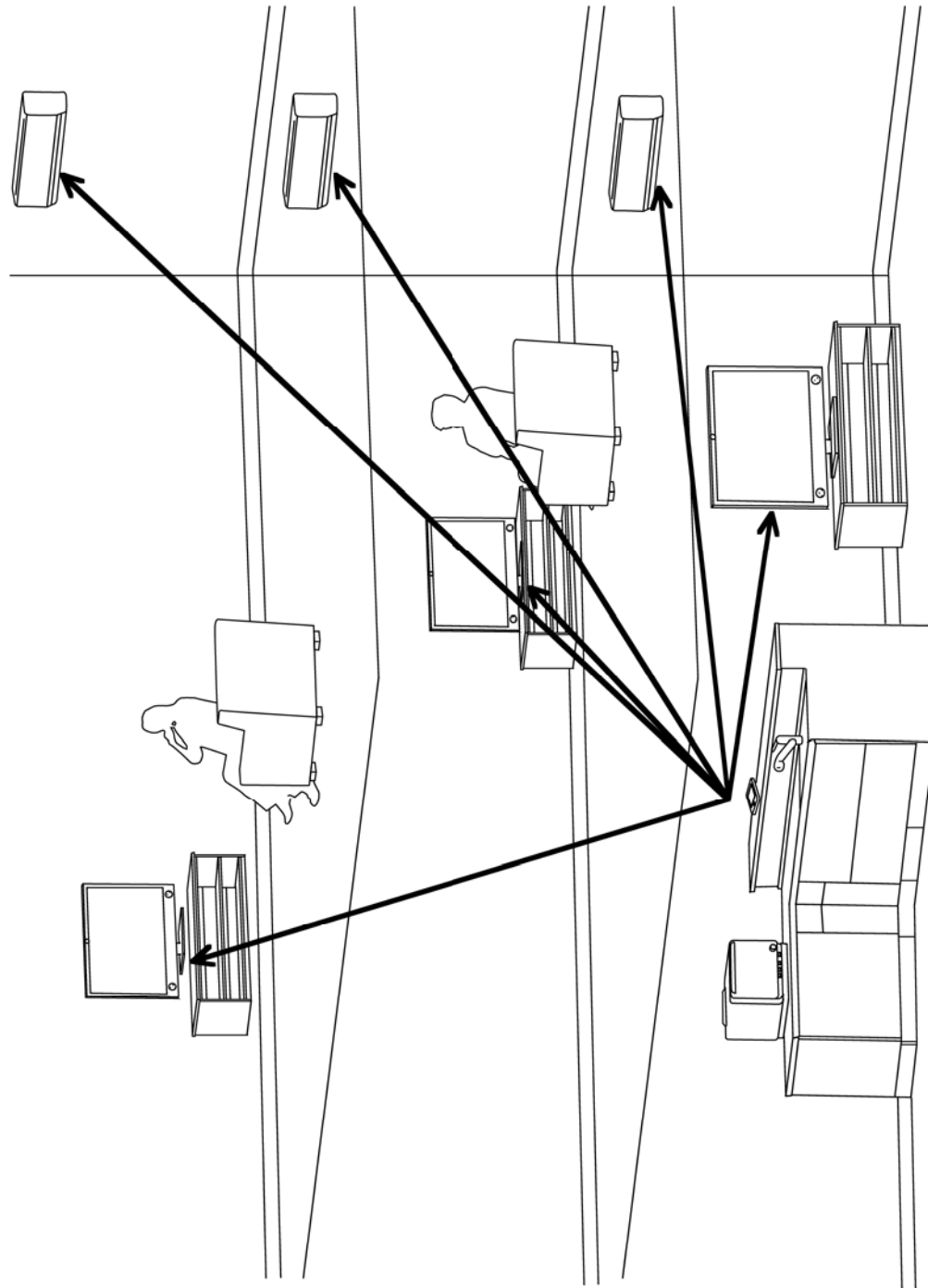


FIG. 166

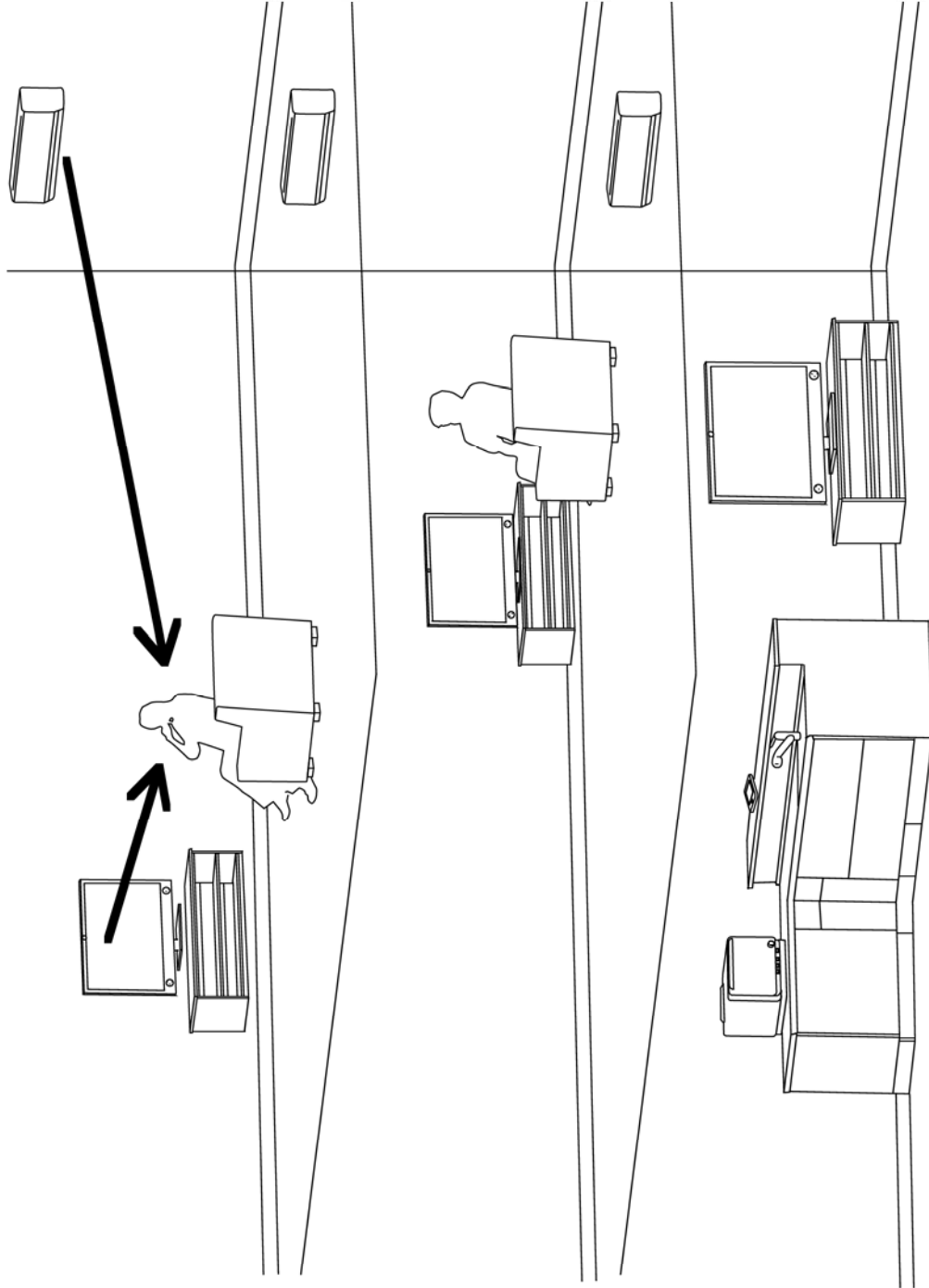


FIG. 167

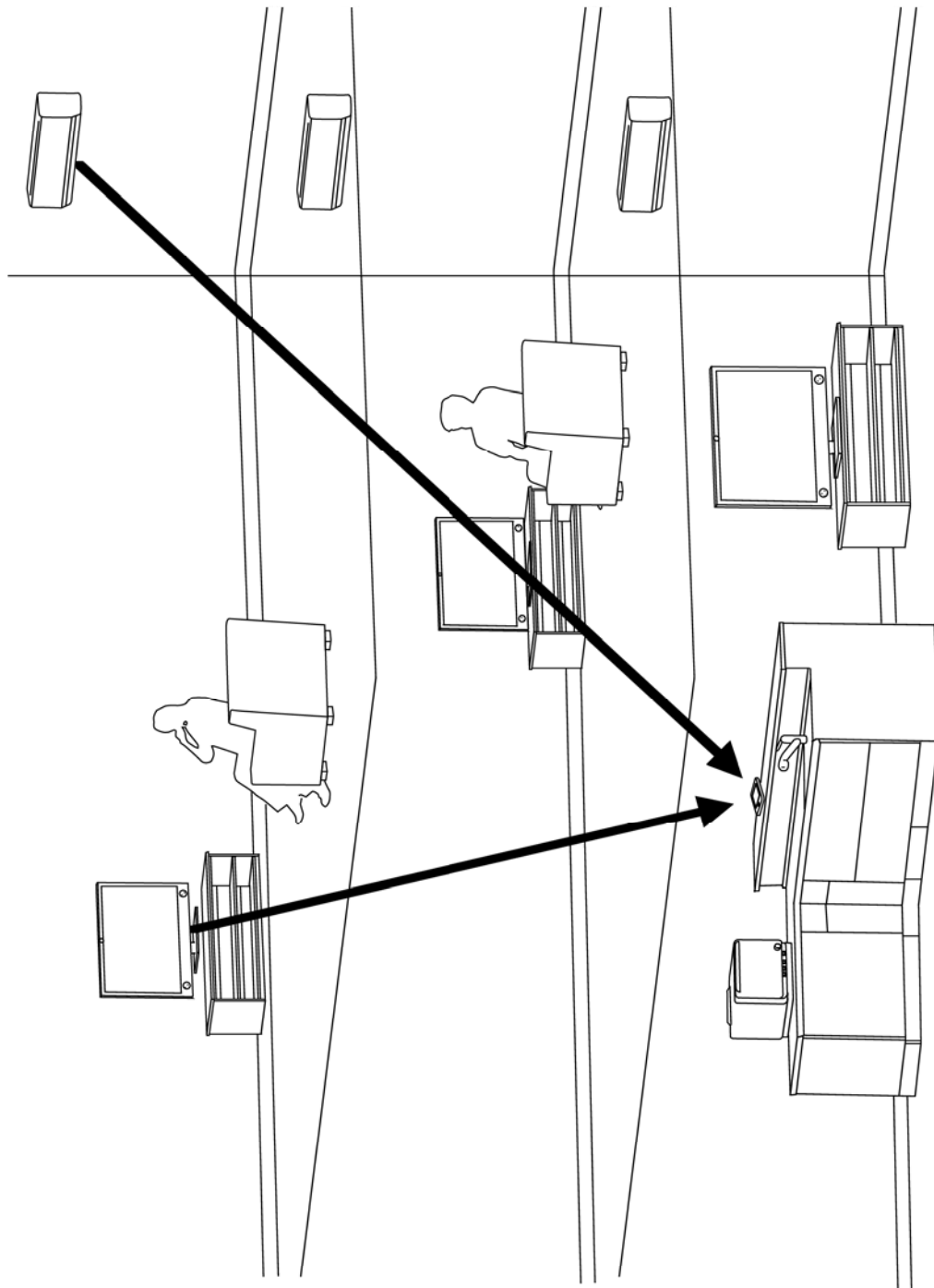


FIG. 168

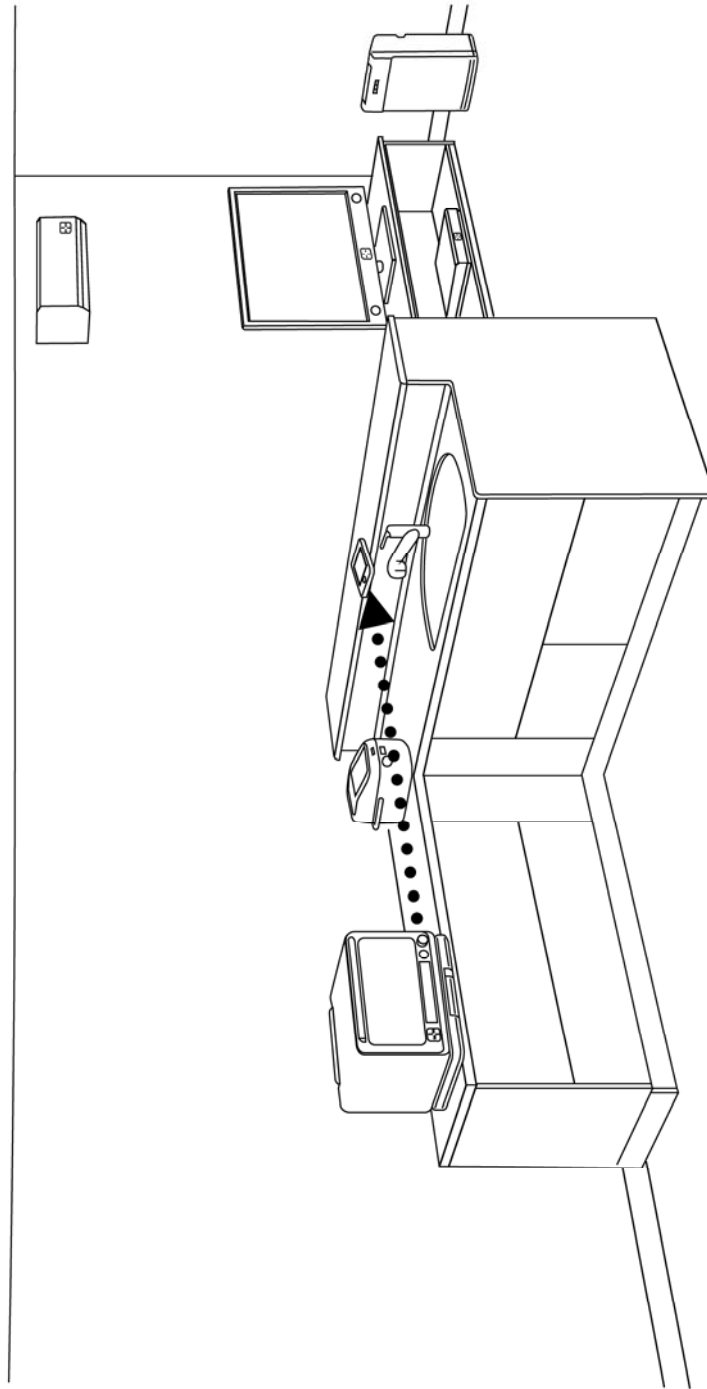


FIG. 169

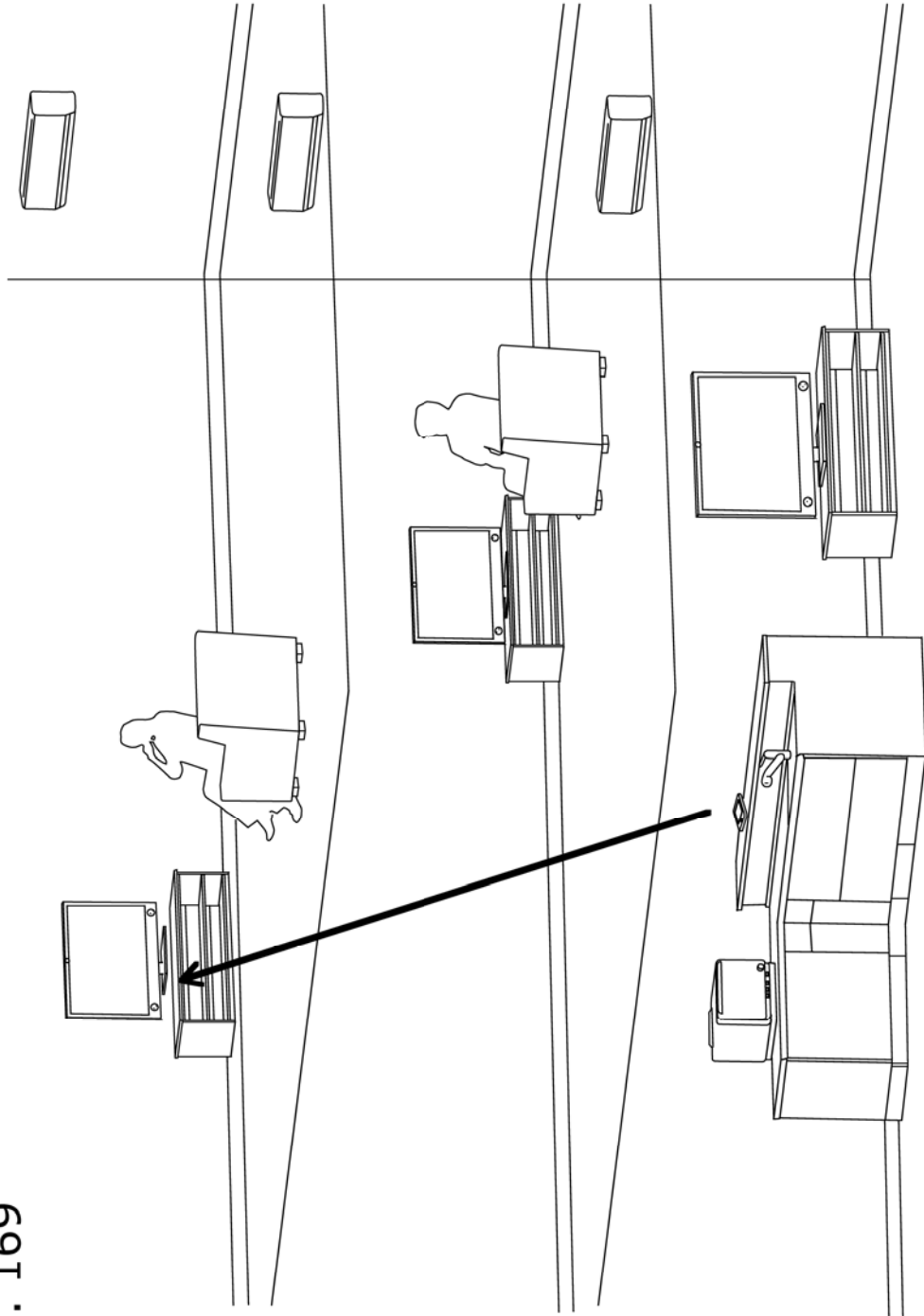


FIG. 170

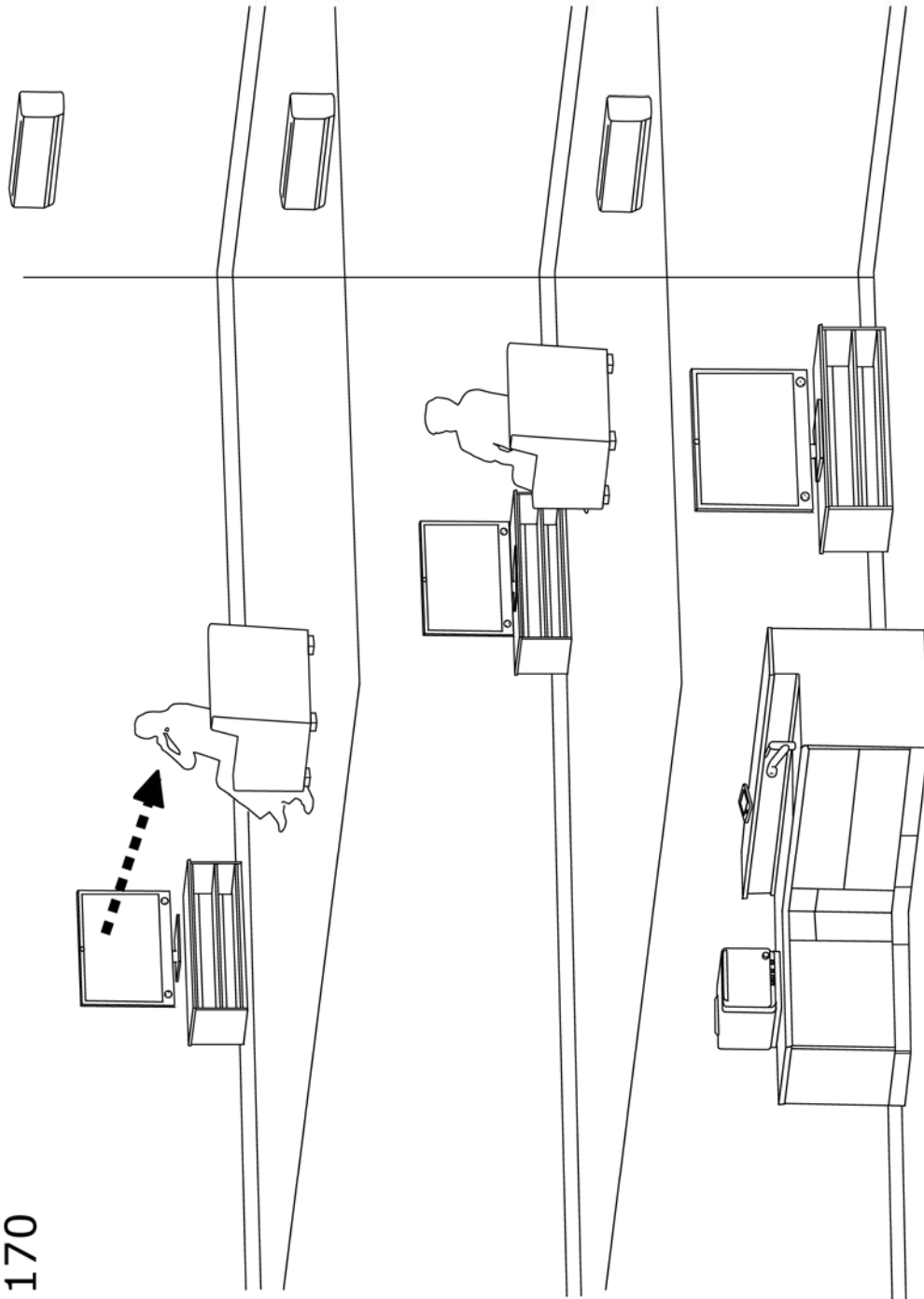


FIG. 171

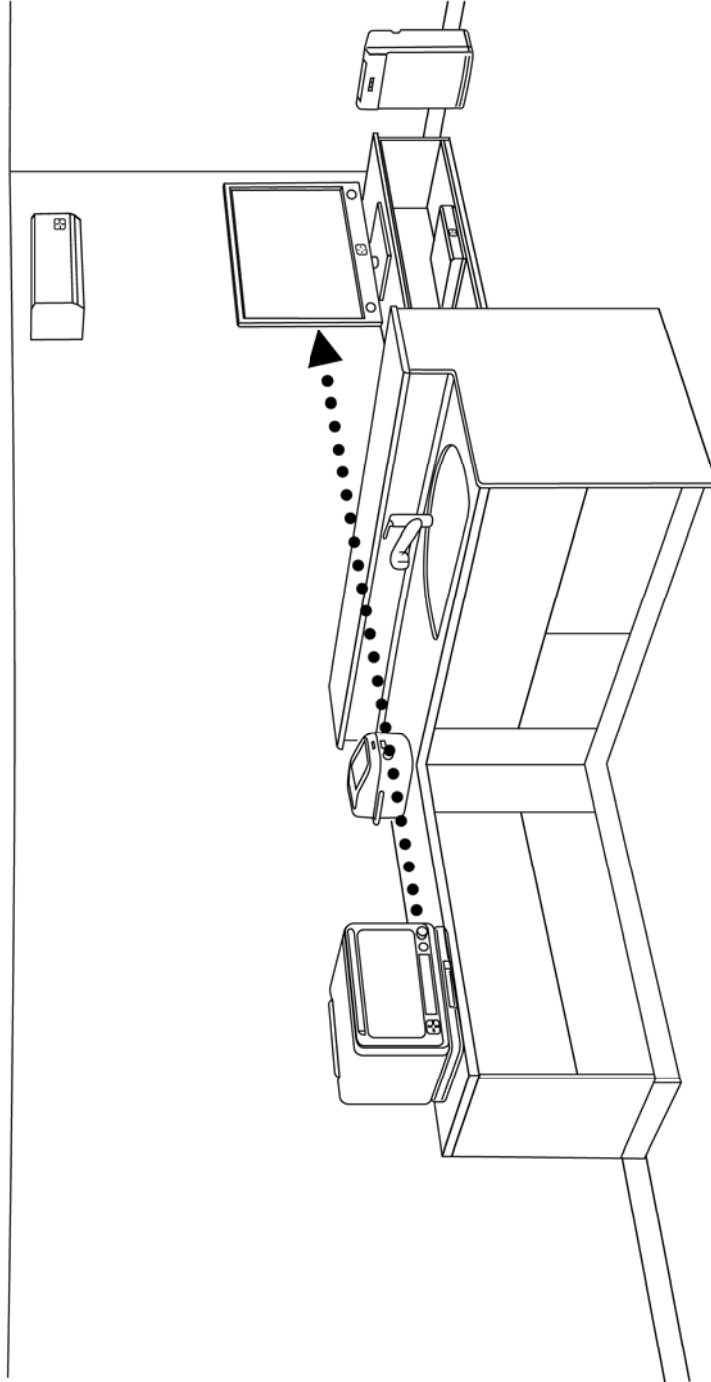


FIG. 172

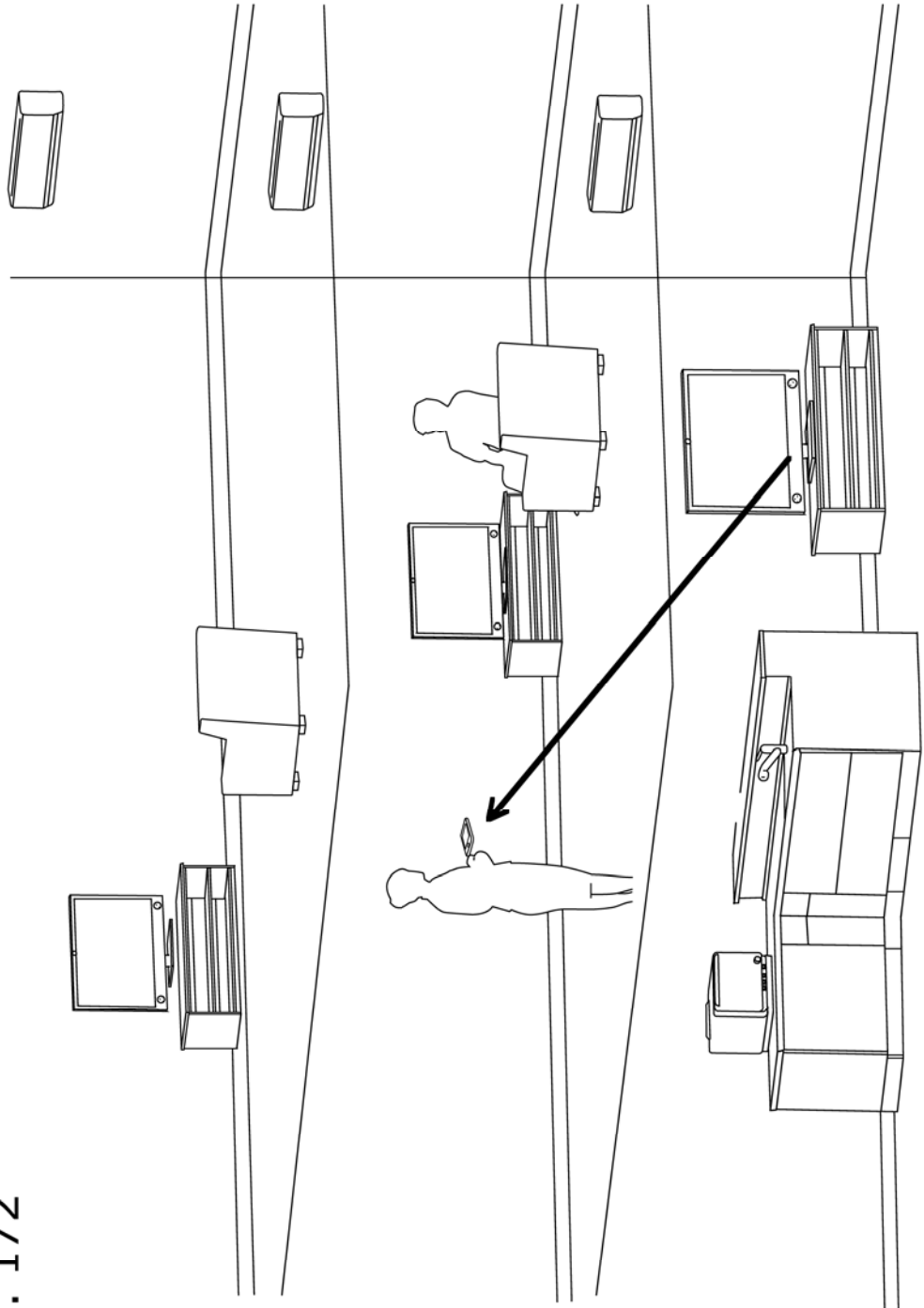


FIG. 173

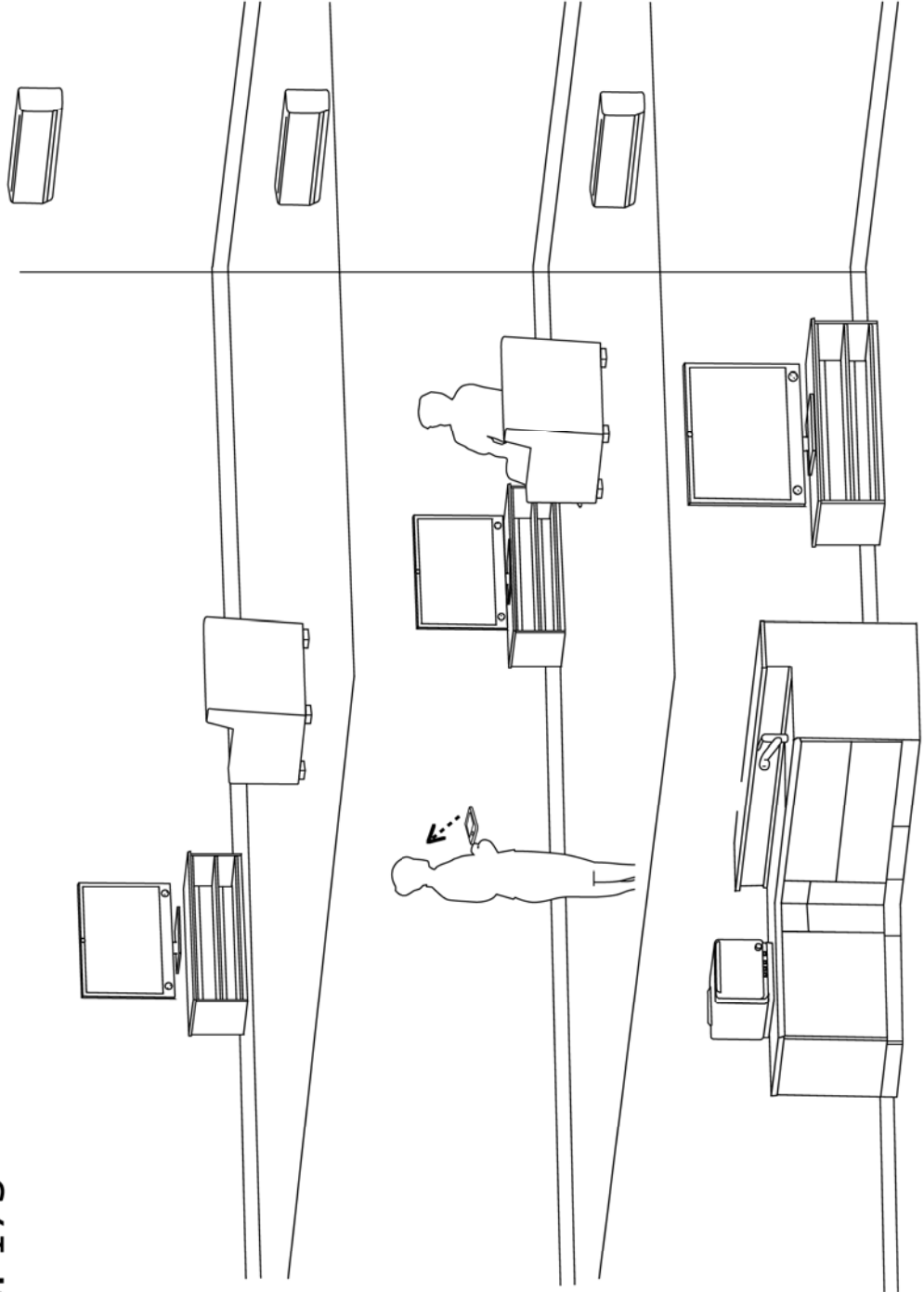


FIG. 174

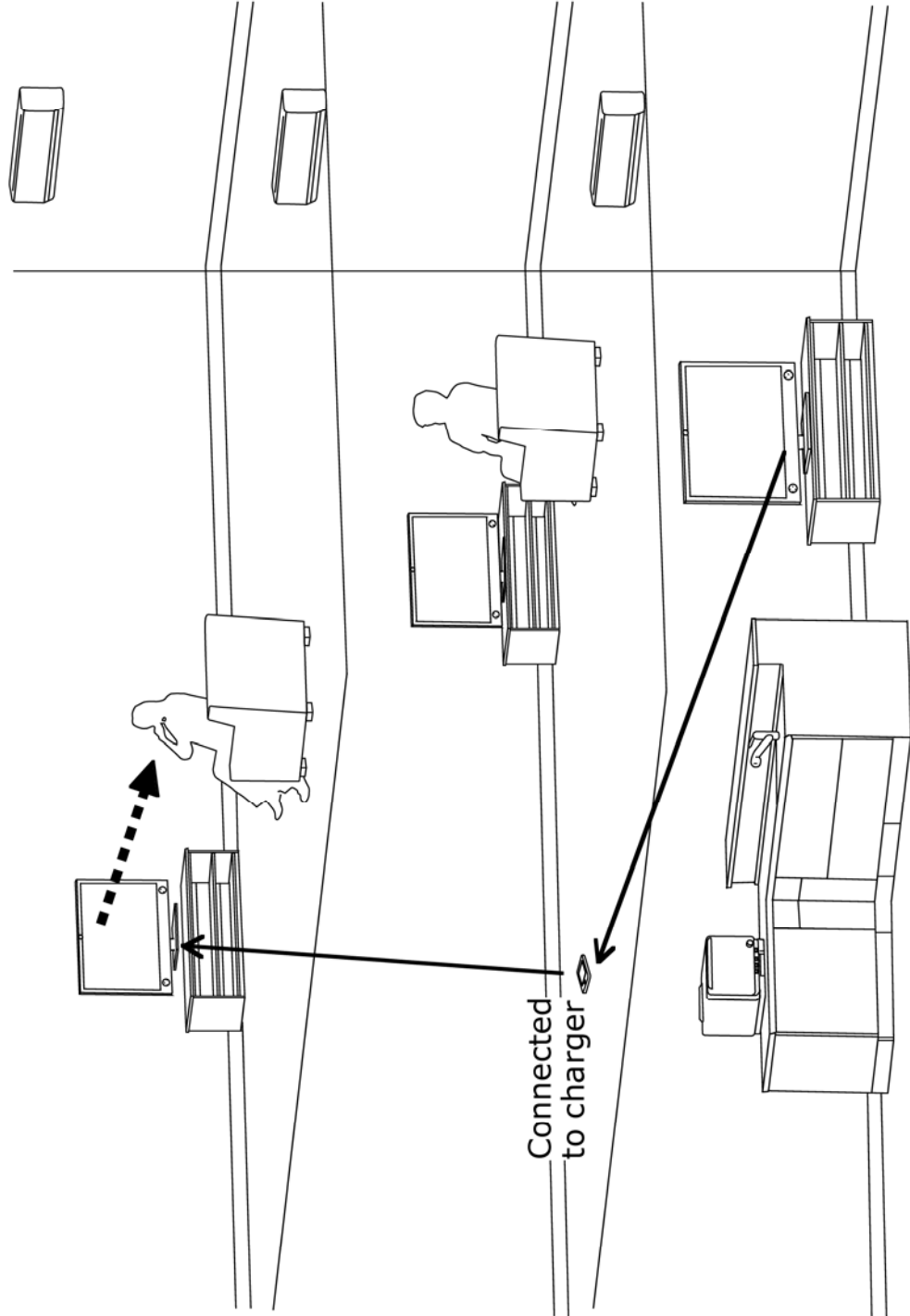


FIG. 175

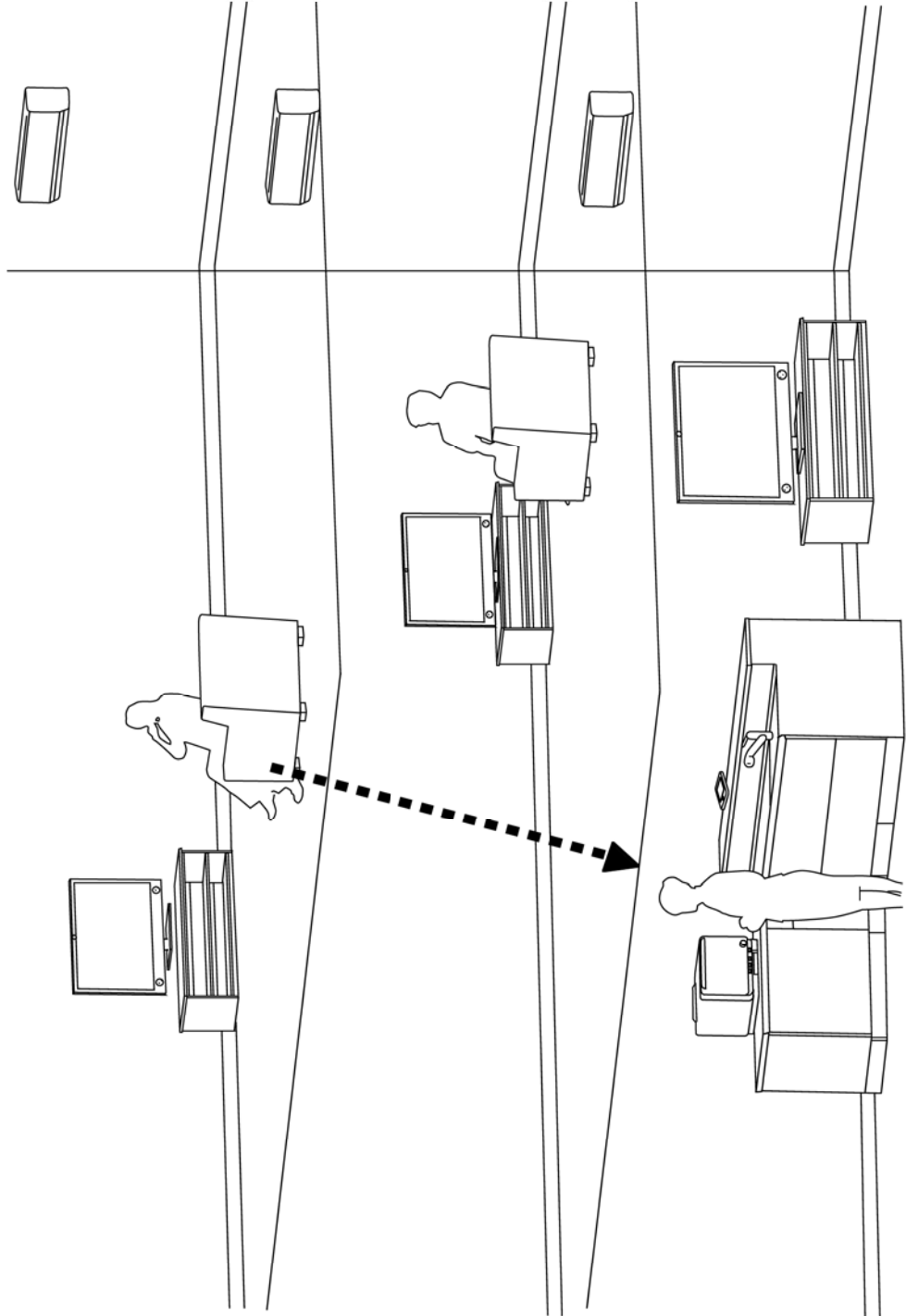


FIG. 176

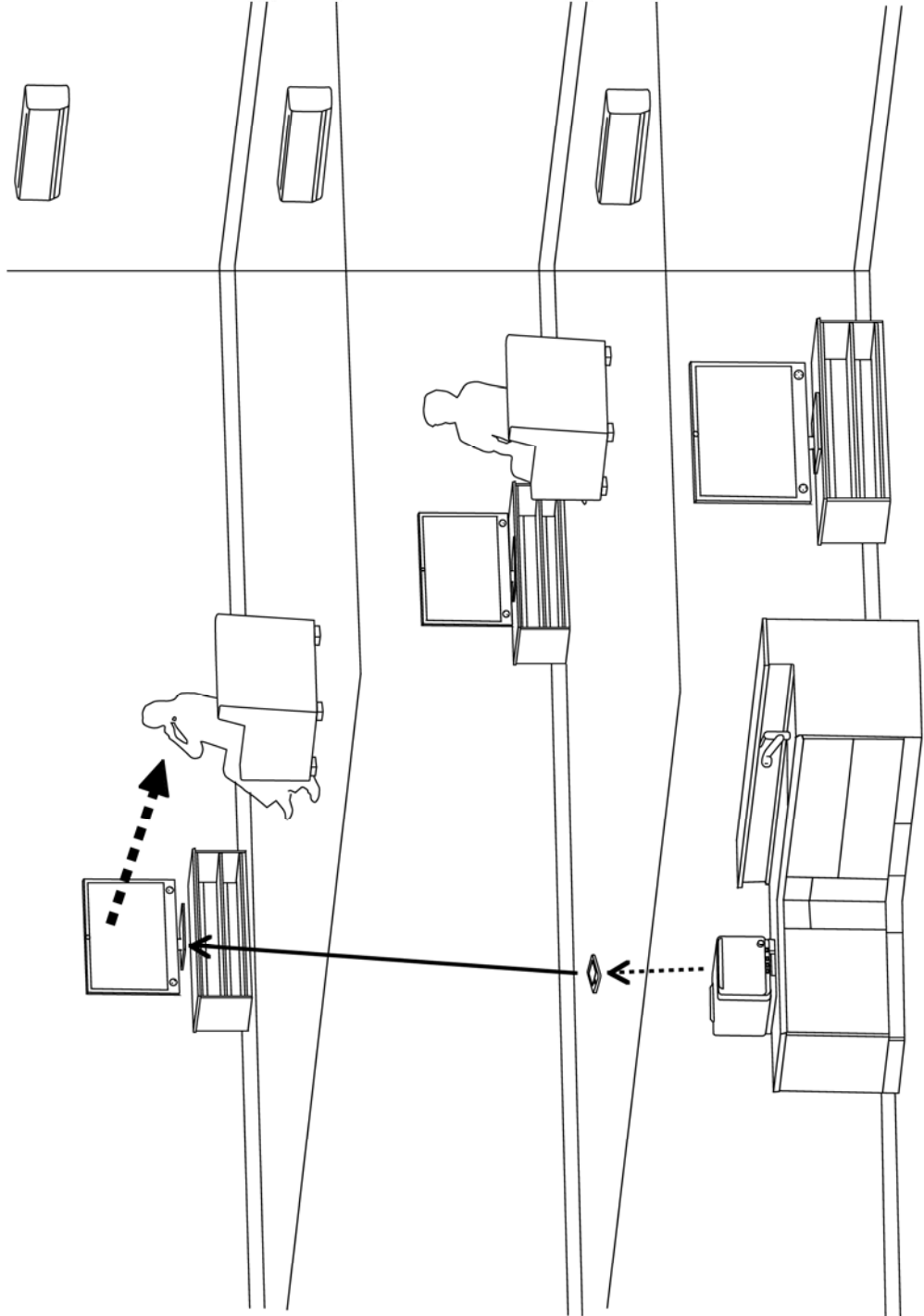


FIG. 177

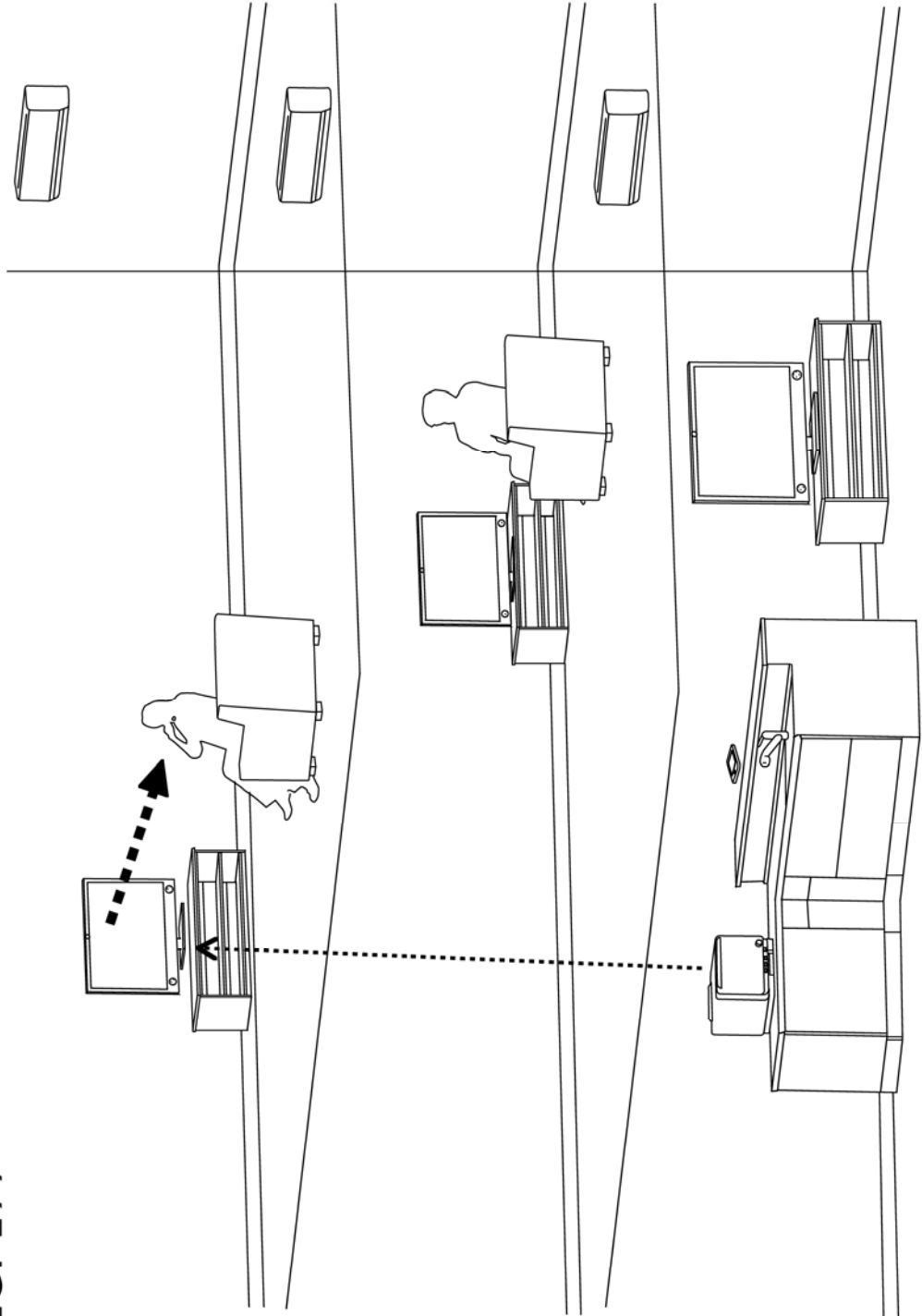


FIG. 178

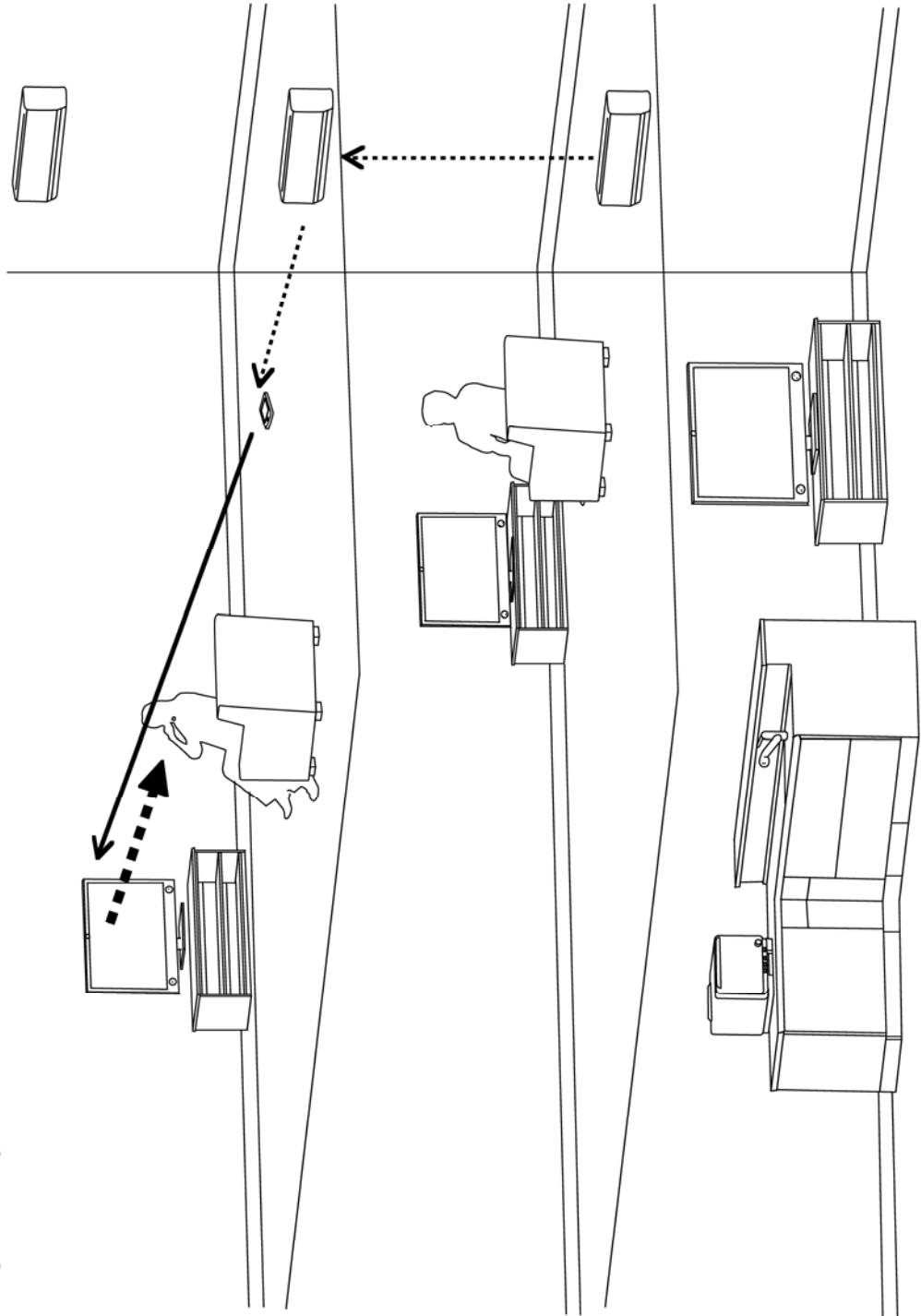


FIG. 179

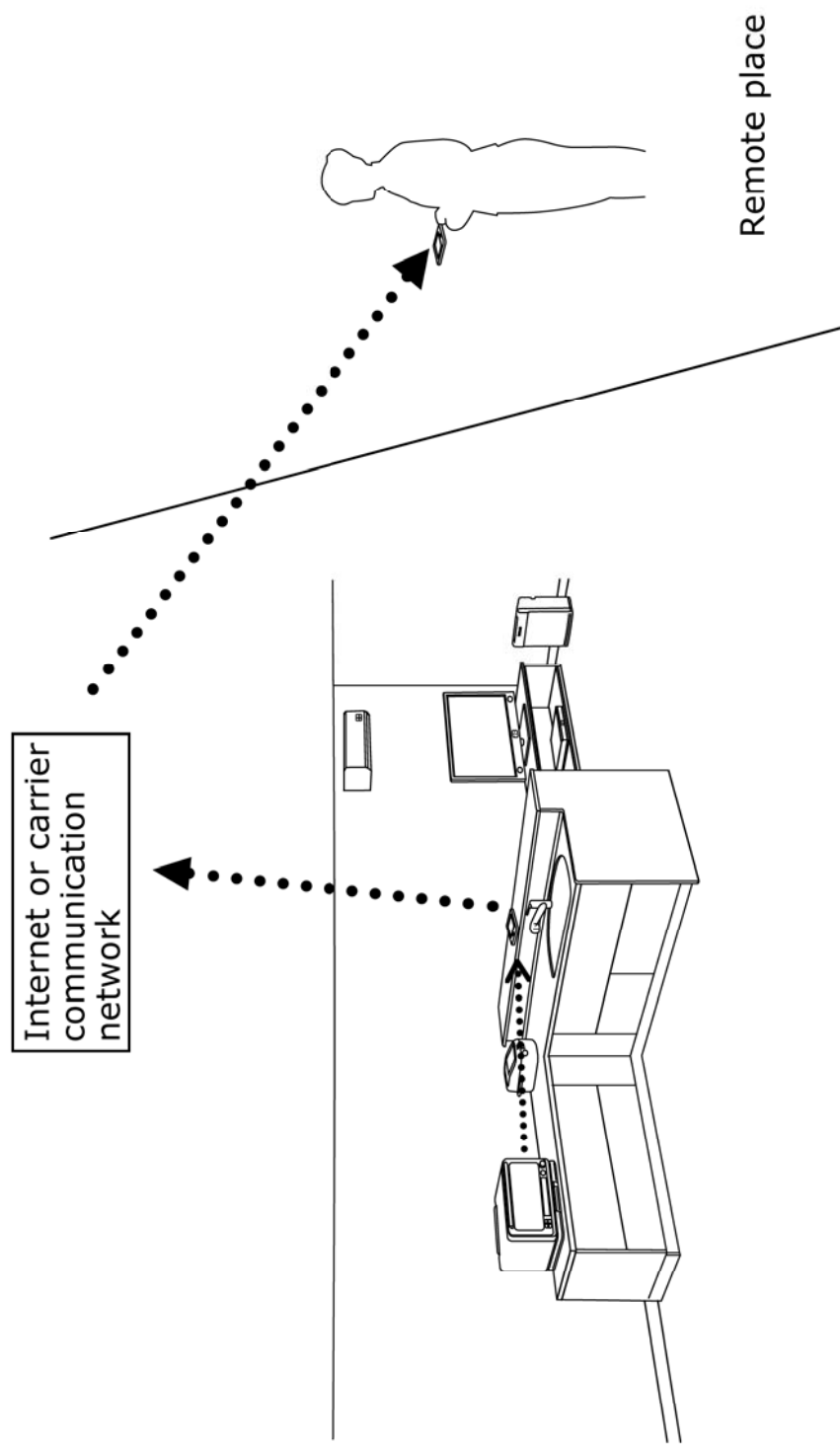


FIG. 180

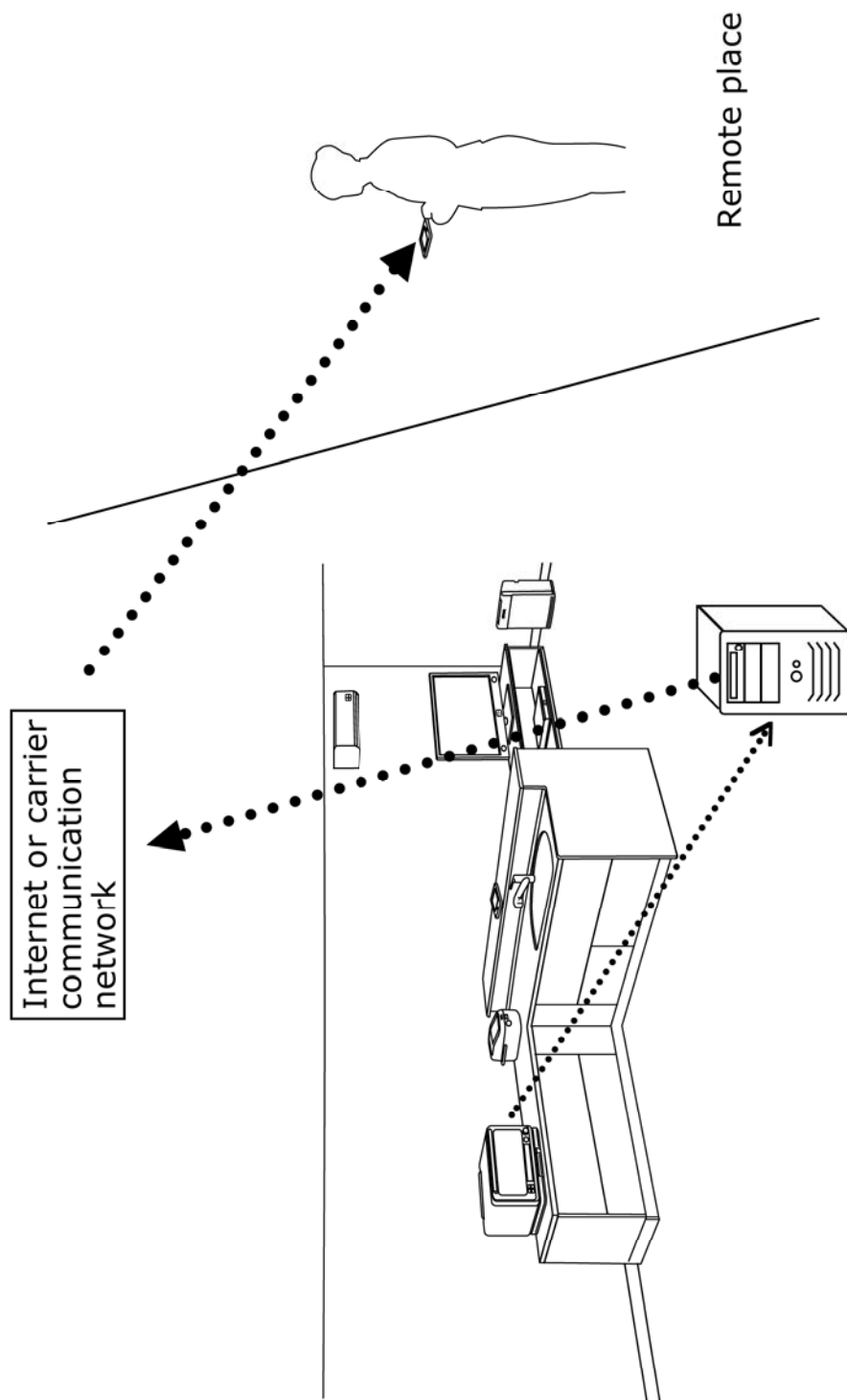


FIG. 181

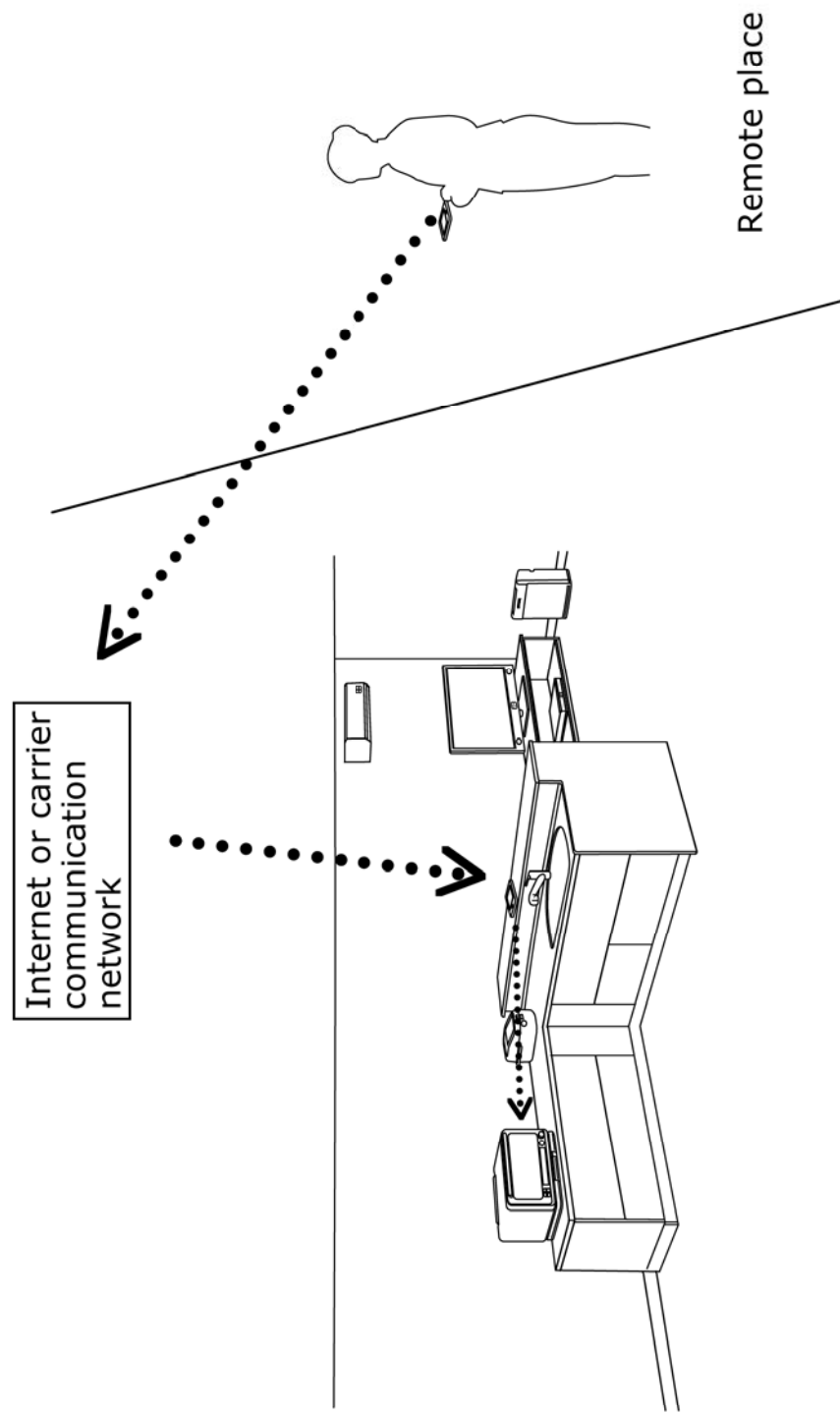


FIG. 182

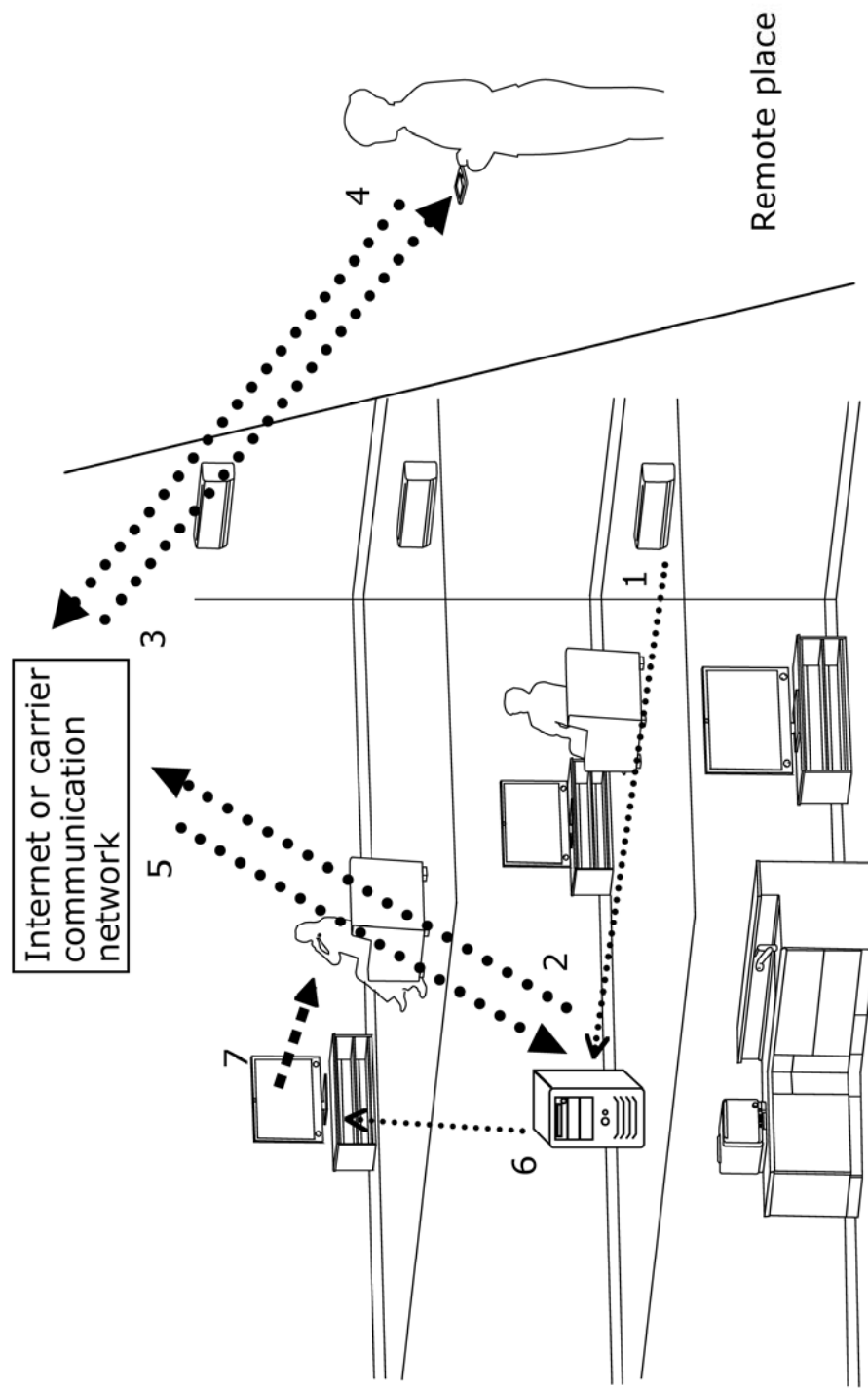


FIG. 183

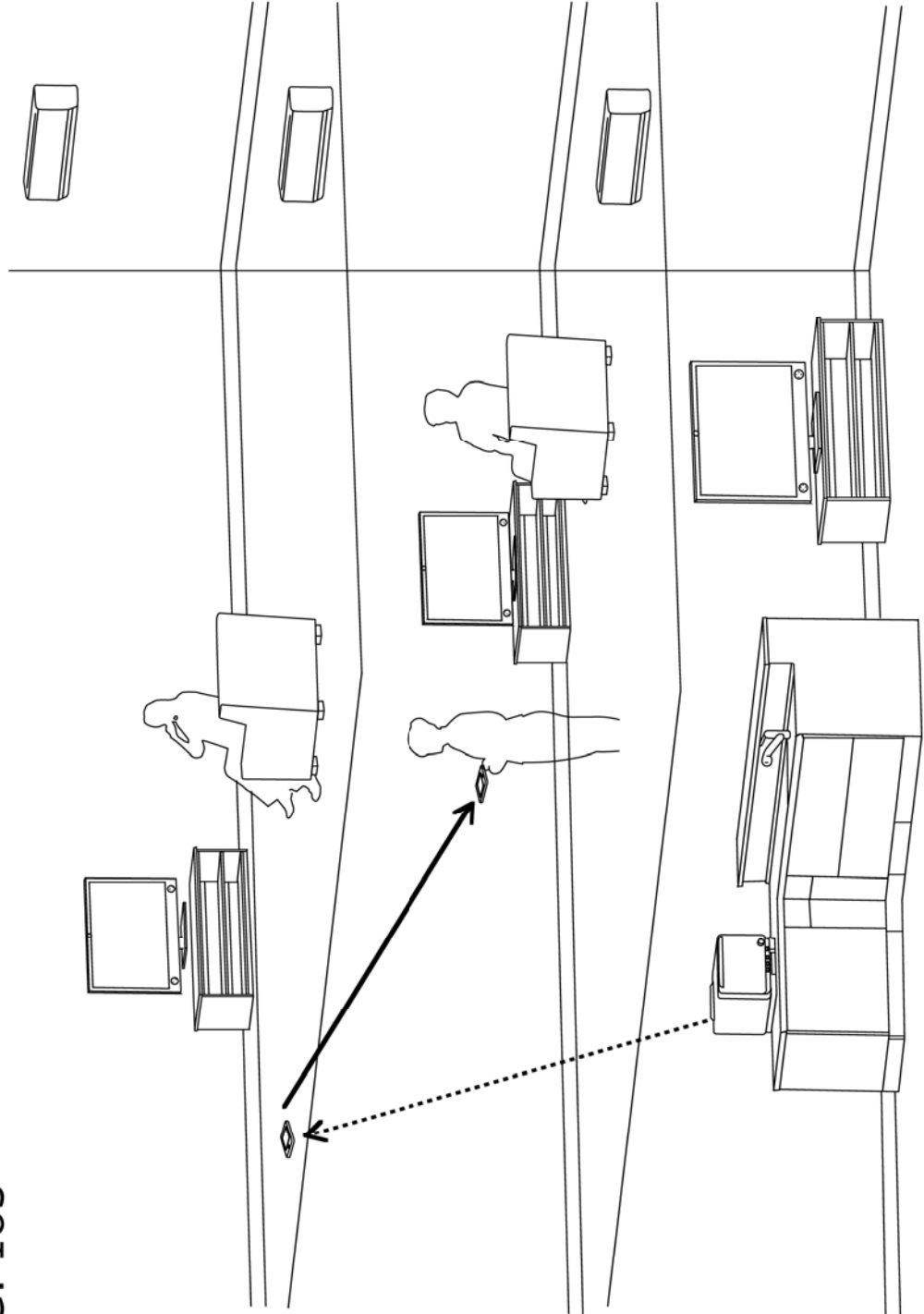


FIG. 184

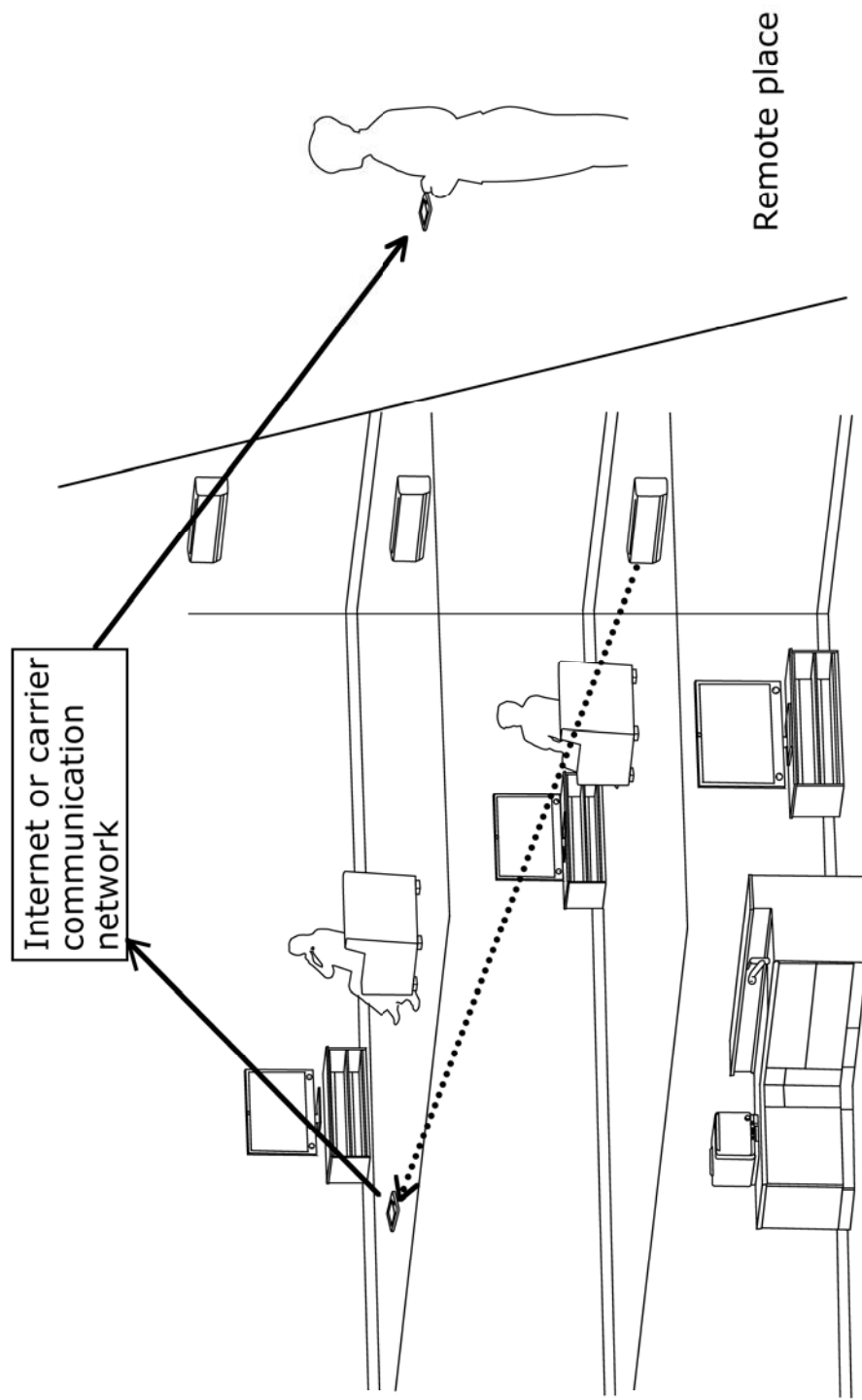


FIG. 185

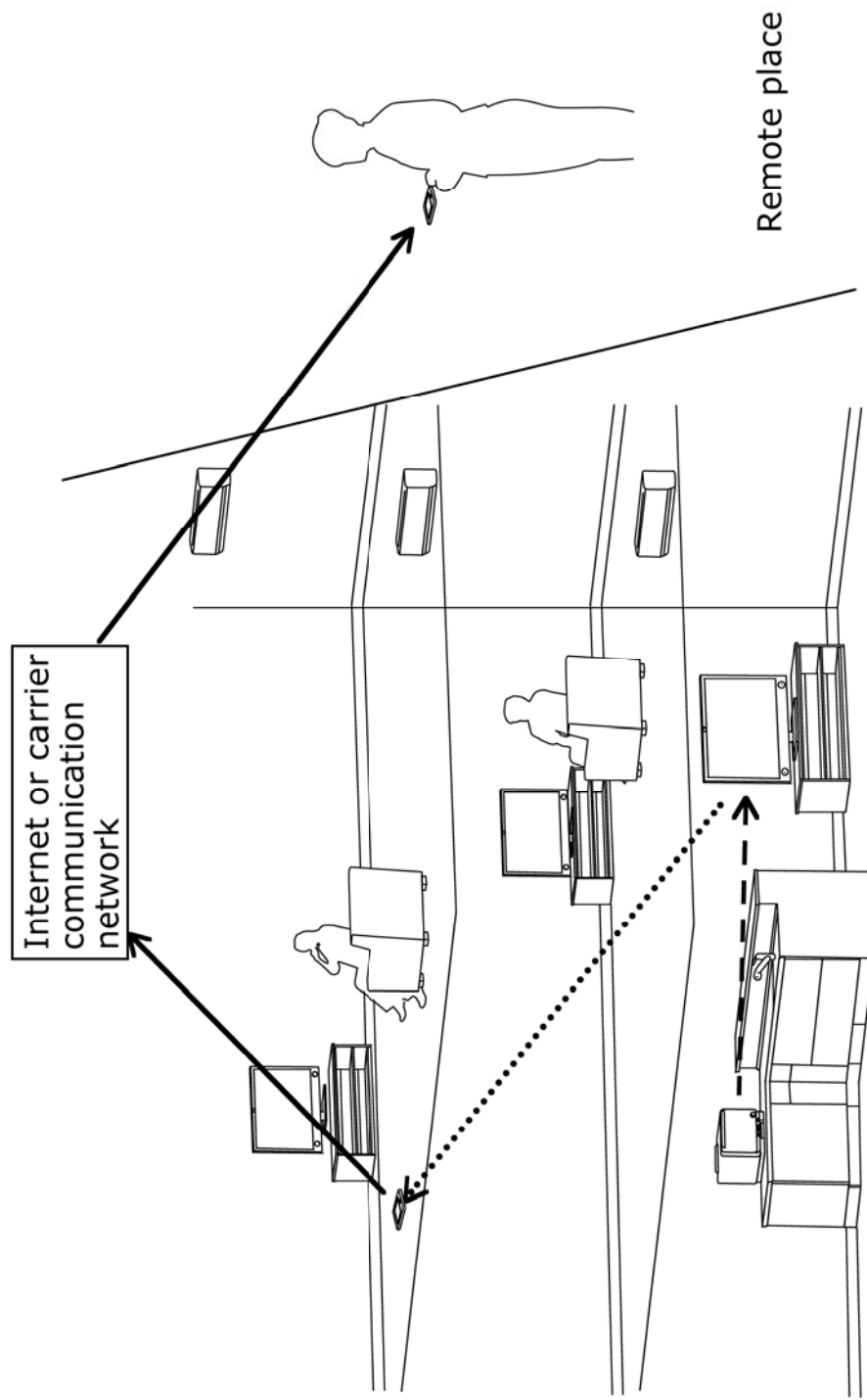


FIG. 186

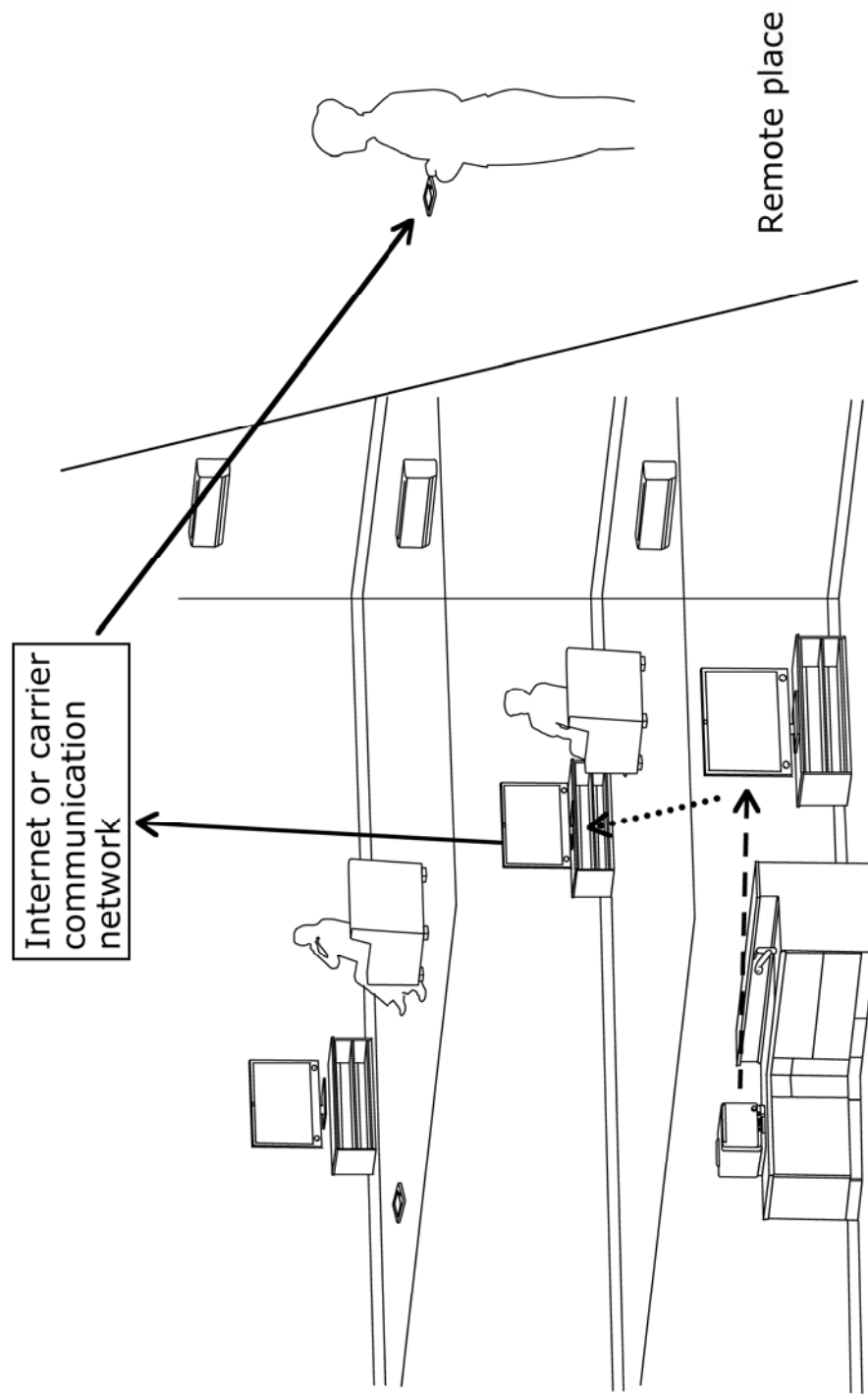


FIG. 187

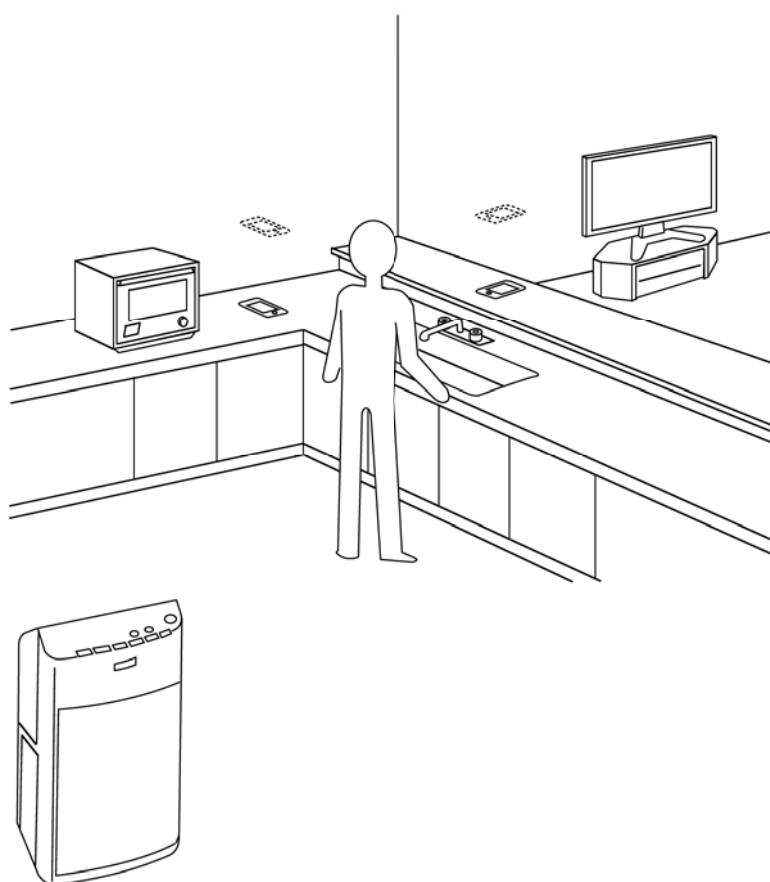


FIG. 188

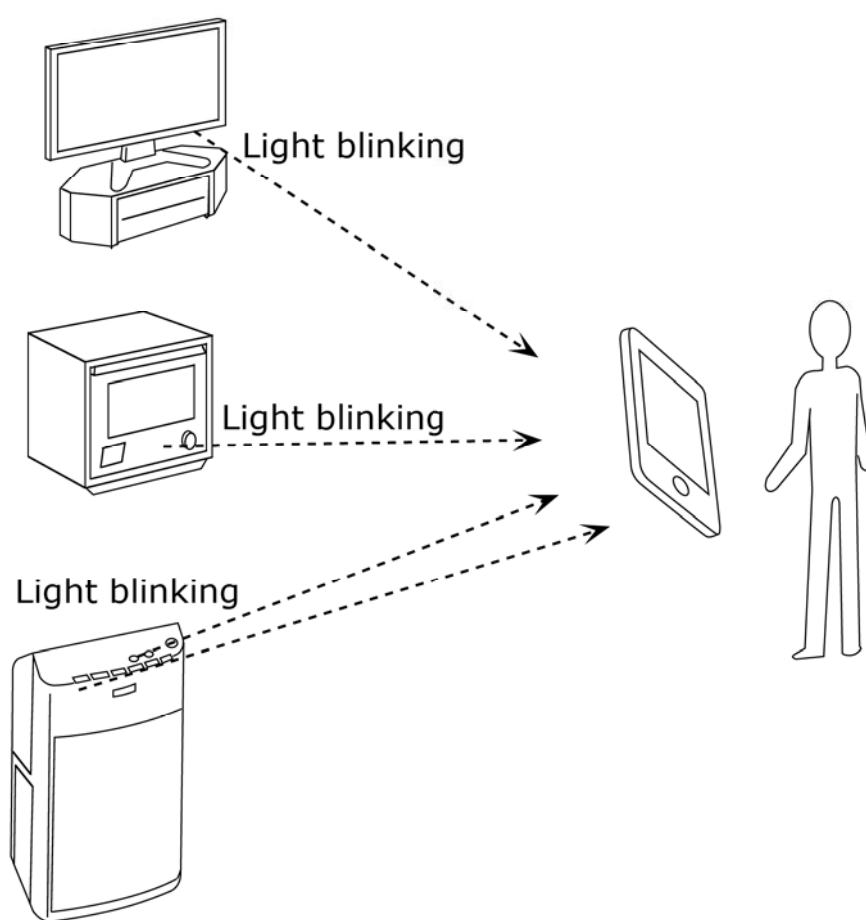


FIG. 189

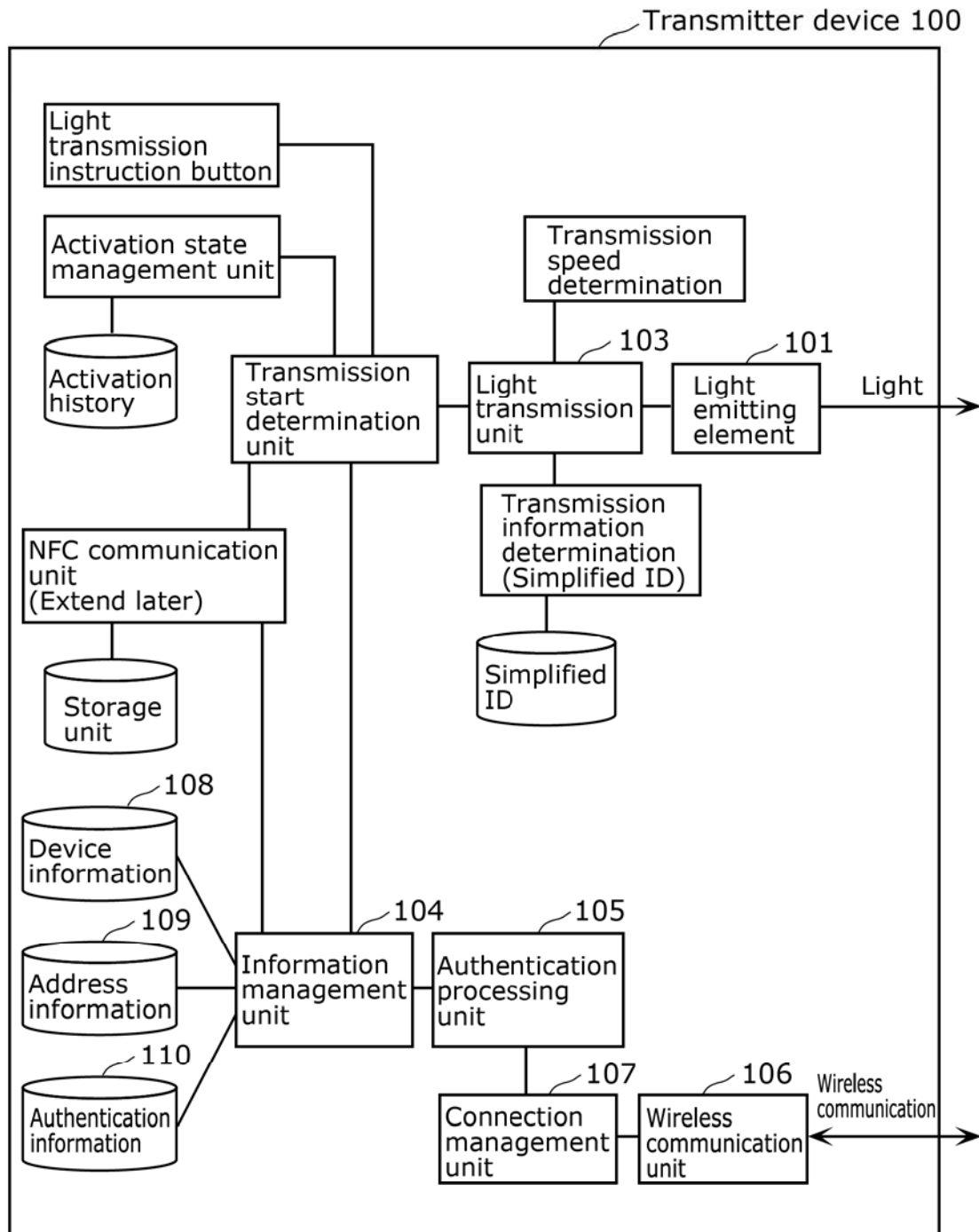


FIG. 190

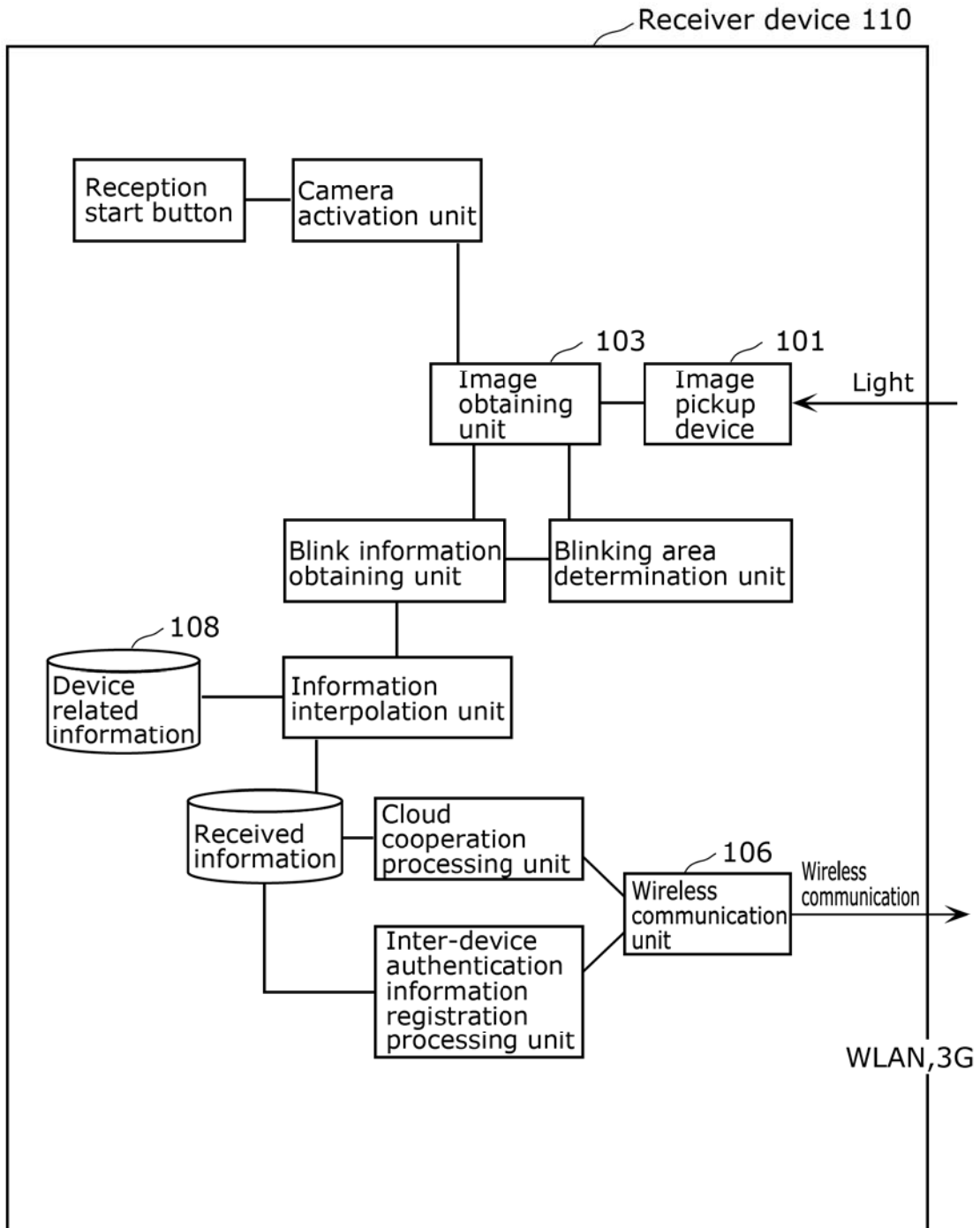


FIG. 191

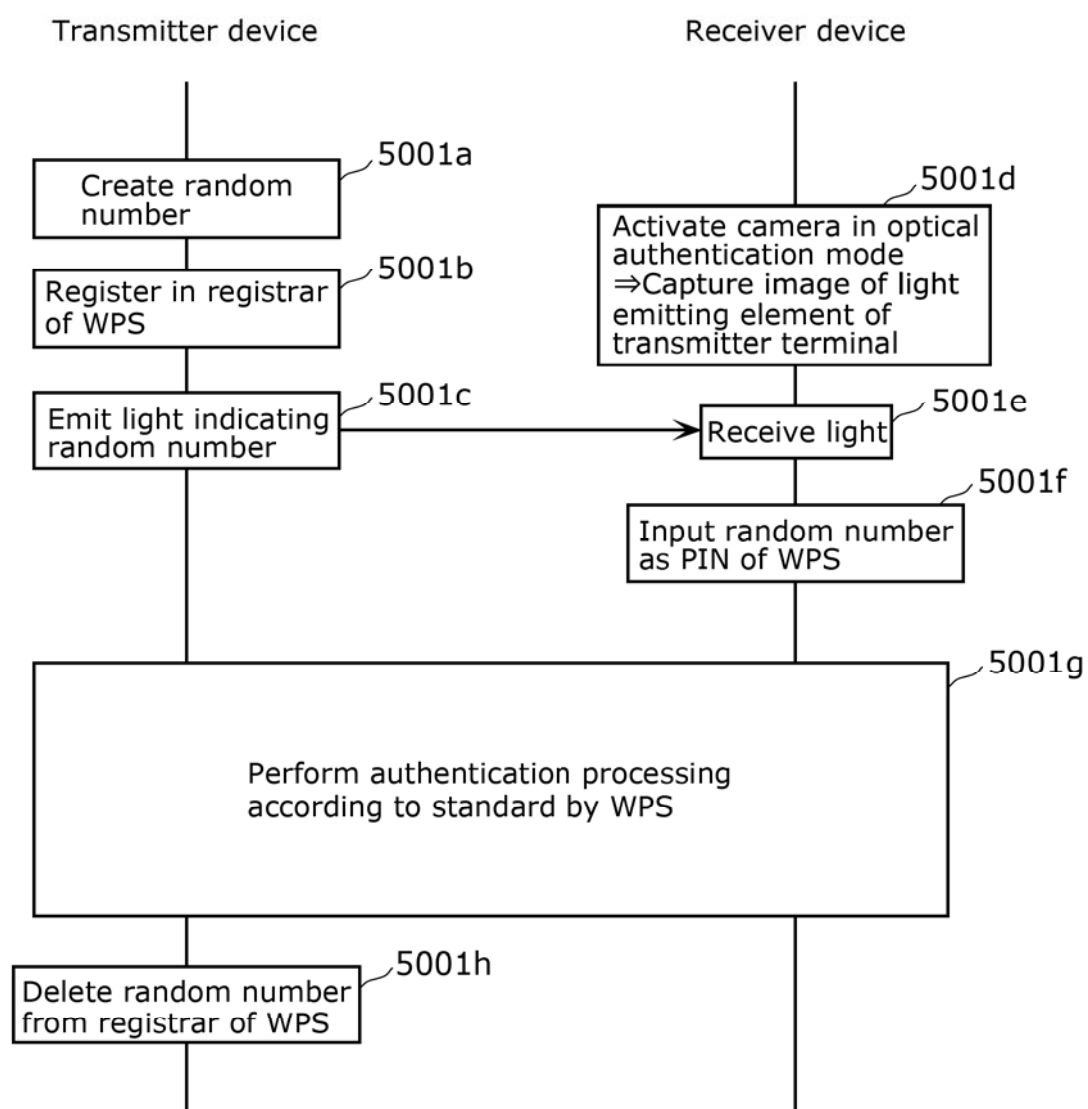


FIG. 192

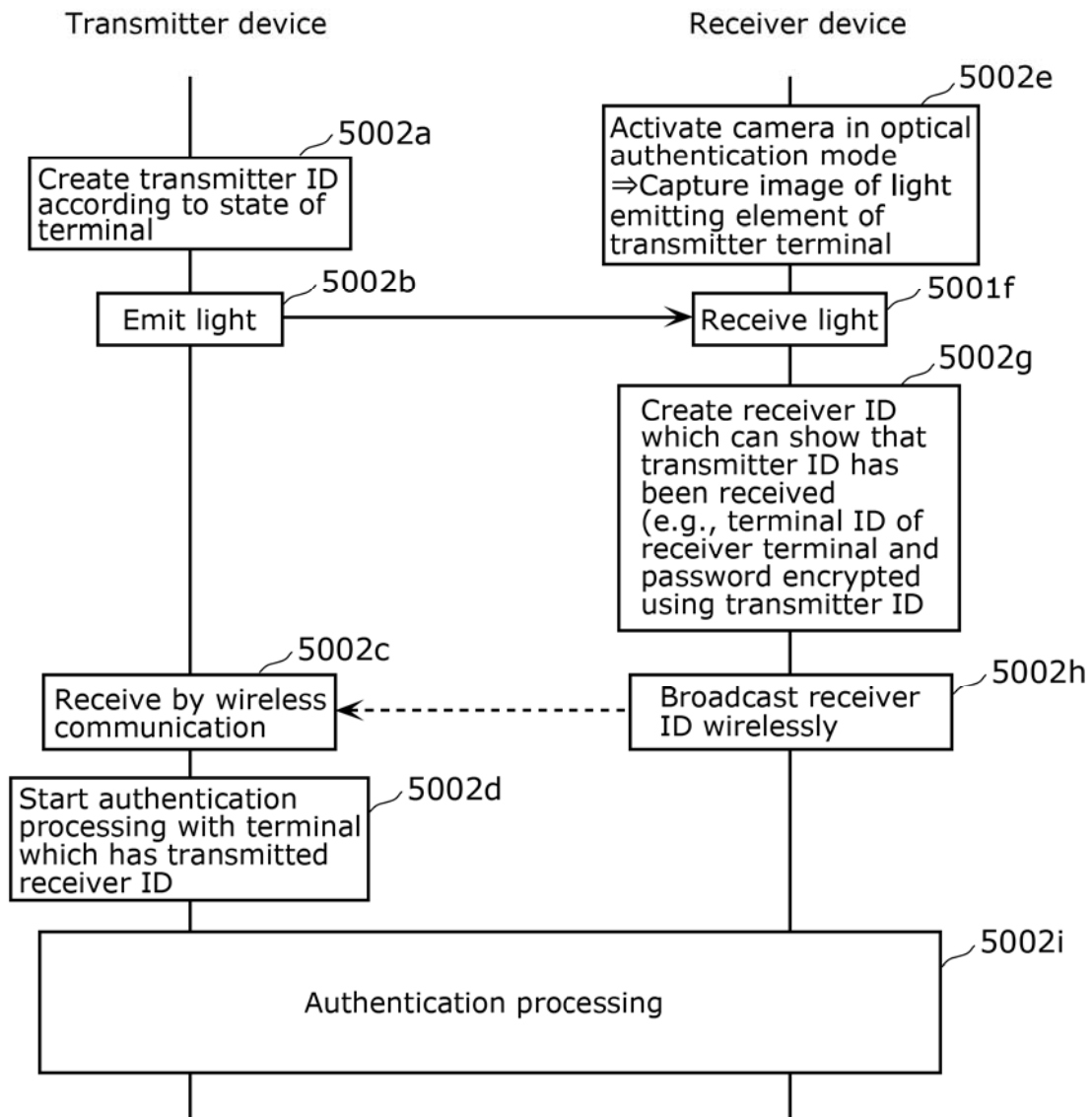


FIG. 193

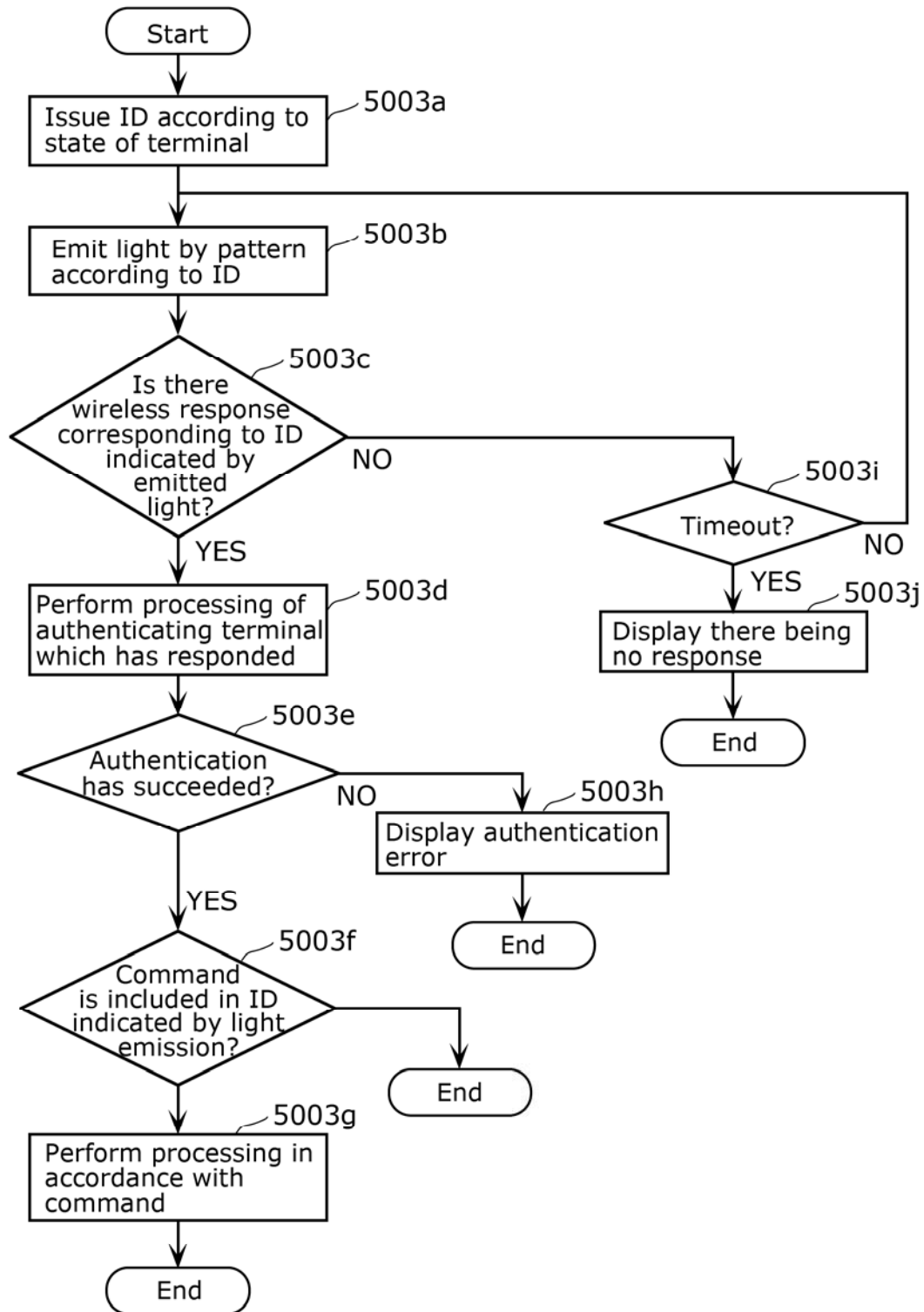


FIG. 194

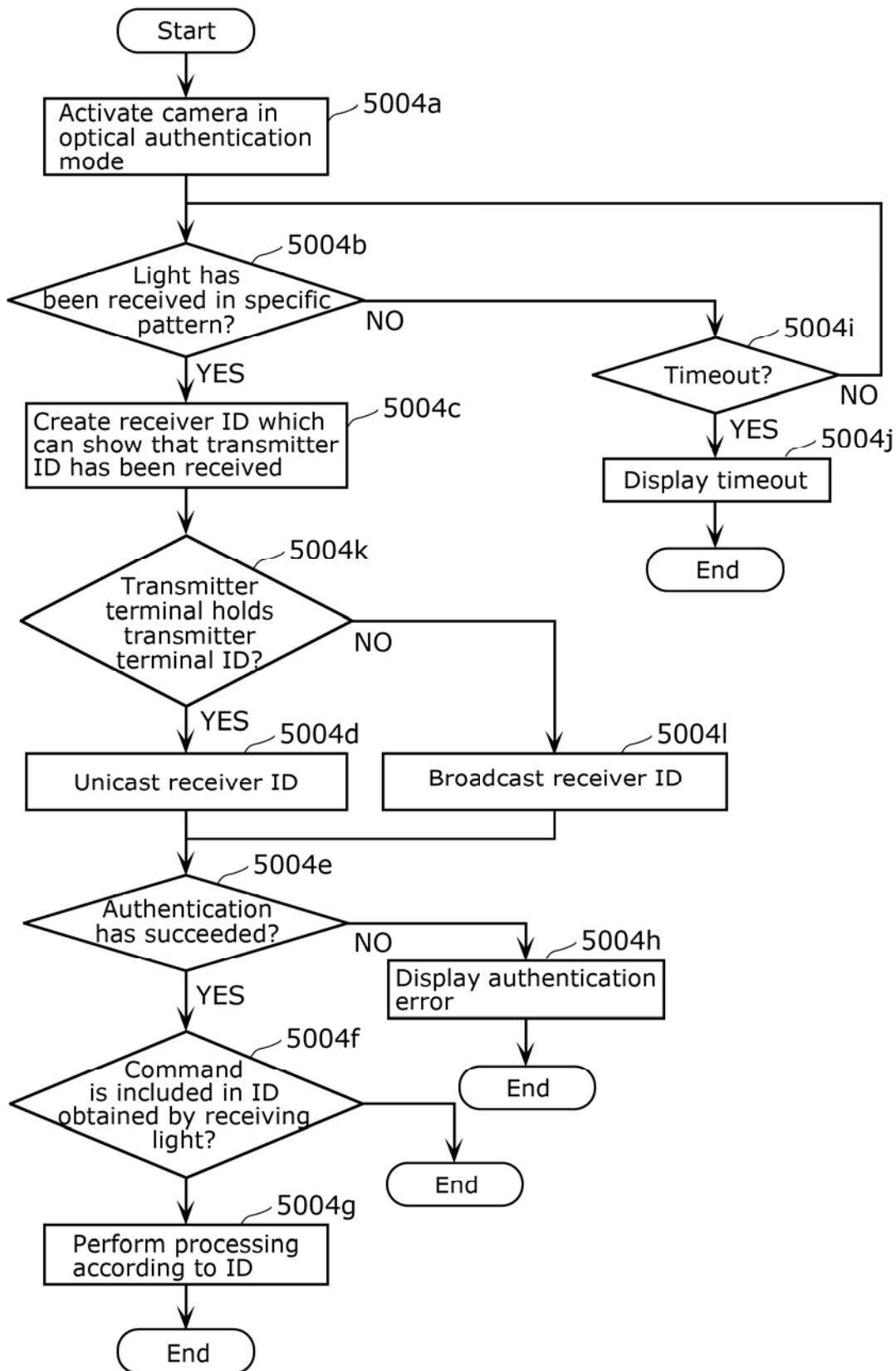


FIG. 195

Sequence diagram illustrating data transmission and reception using NFC/high speed wireless communication

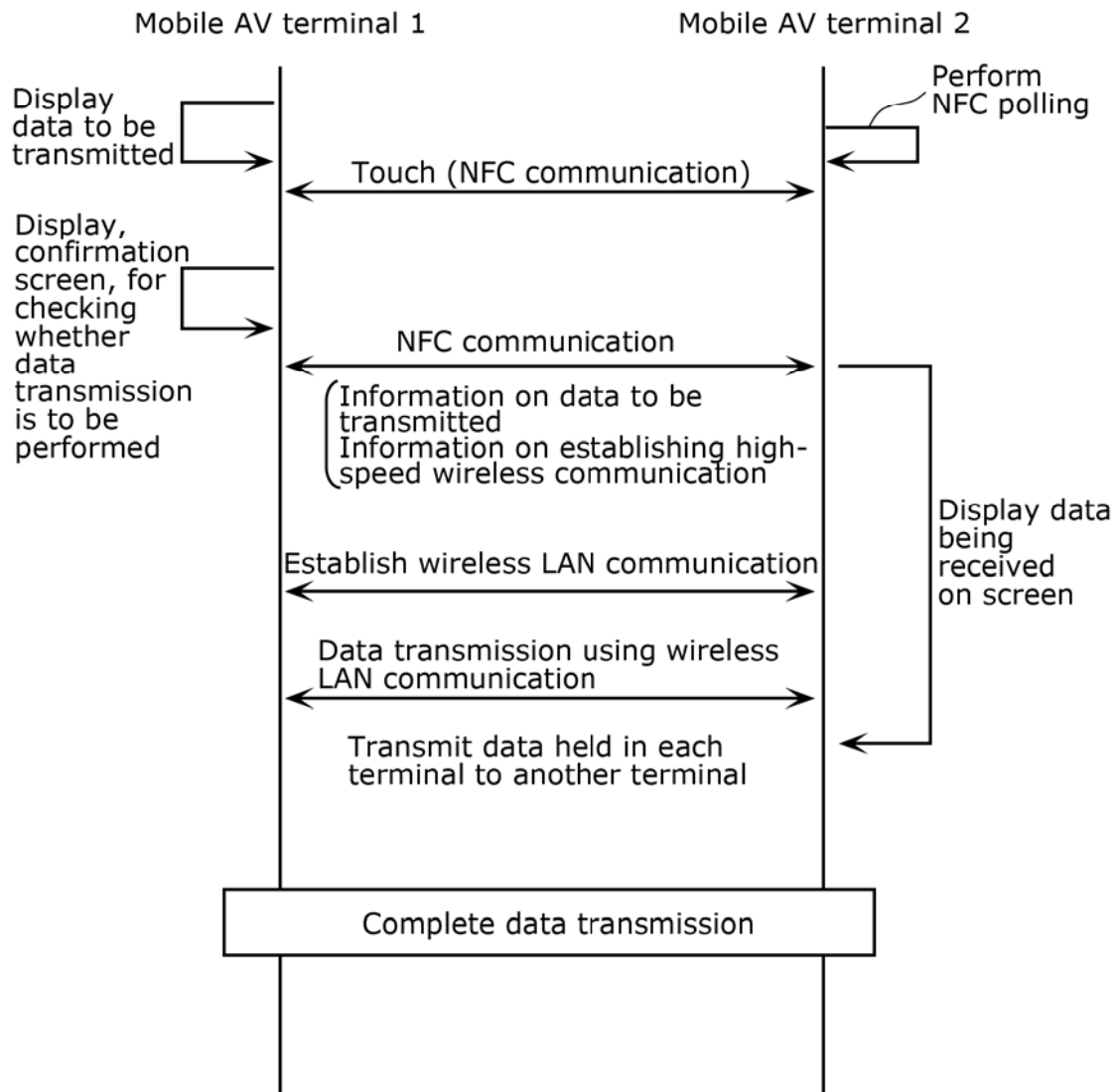


FIG. 196

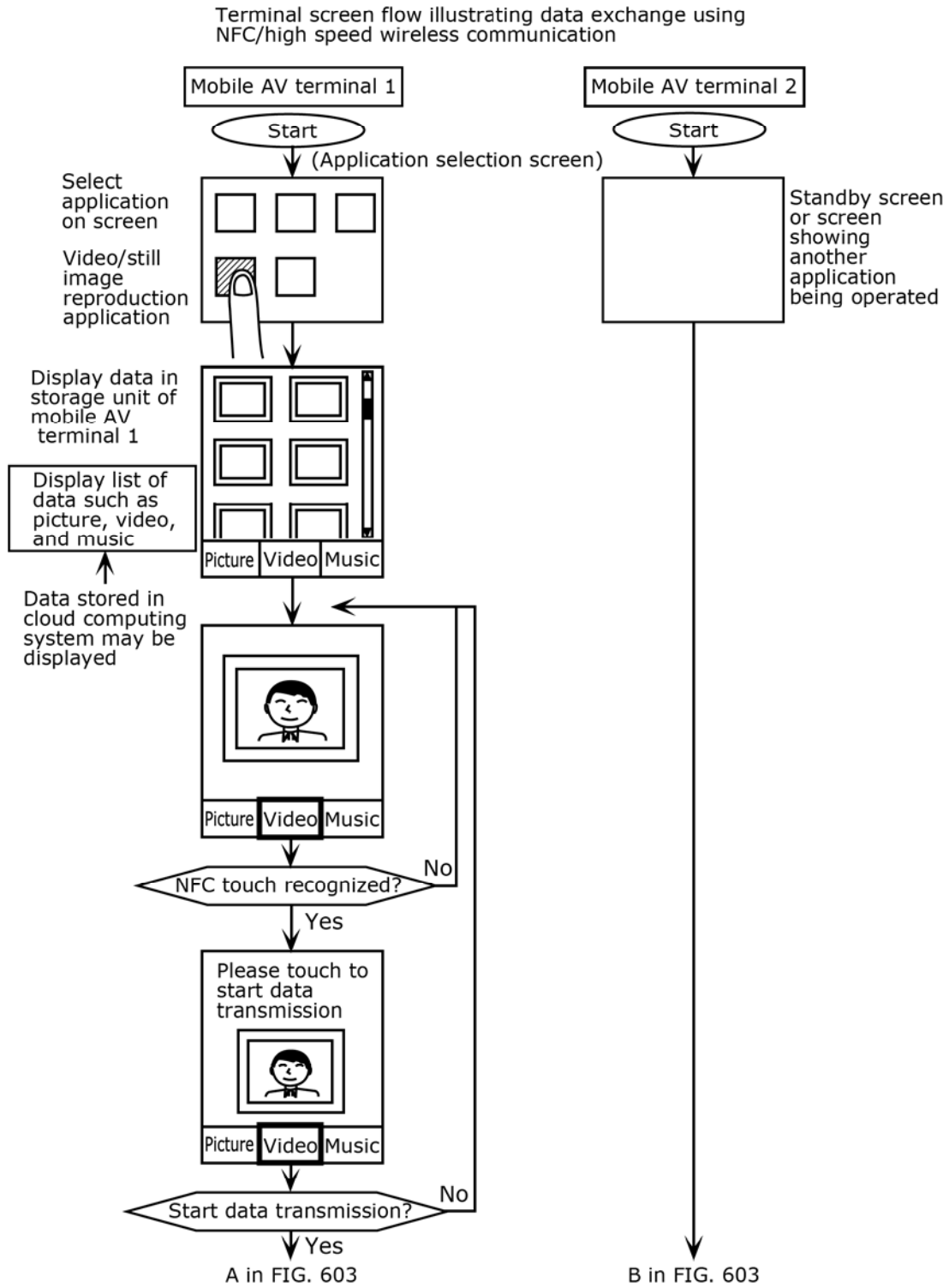


FIG. 197

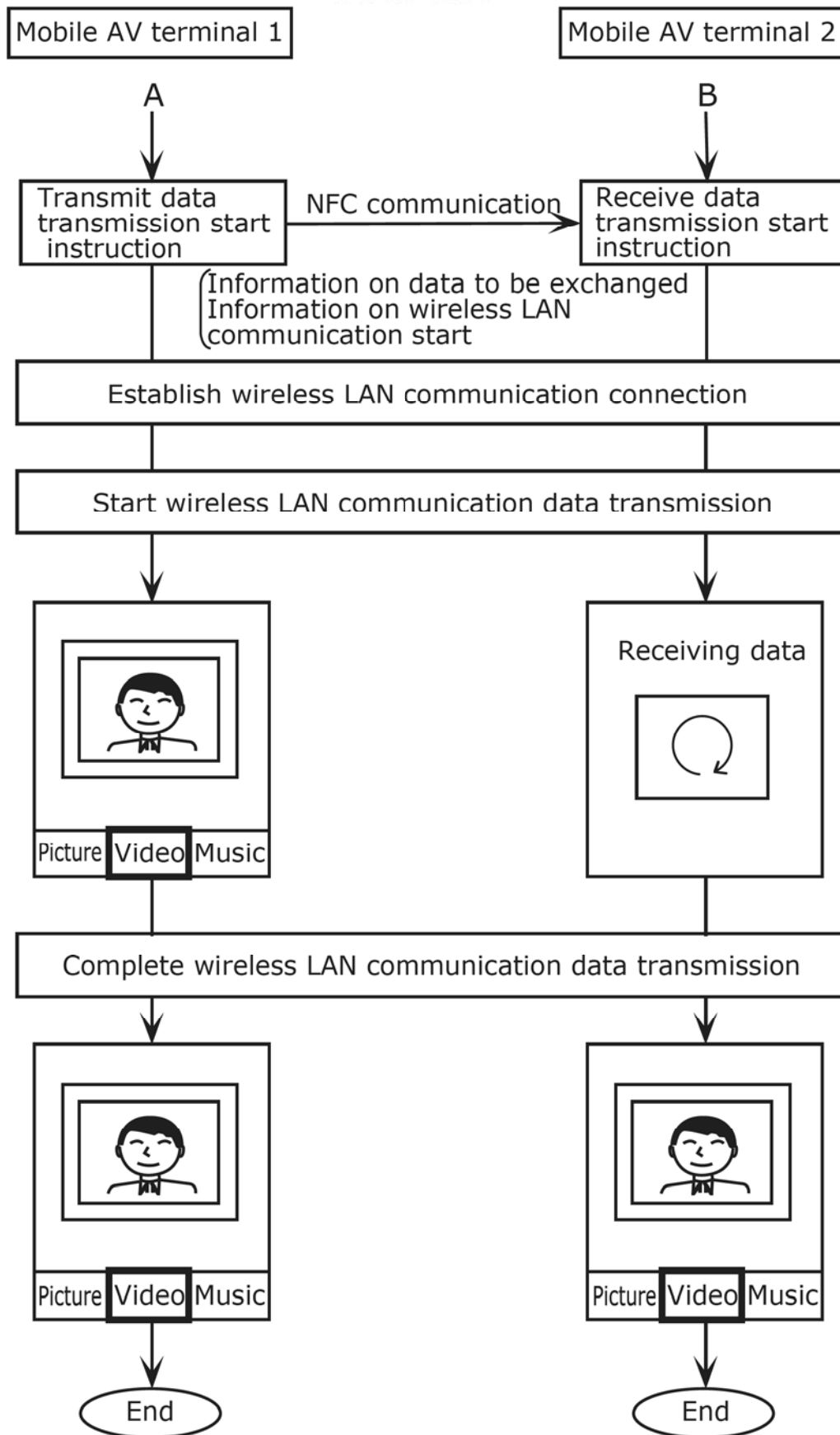


FIG. 198

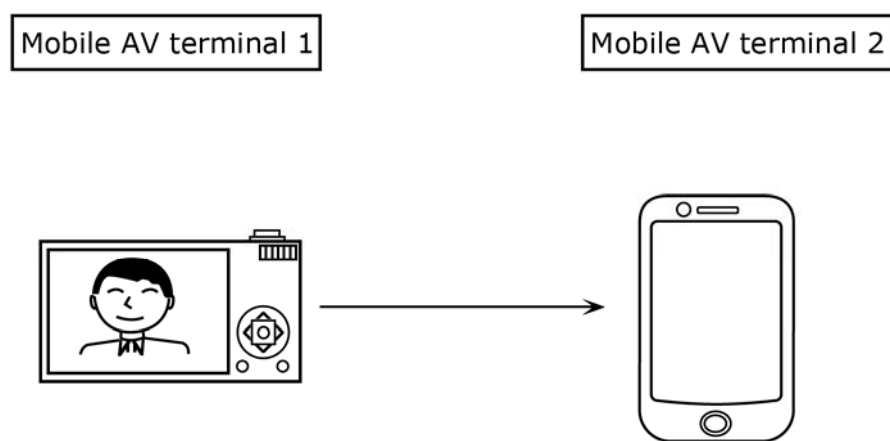
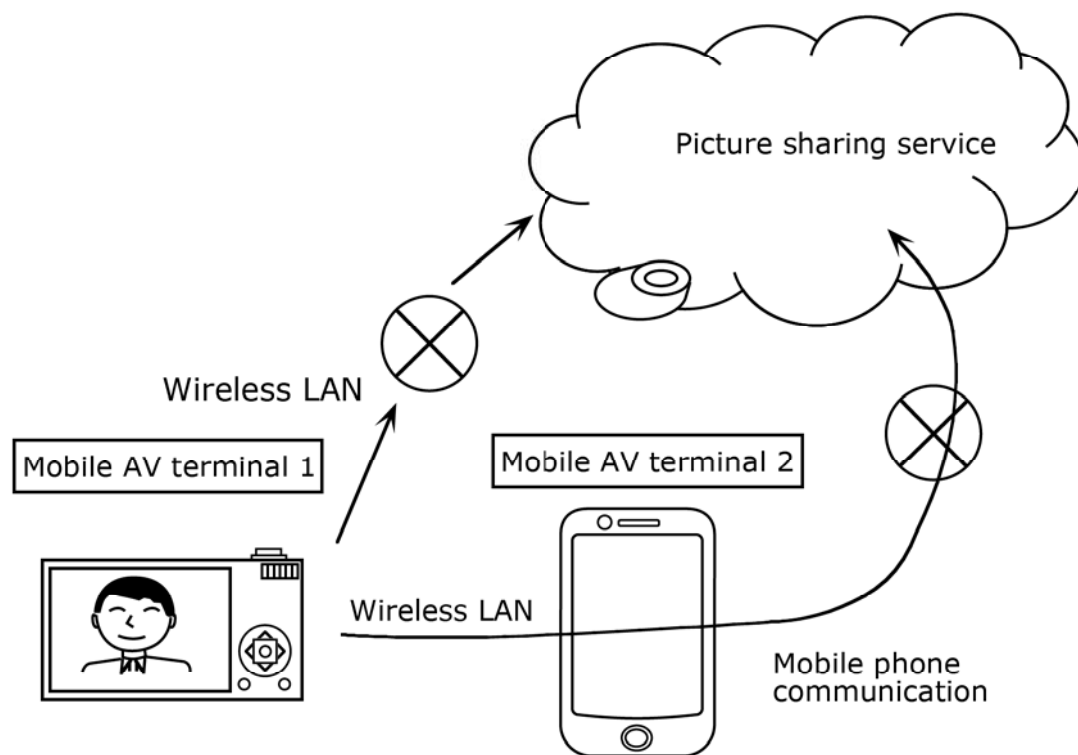


FIG. 199



[illegible]

FIG. 201

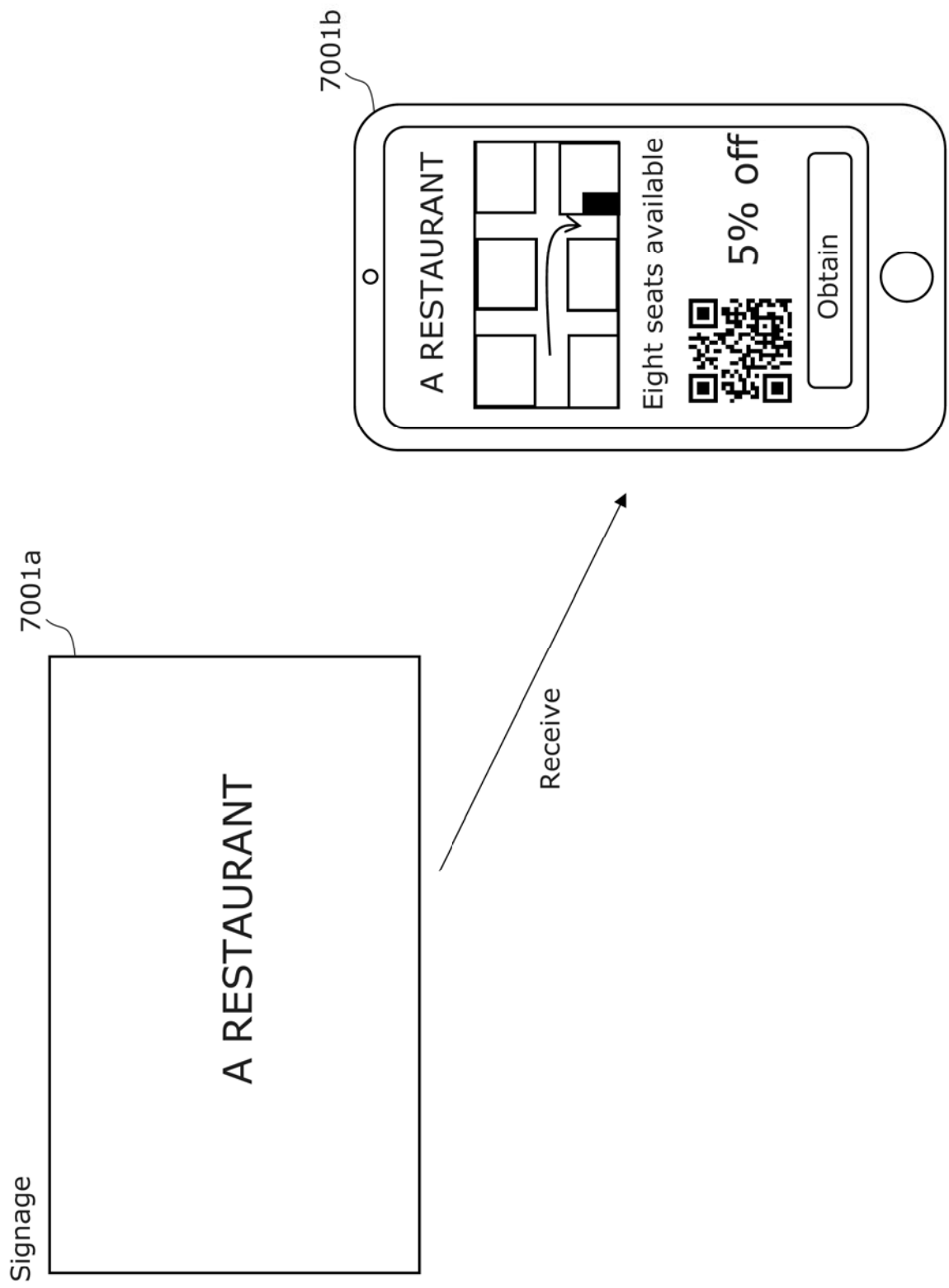


FIG. 202

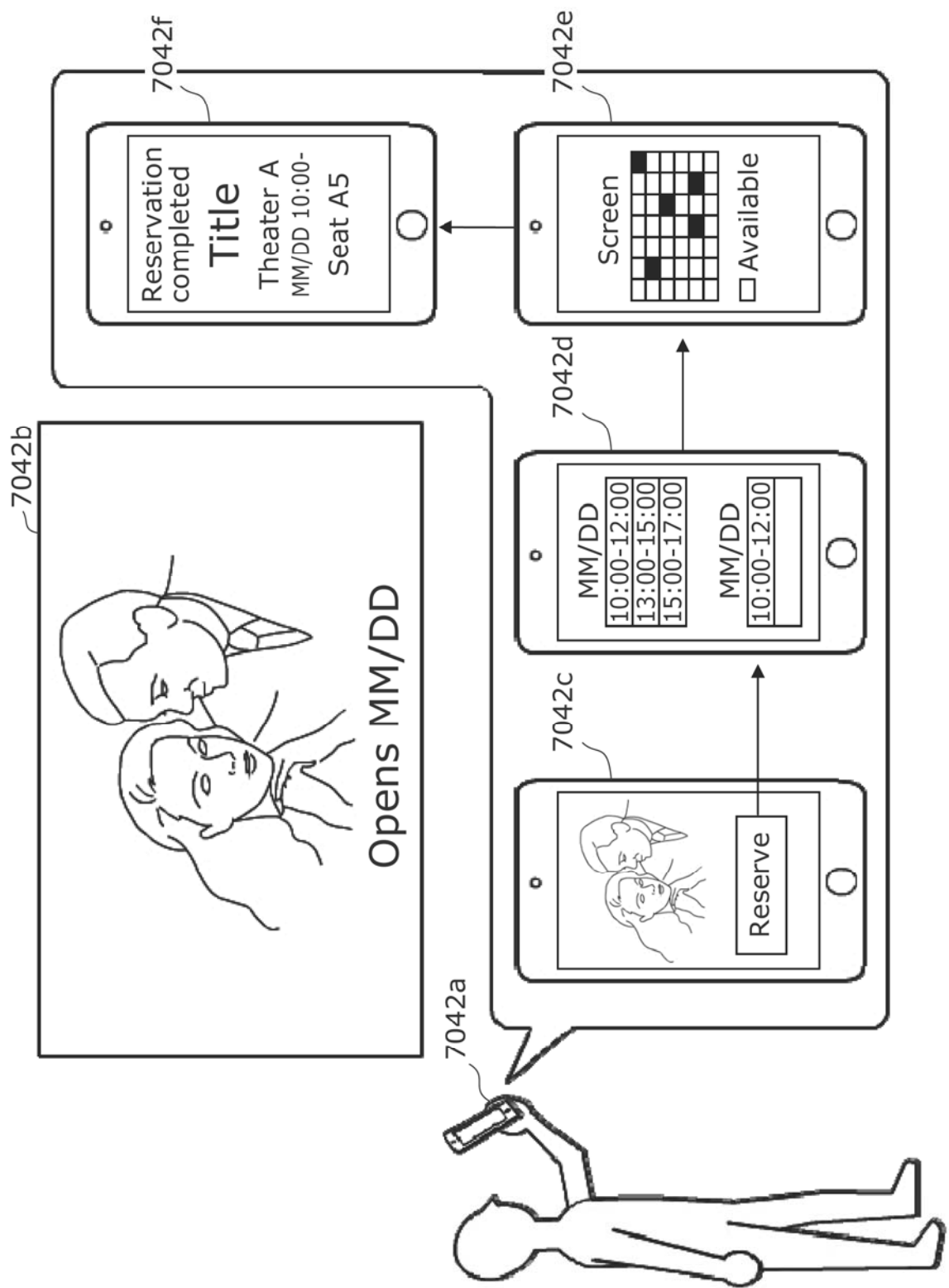


FIG. 203

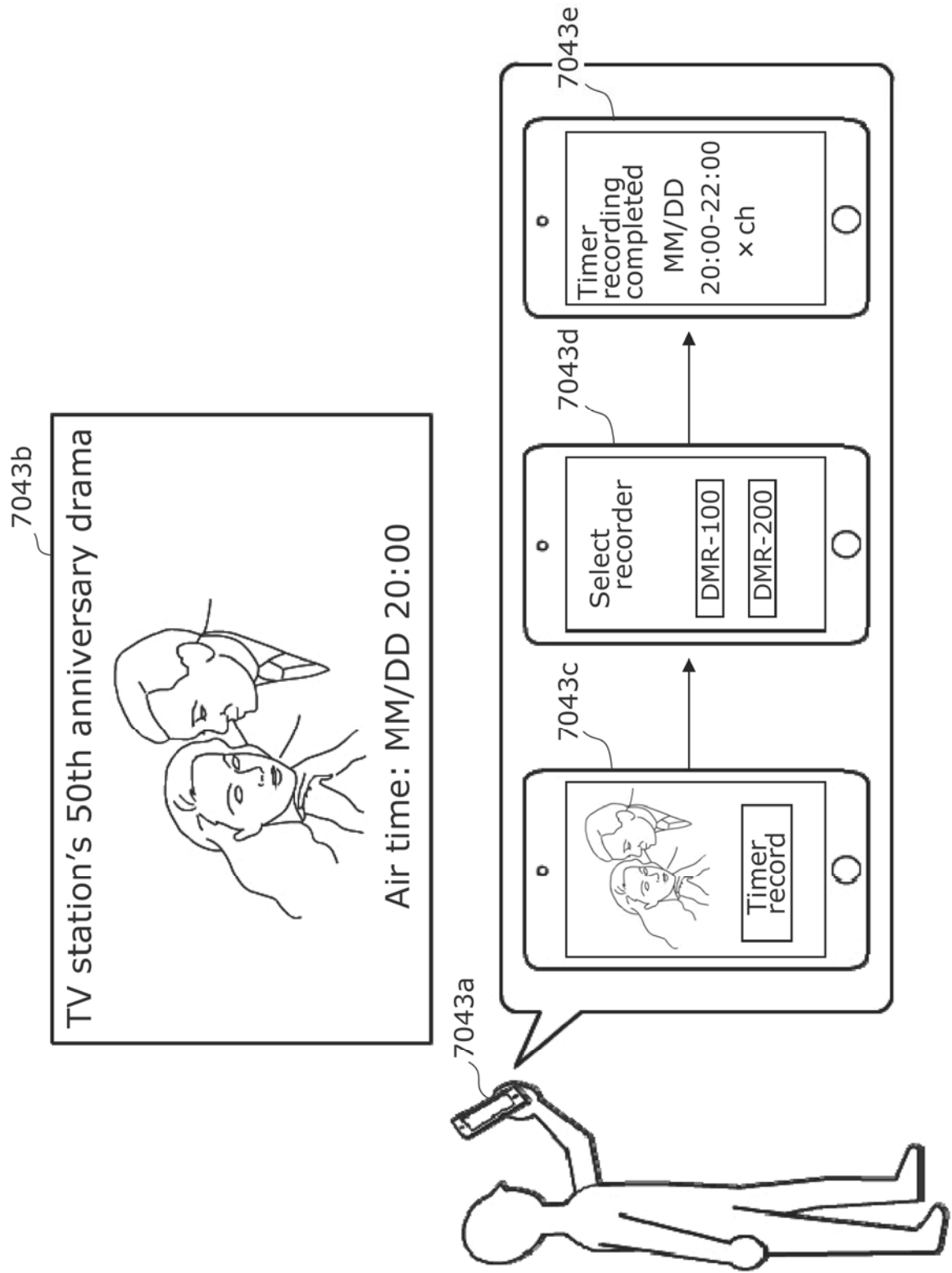


FIG. 204

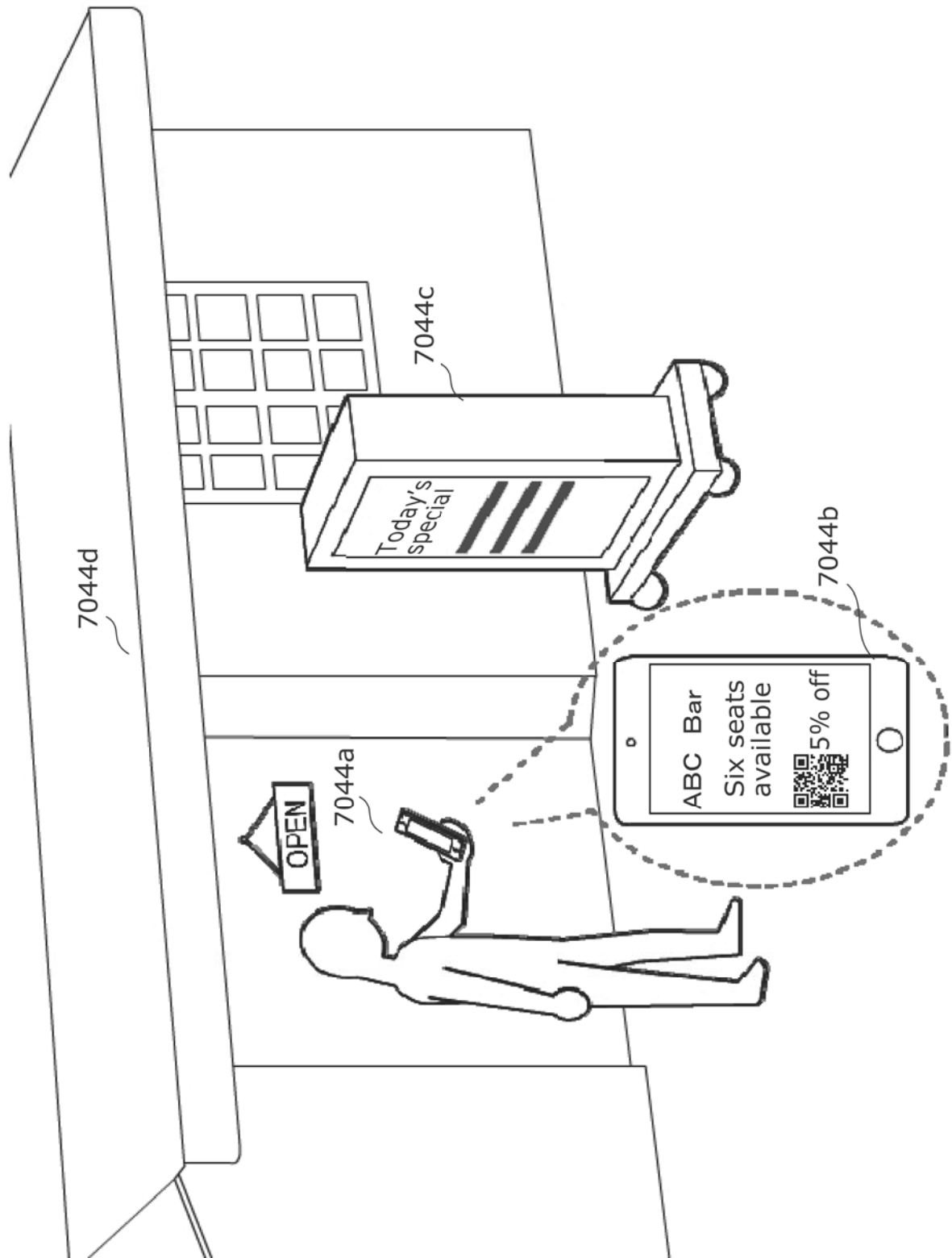


FIG. 205

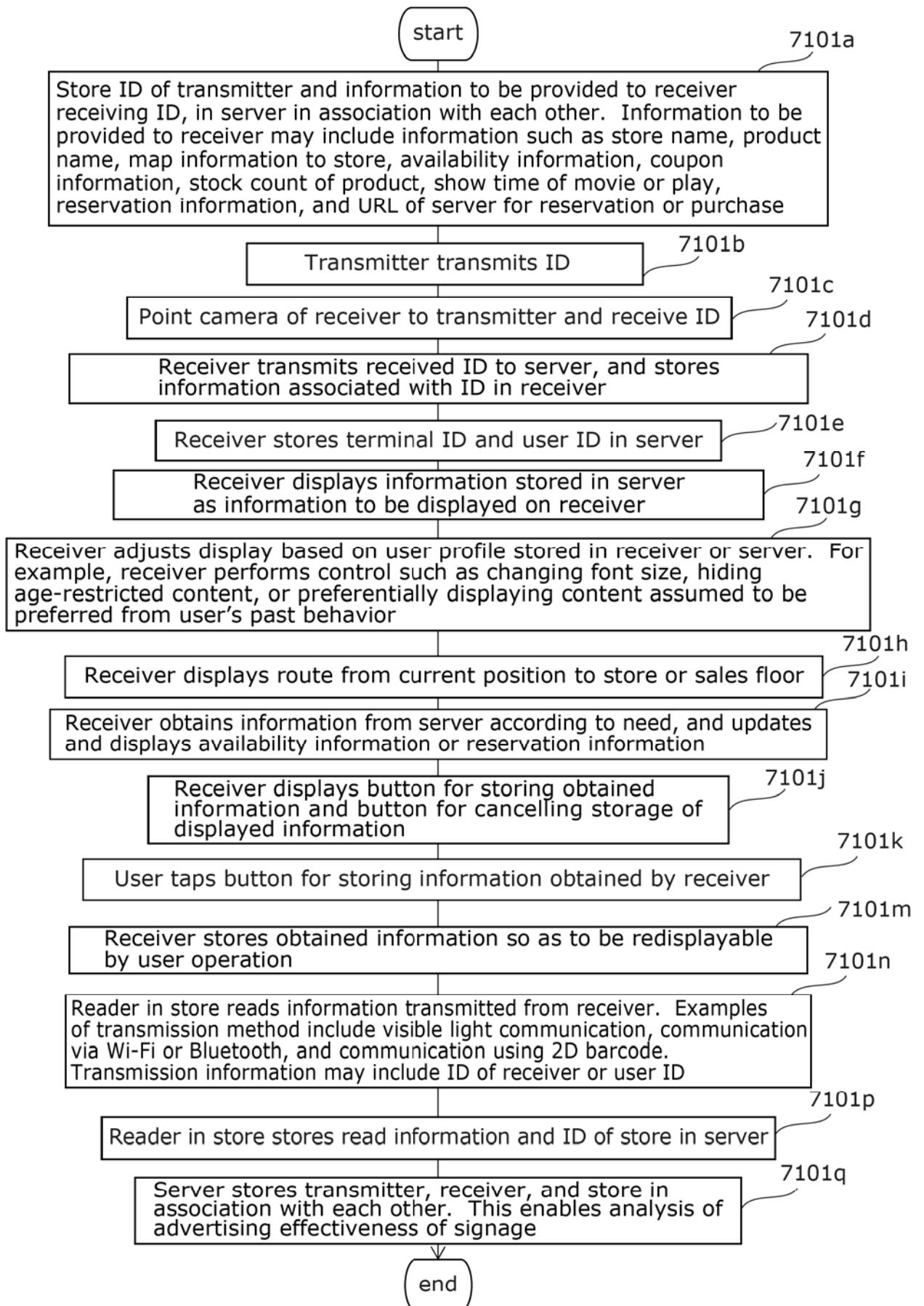


FIG. 206

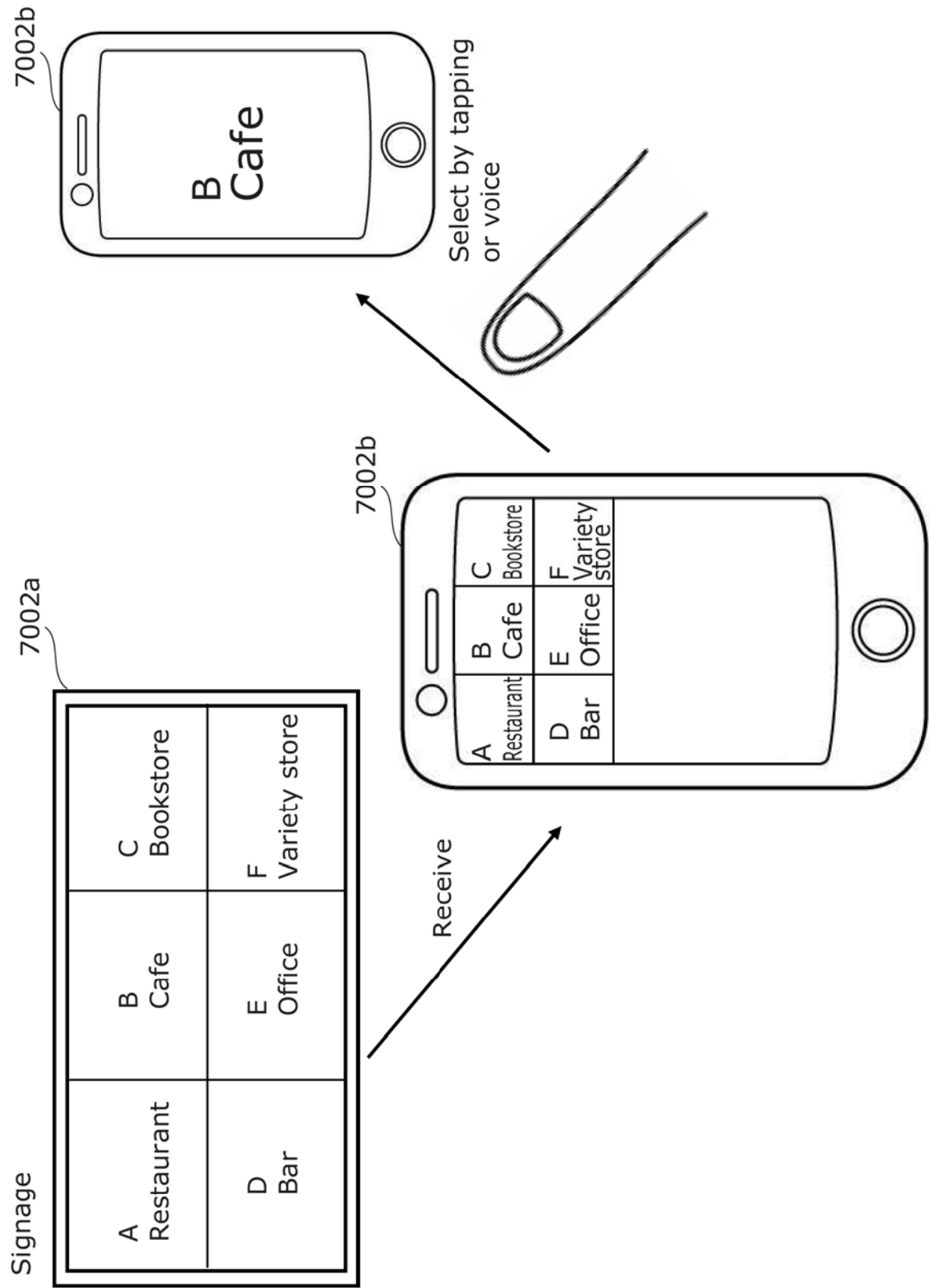


FIG. 207

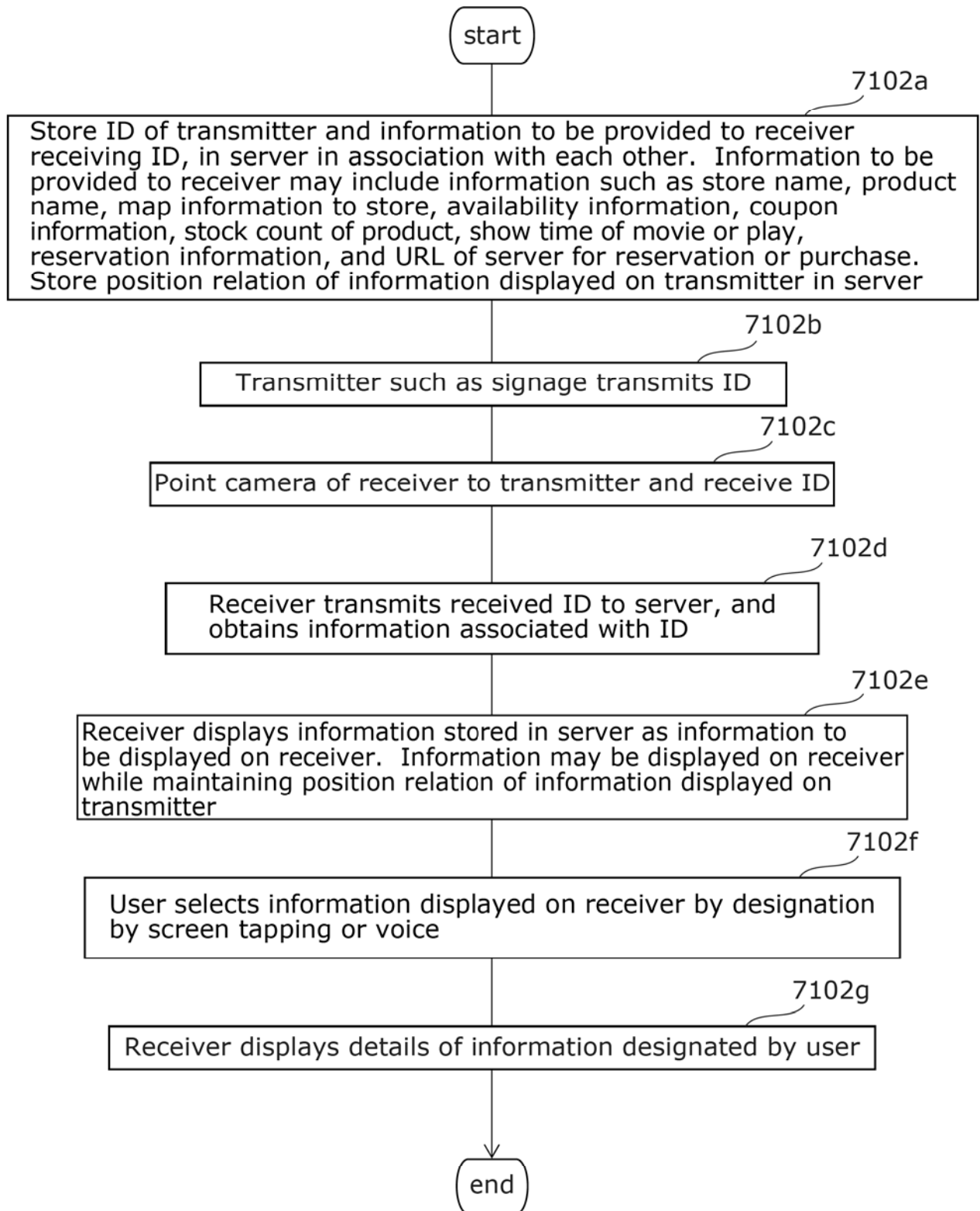


FIG. 208

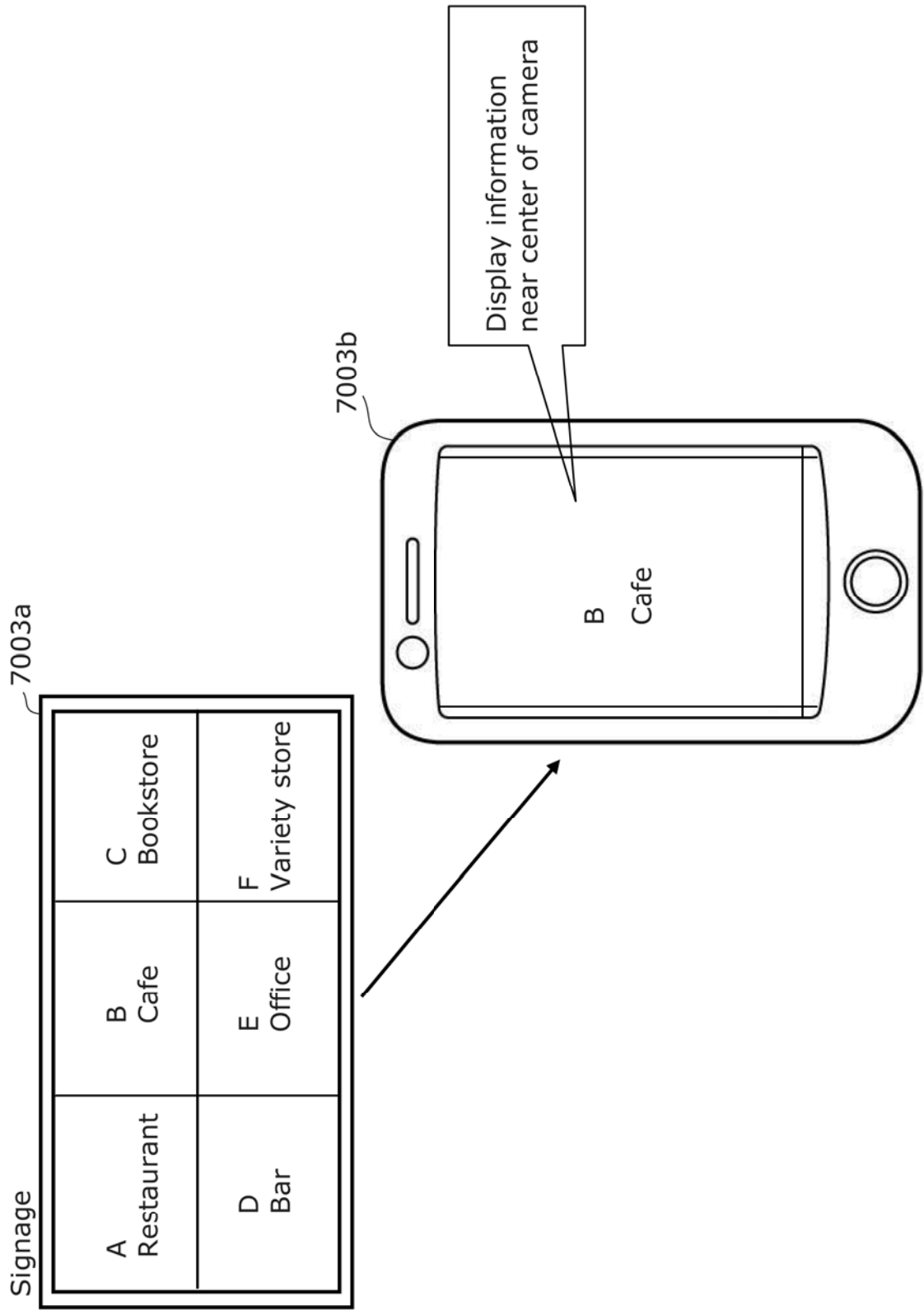


FIG. 209

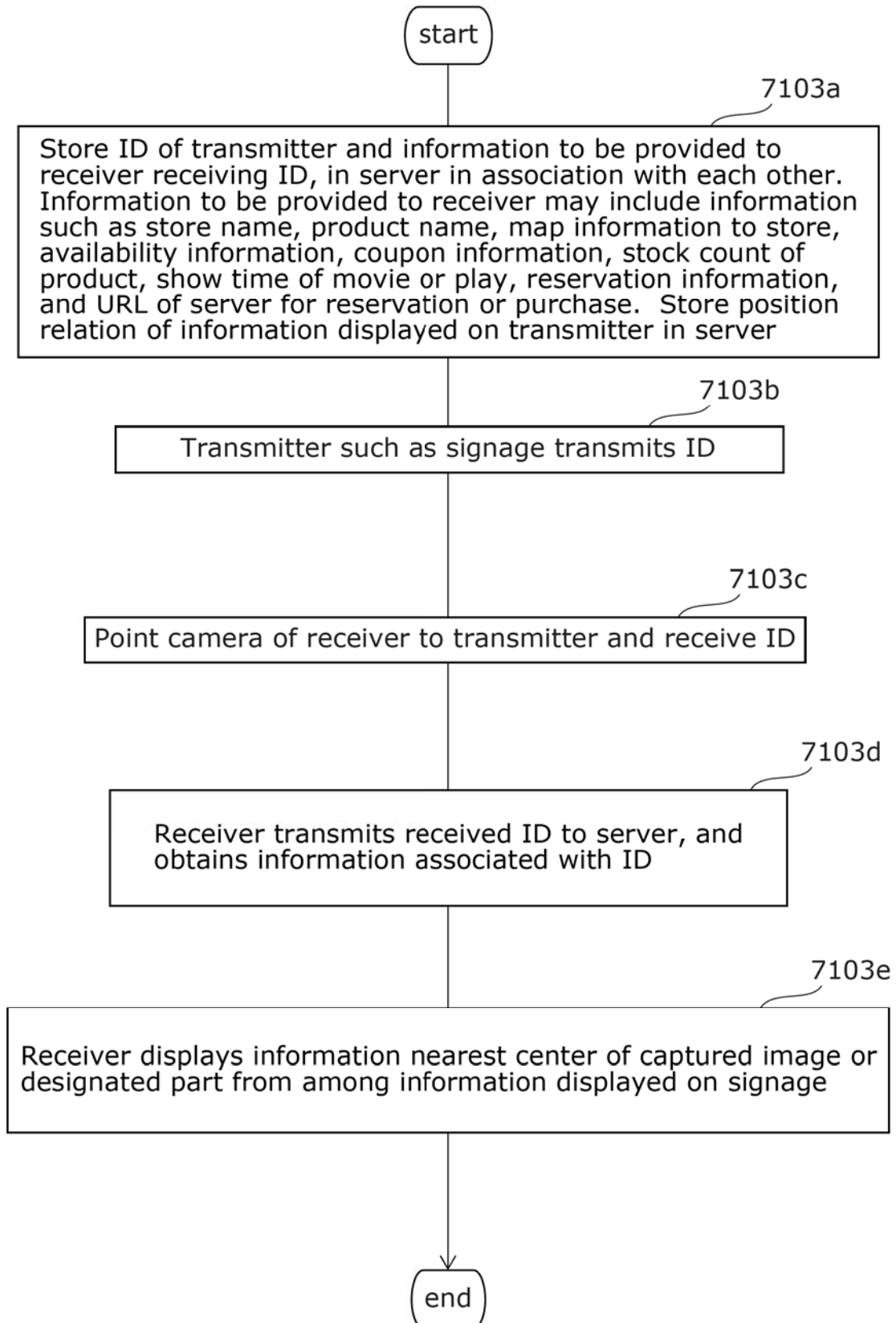


FIG. 210

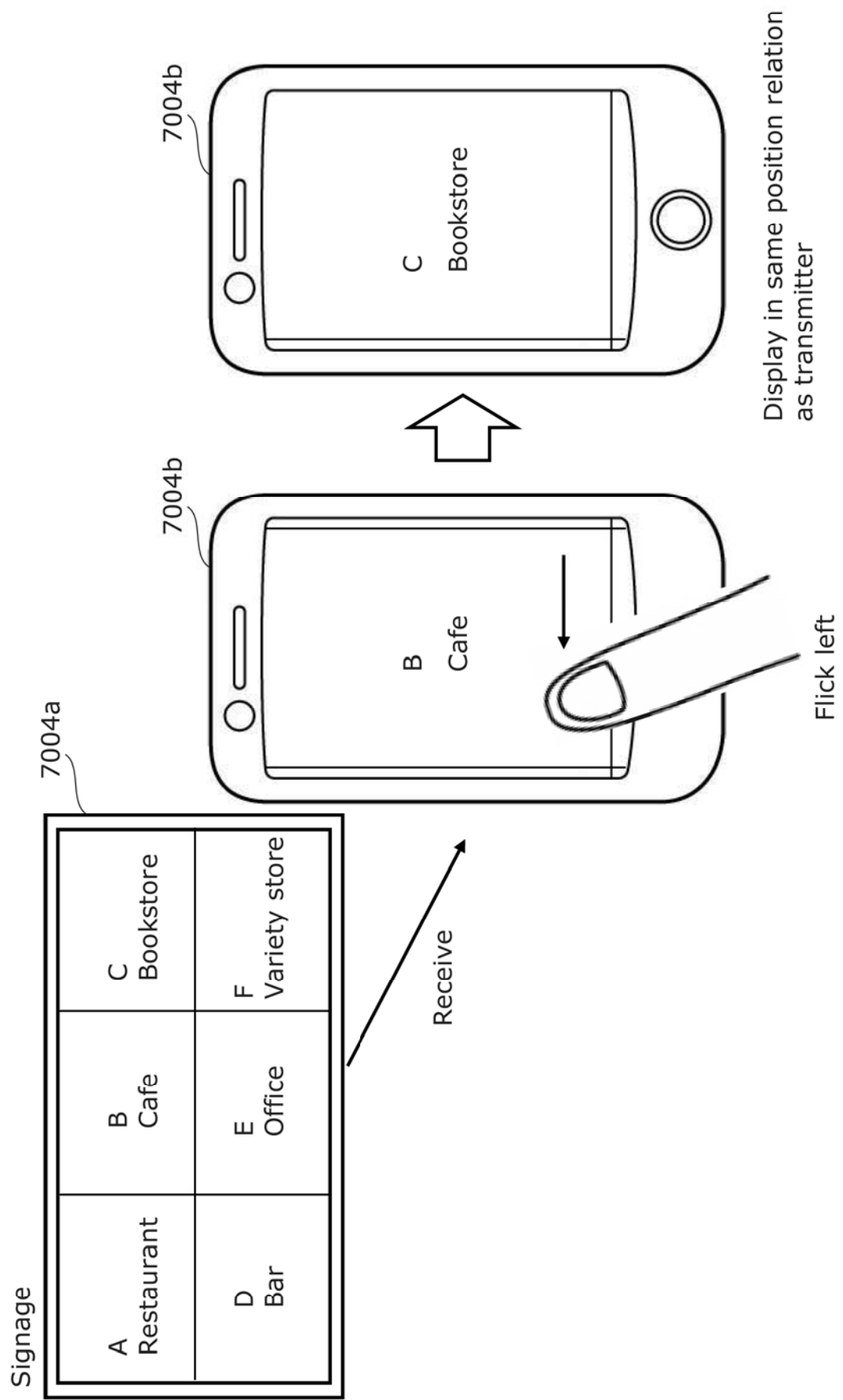


FIG. 211

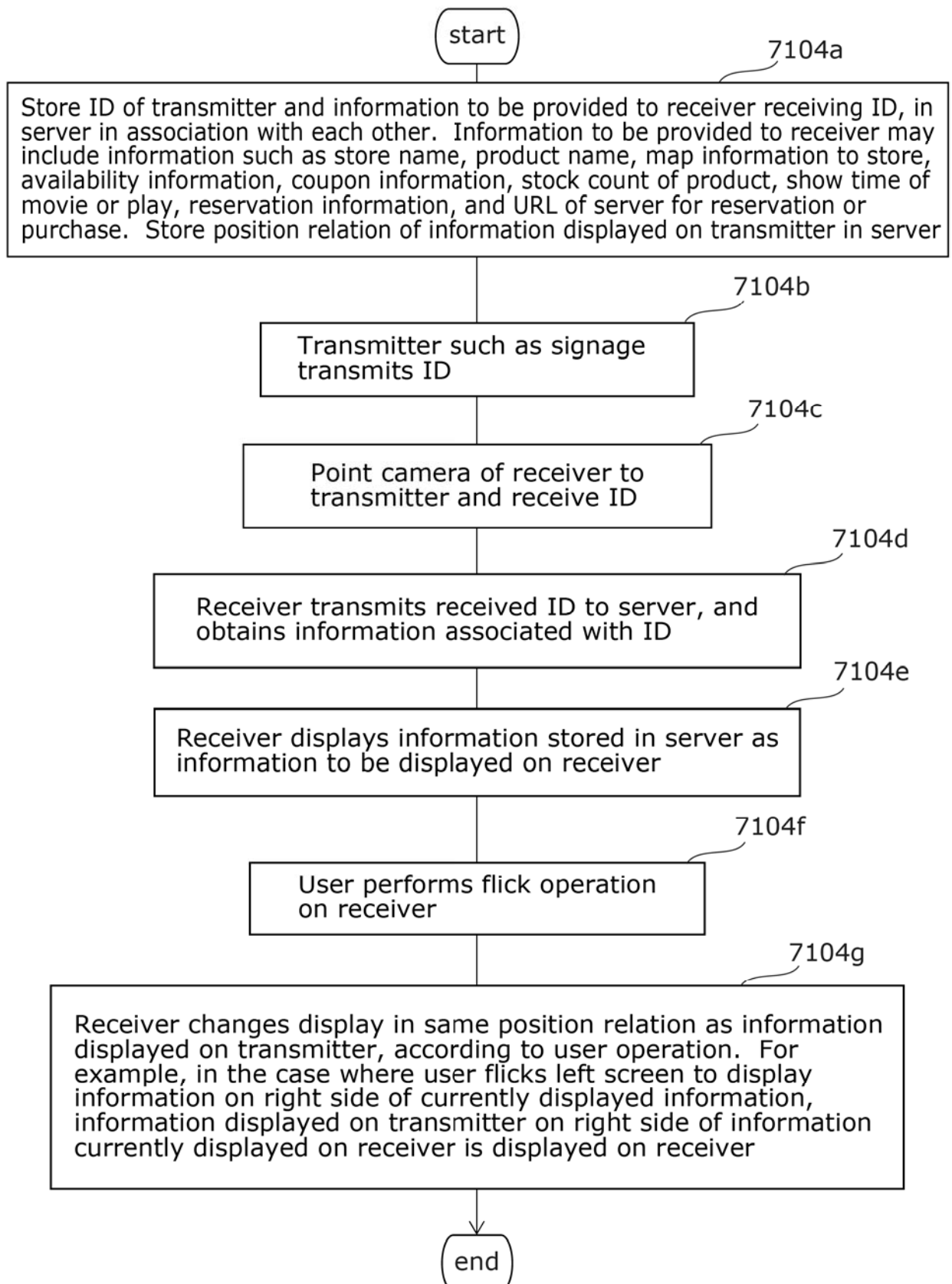


FIG. 212

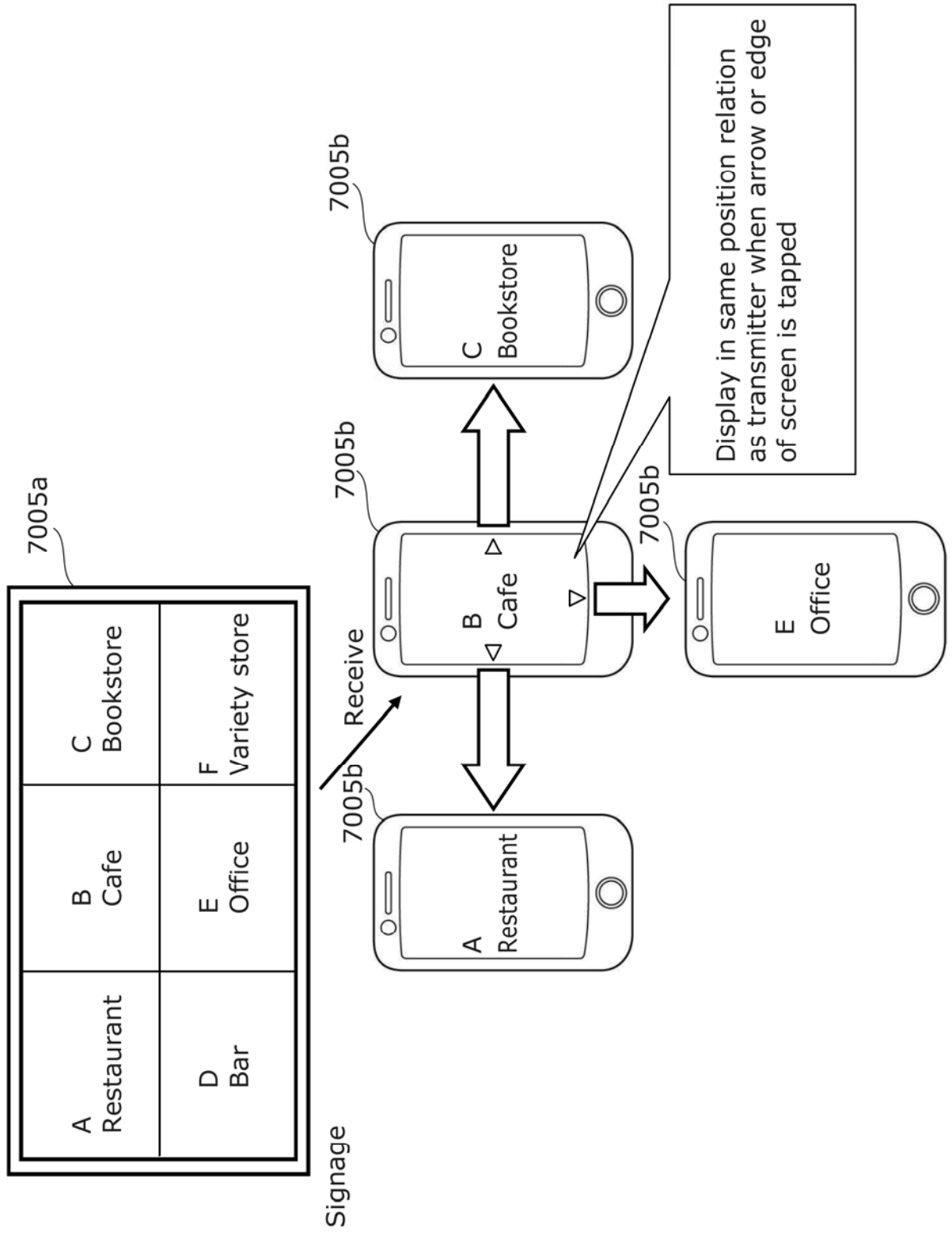


FIG. 213

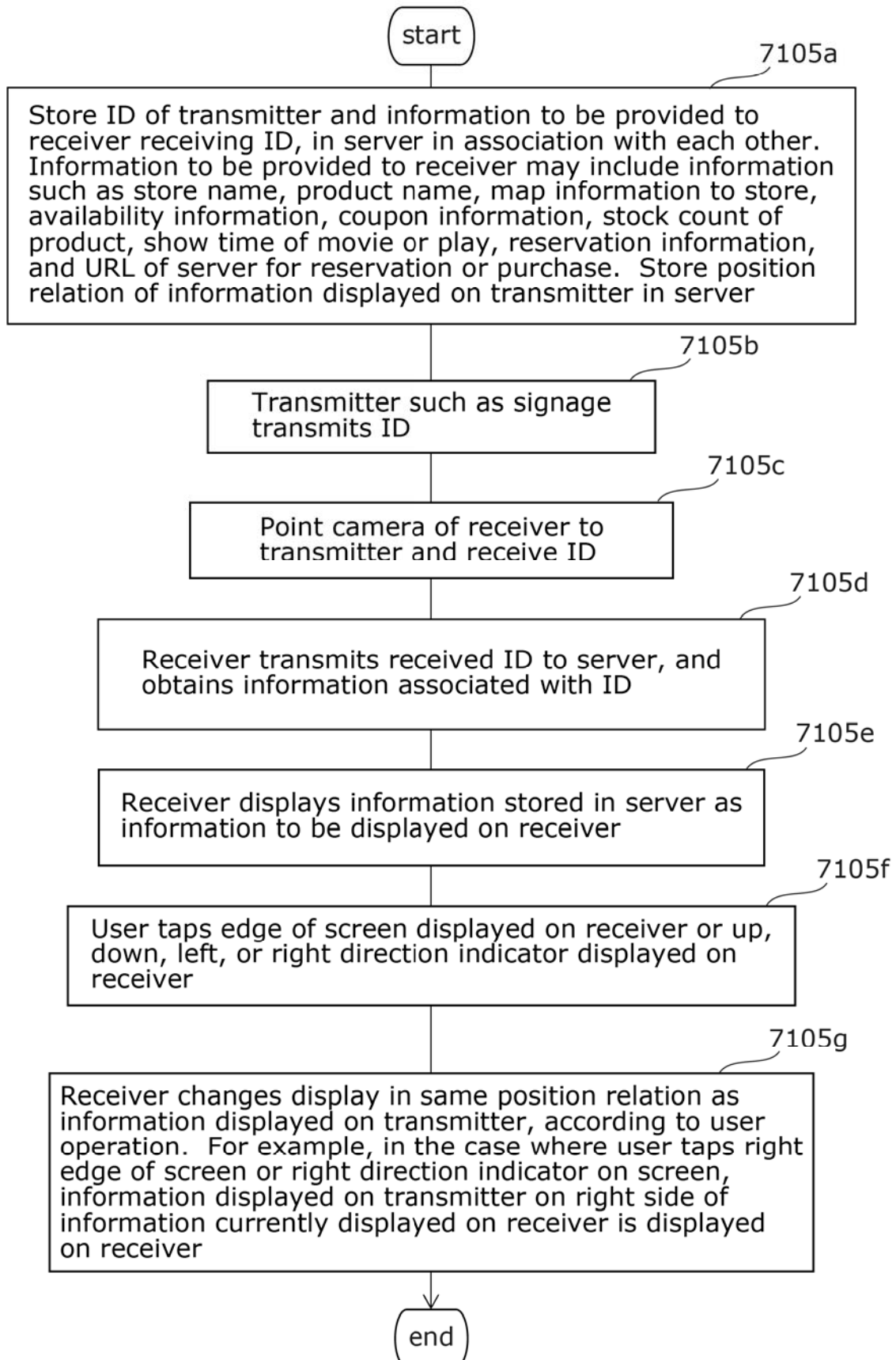


FIG. 214

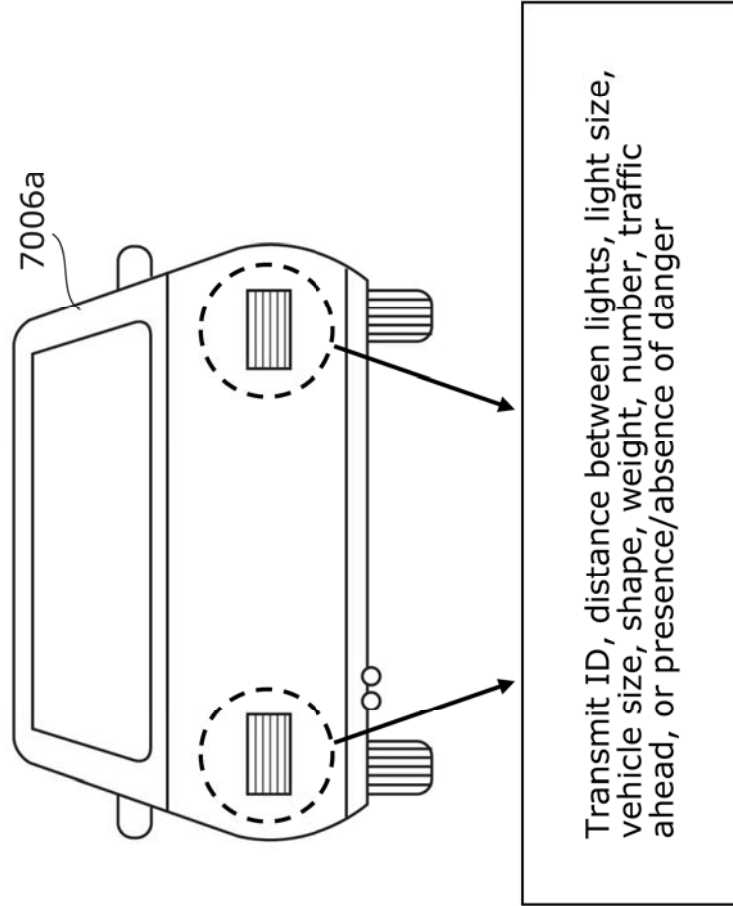


FIG. 215

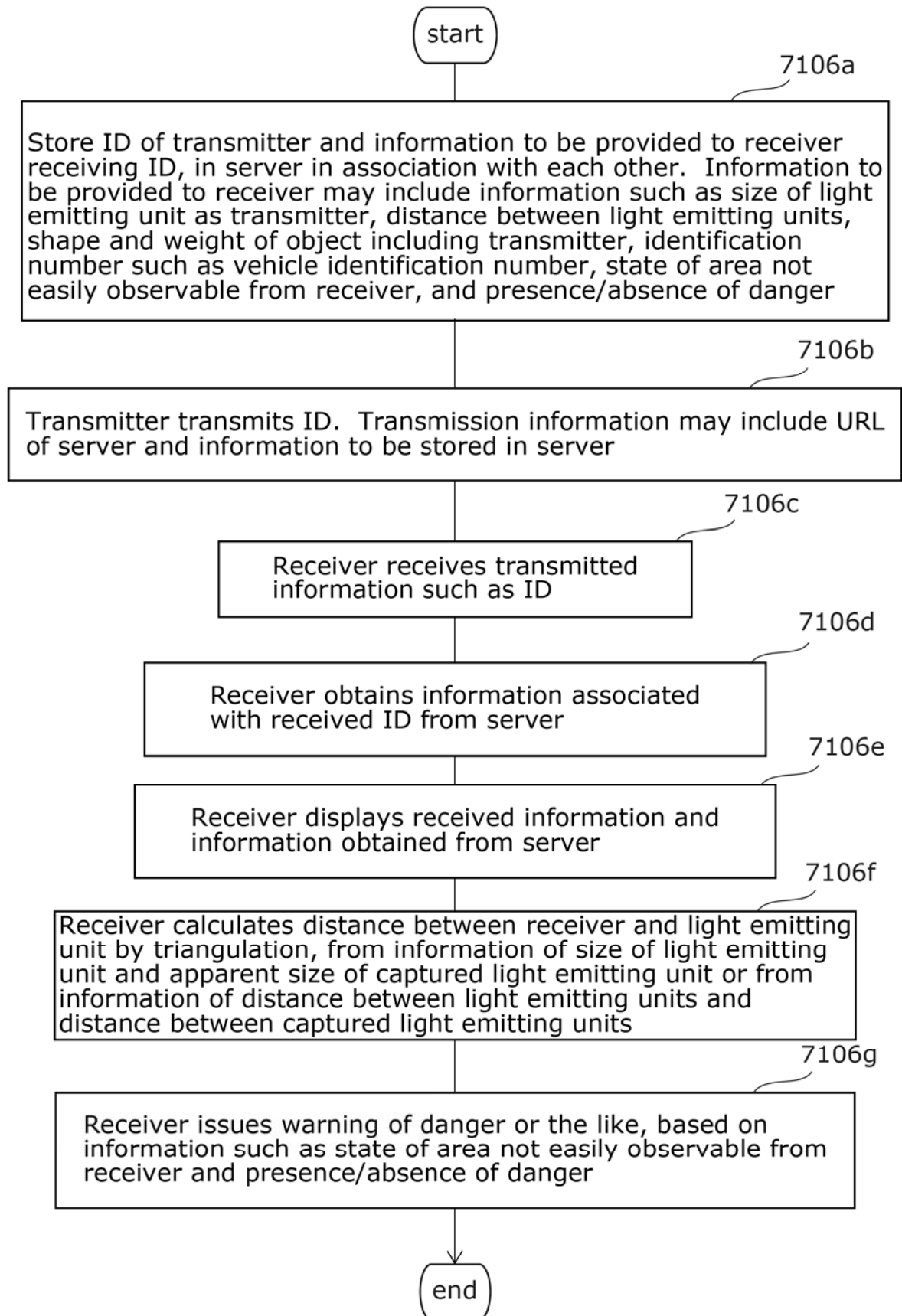


FIG. 216

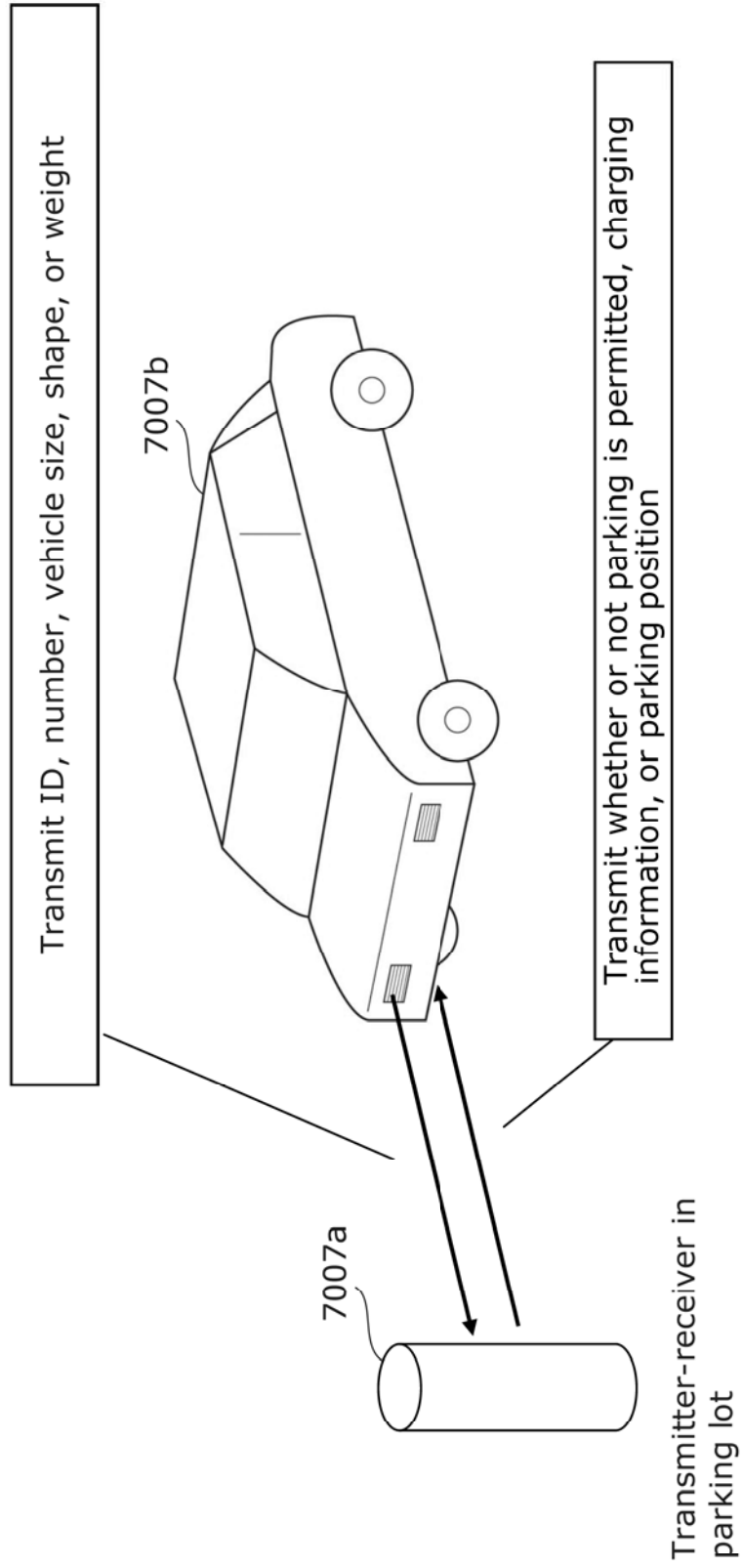


FIG. 217

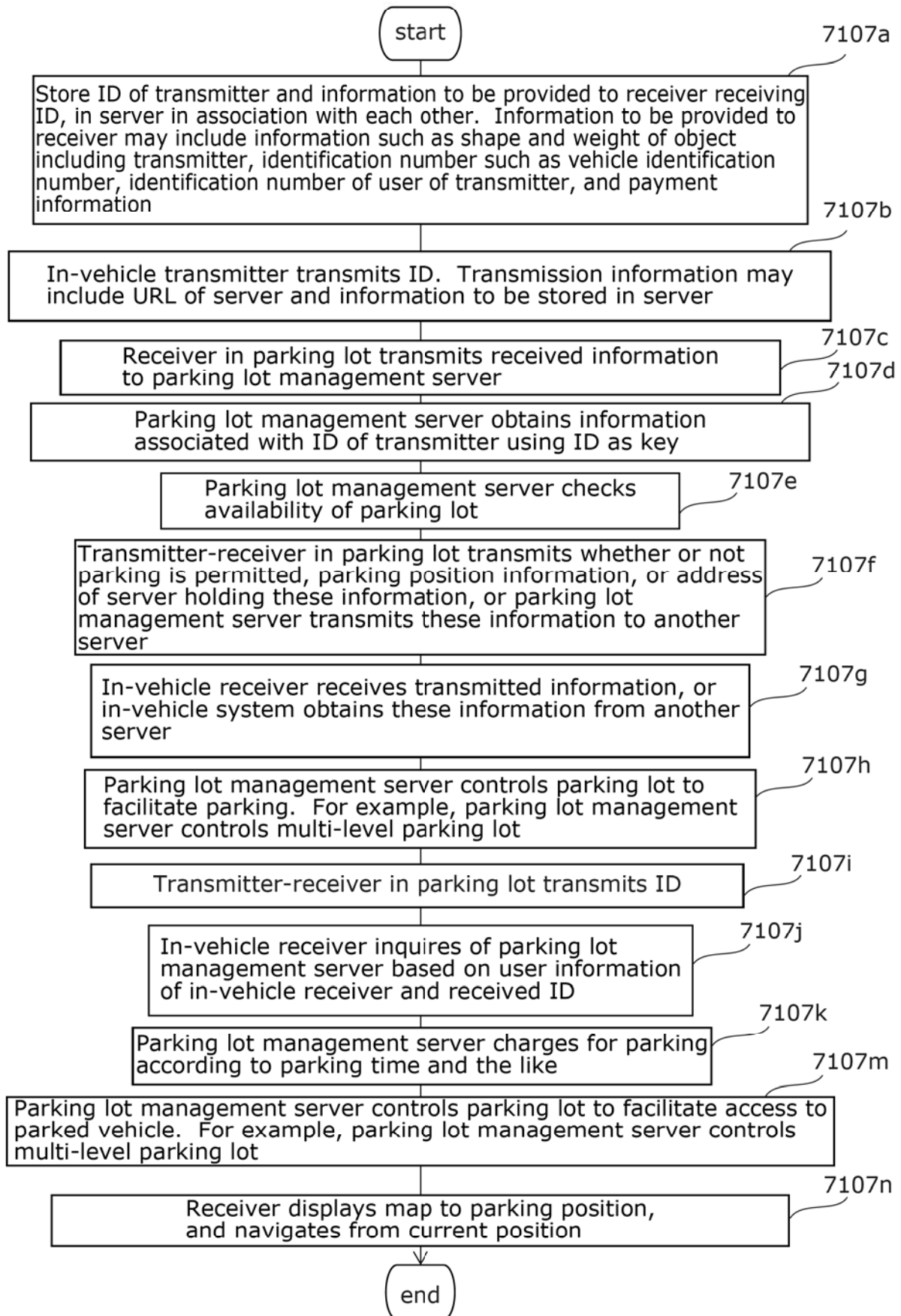


FIG. 218

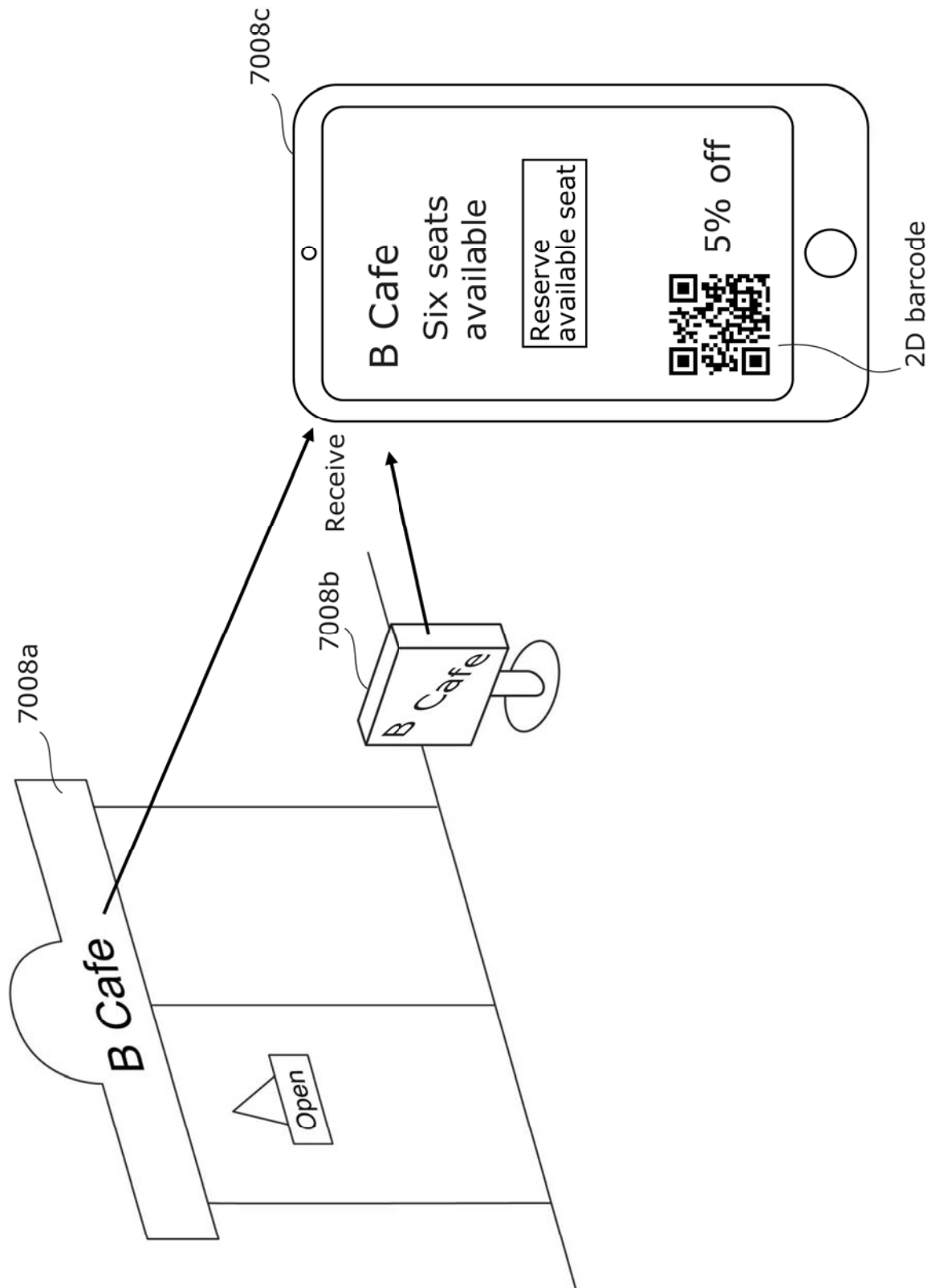


FIG. 219

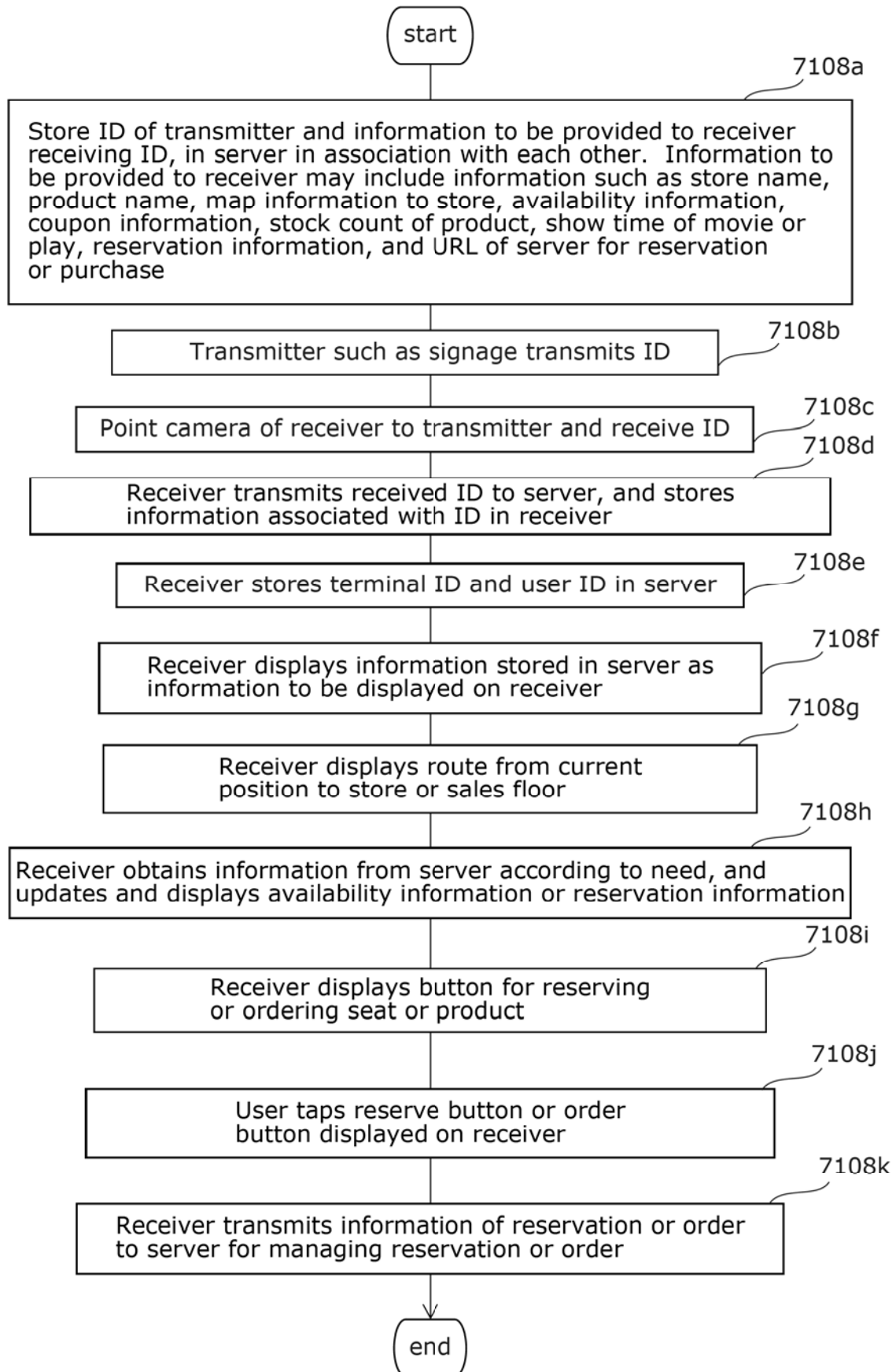


FIG. 220

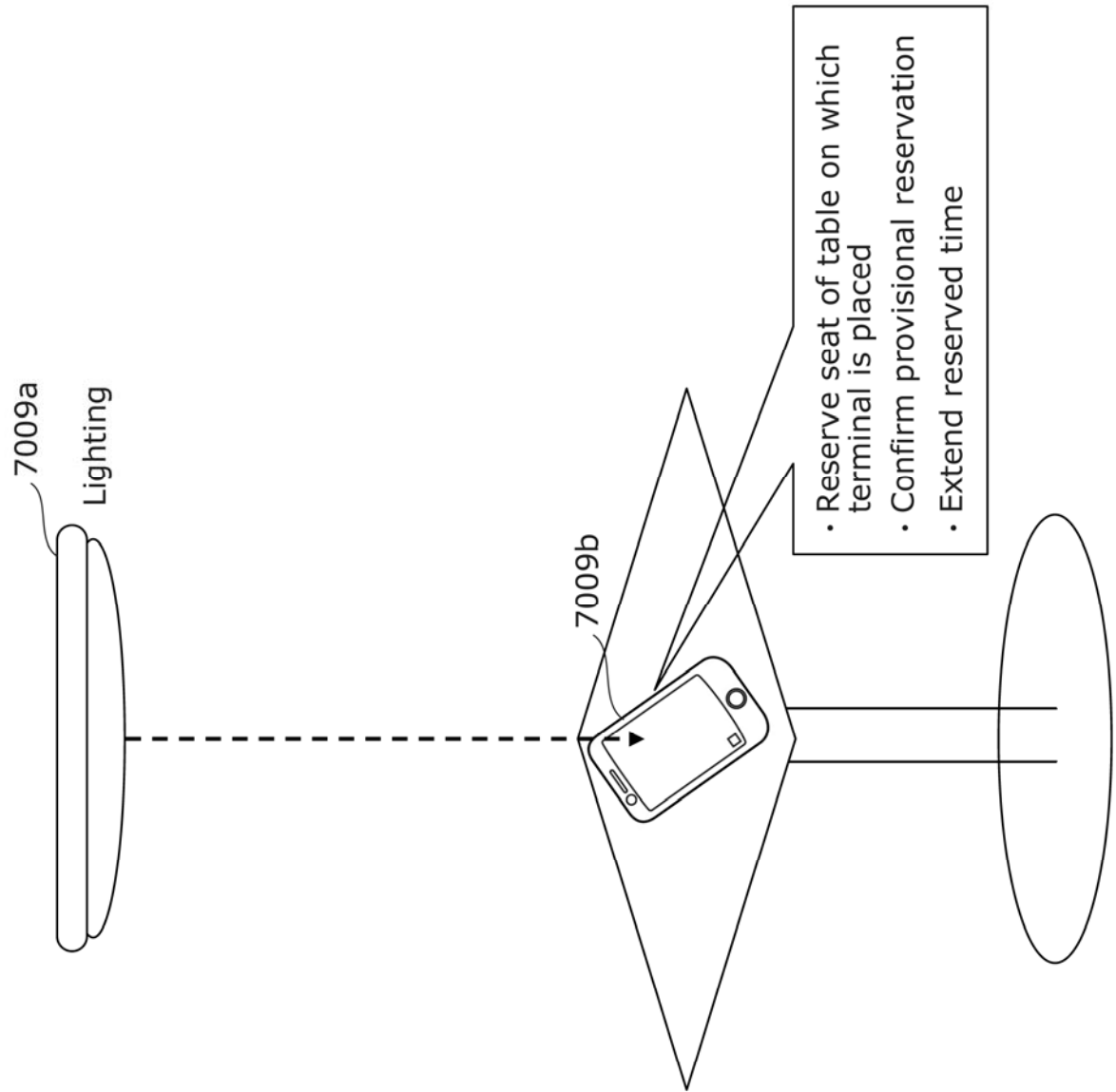


FIG. 221

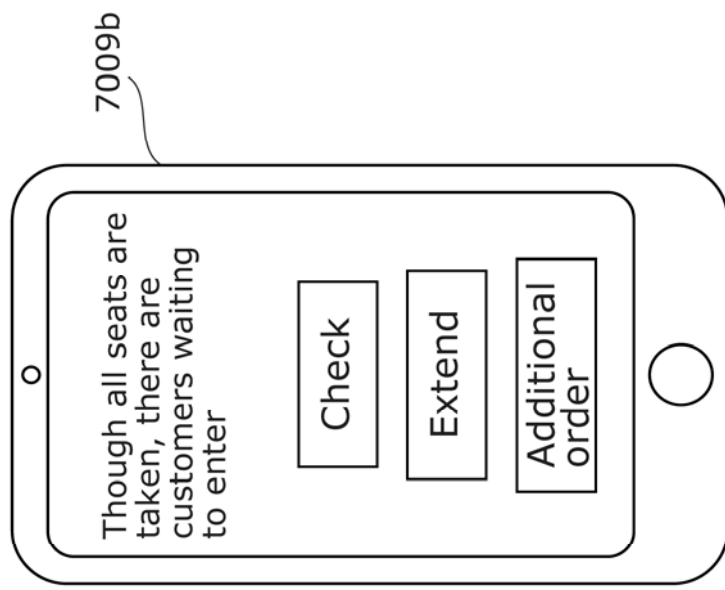


FIG. 222

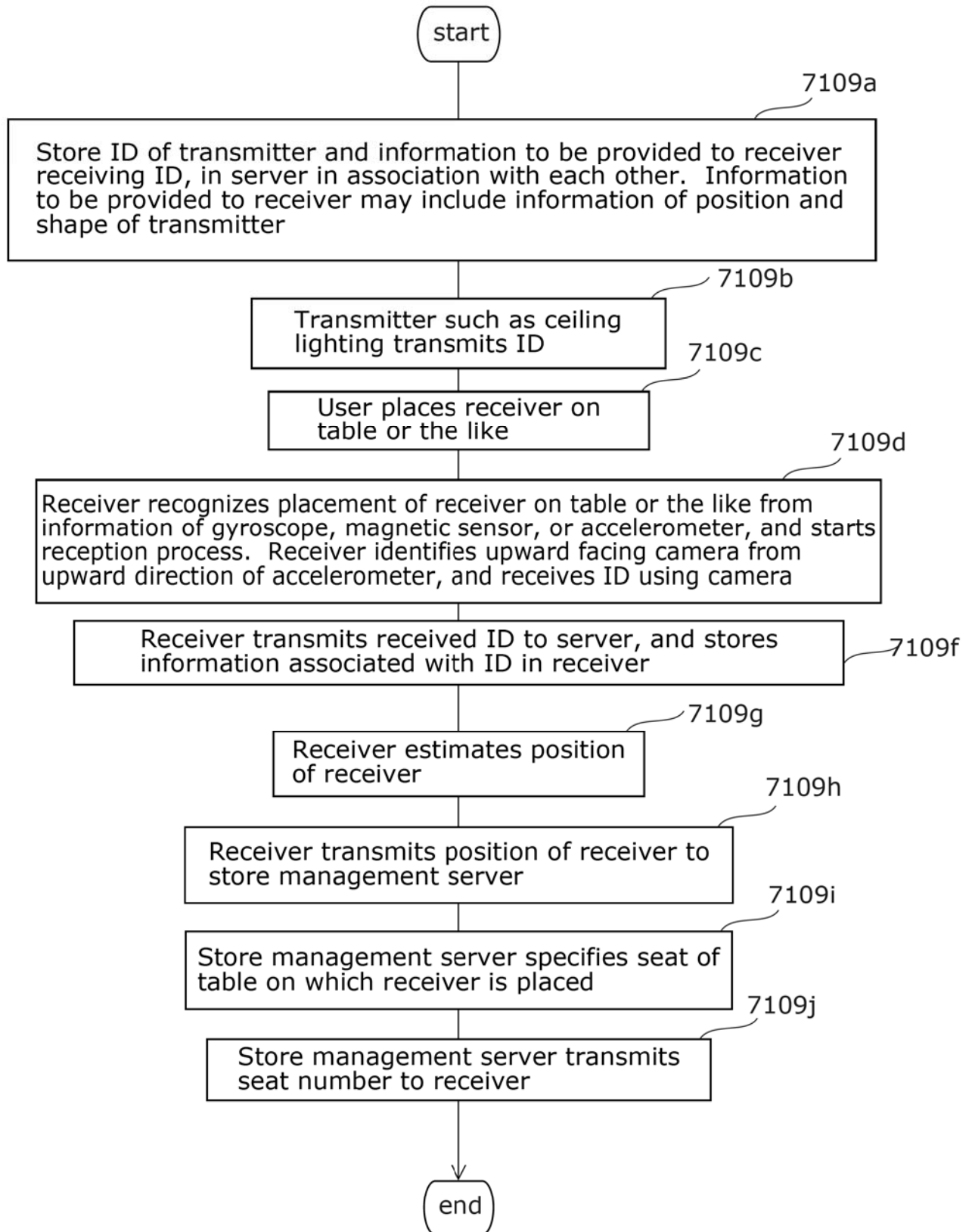


FIG. 223

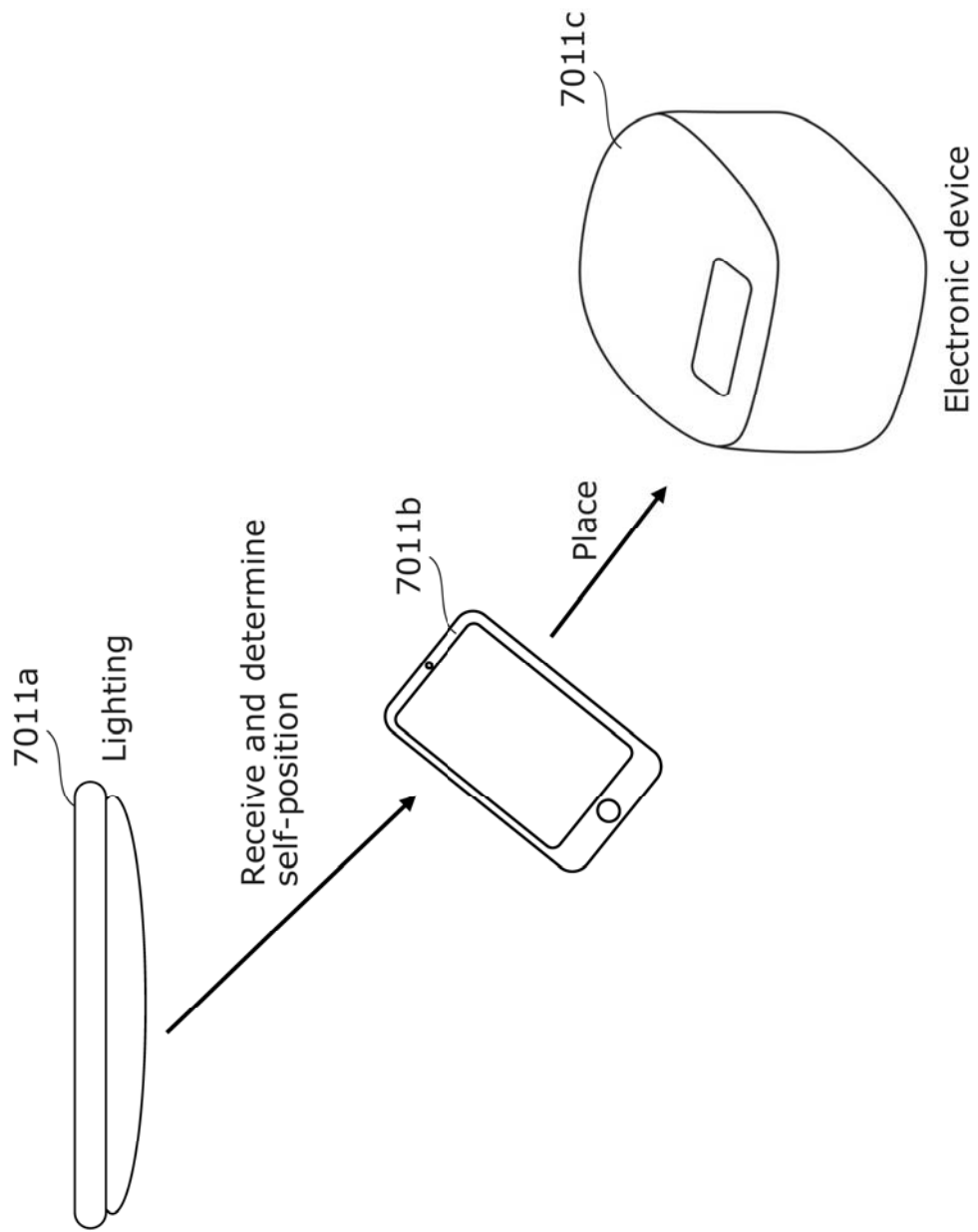


FIG. 224

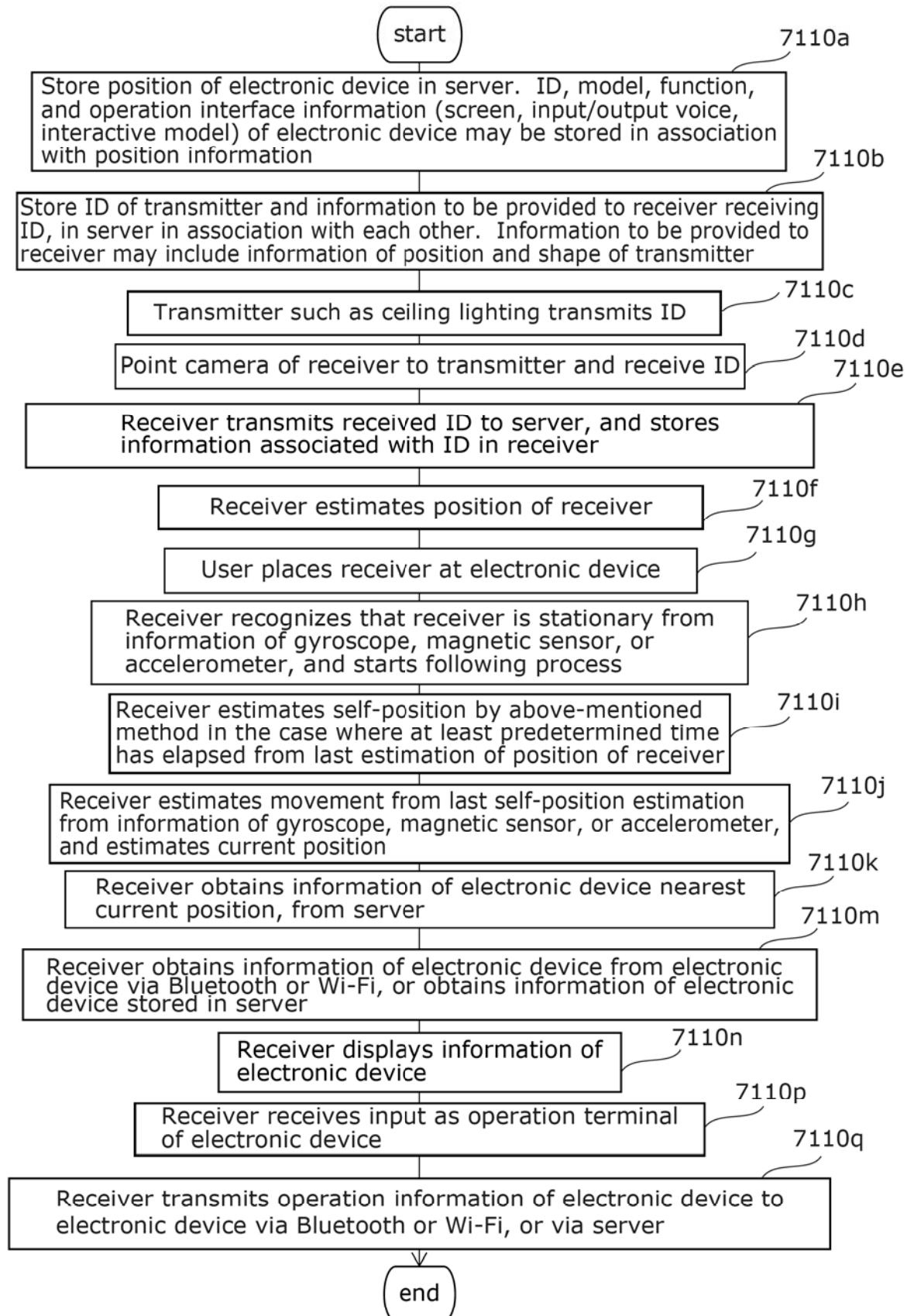


FIG. 225

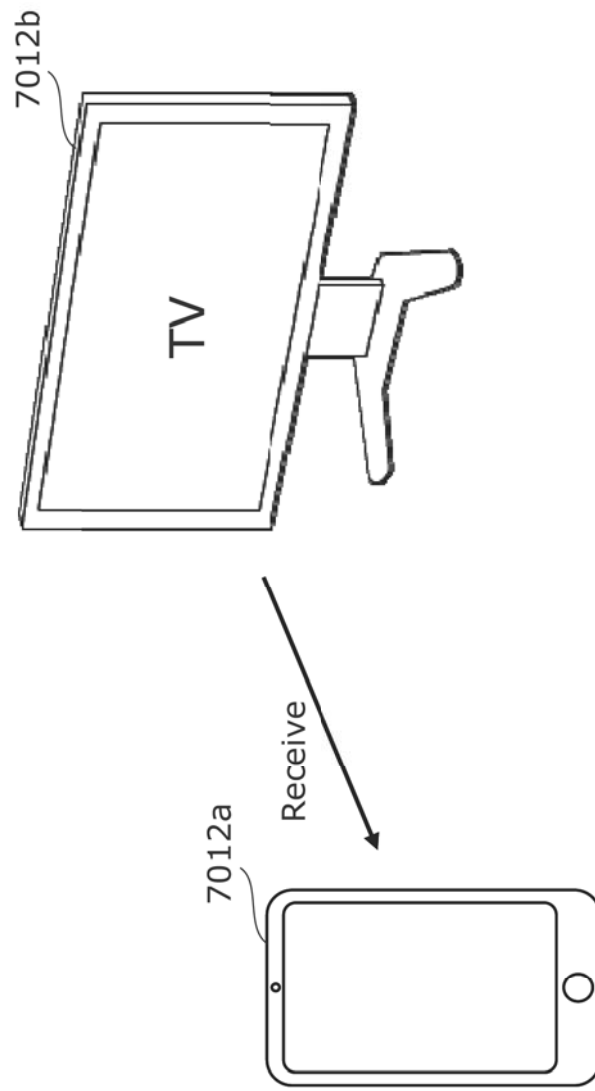


FIG. 226

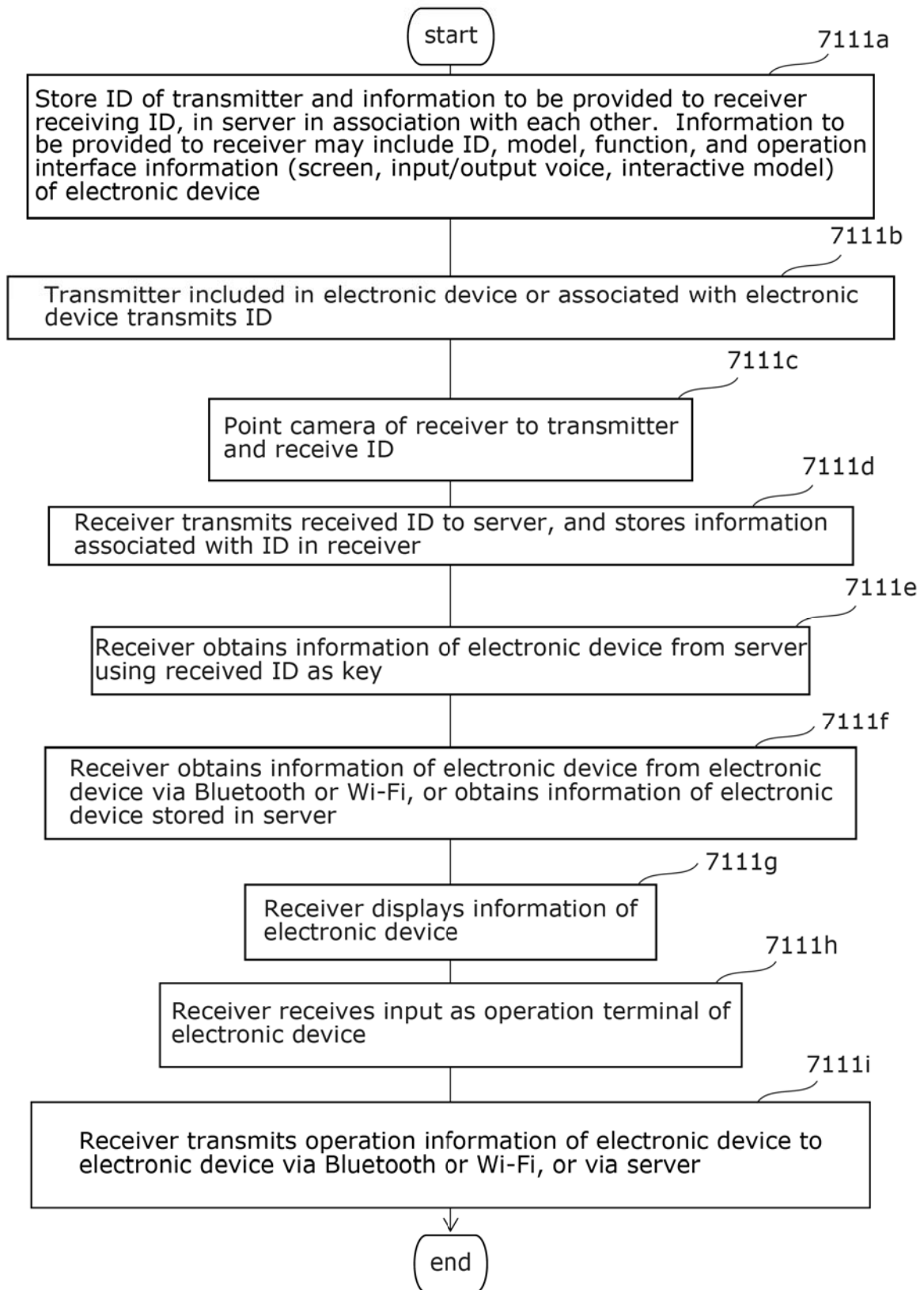


FIG. 227

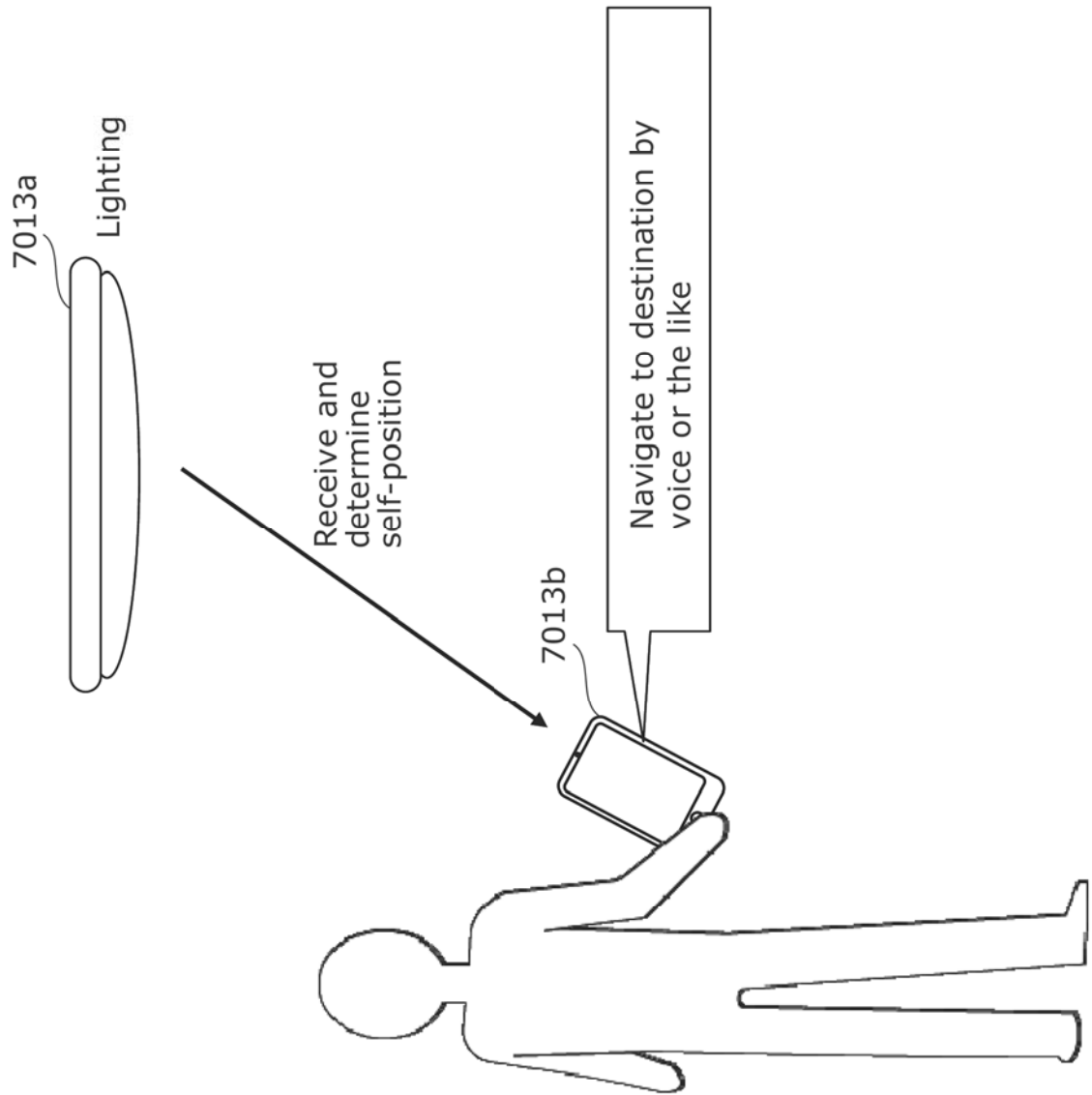


FIG. 228

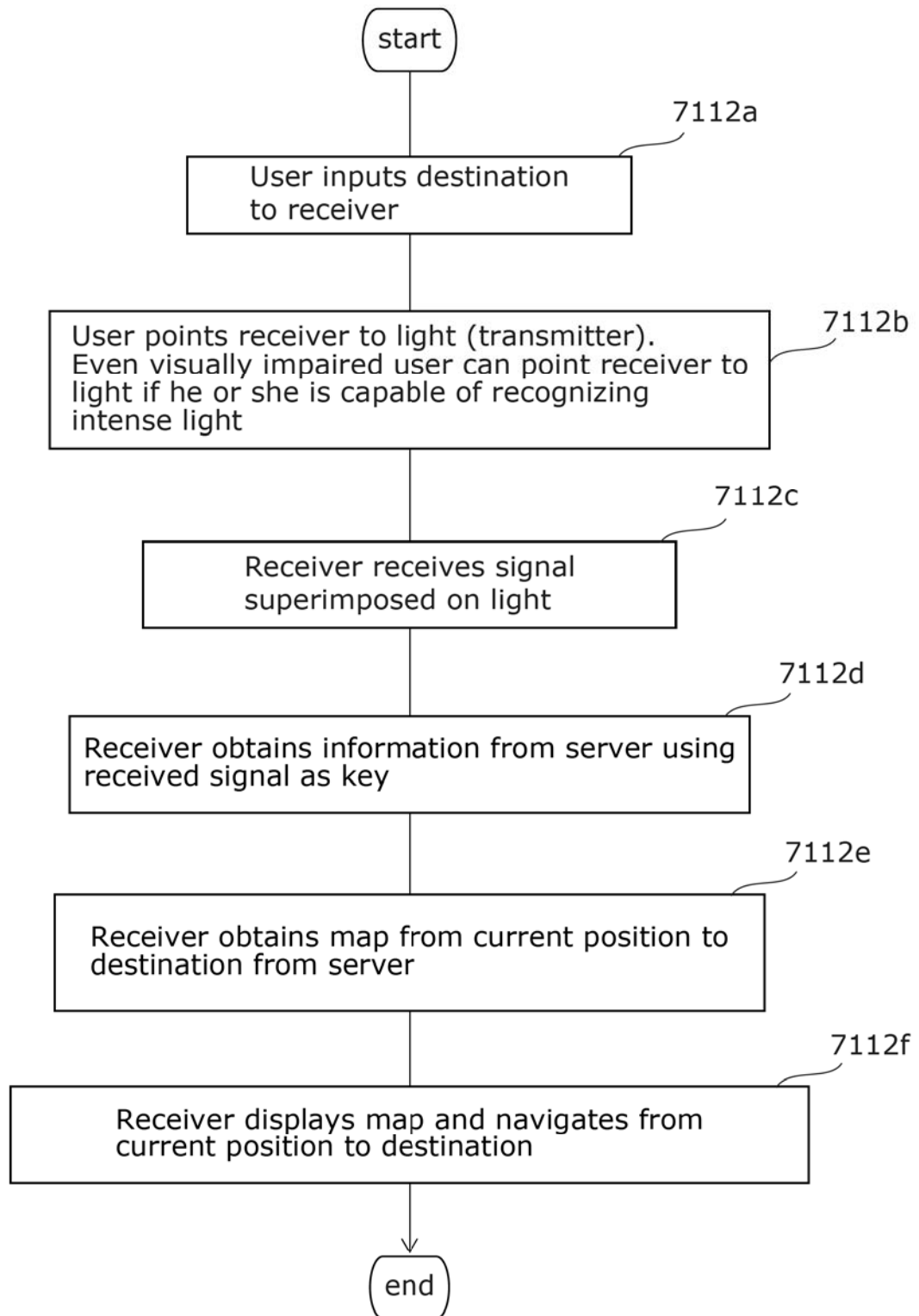


FIG. 229

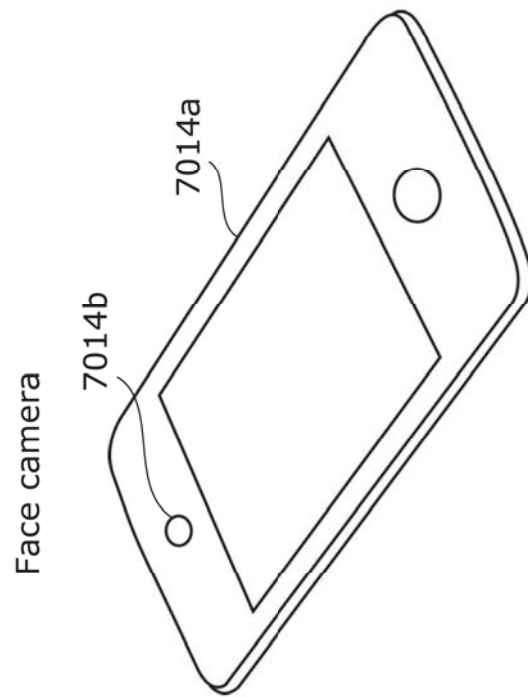


FIG. 230

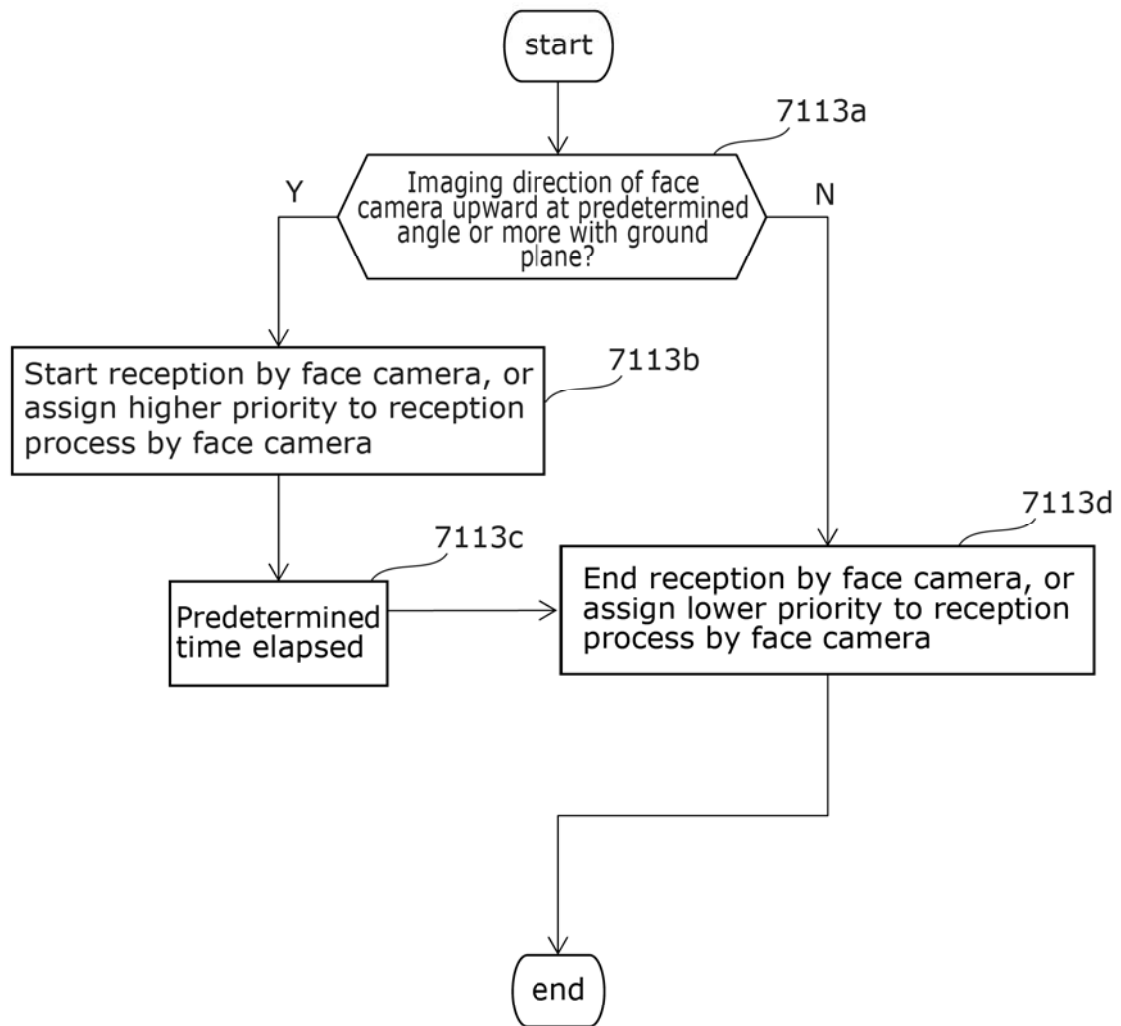


FIG. 231

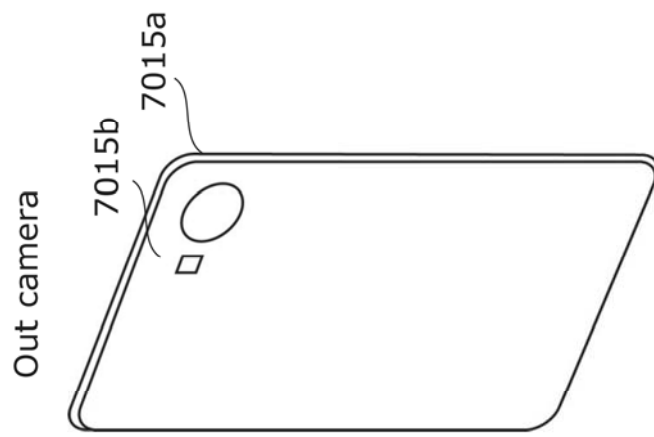


FIG. 232

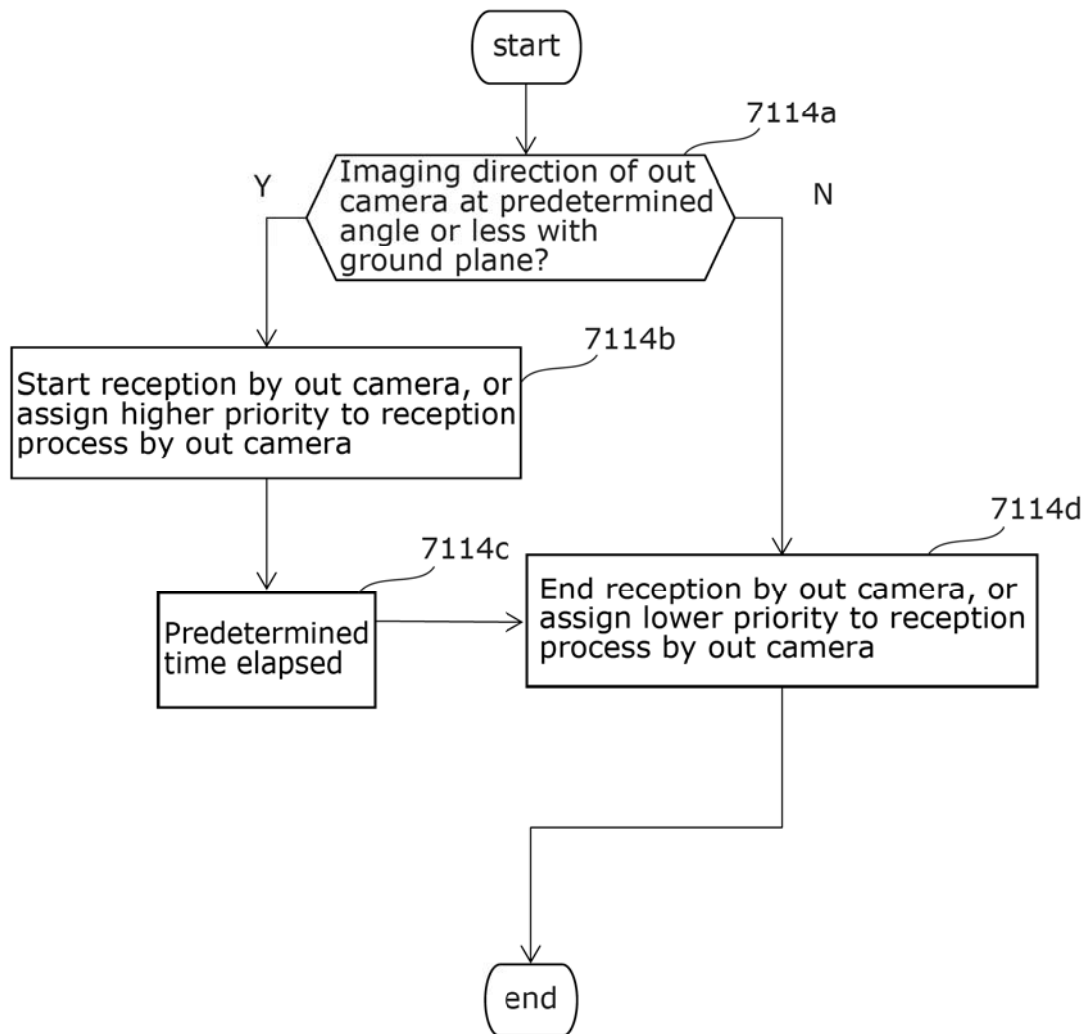


FIG. 233

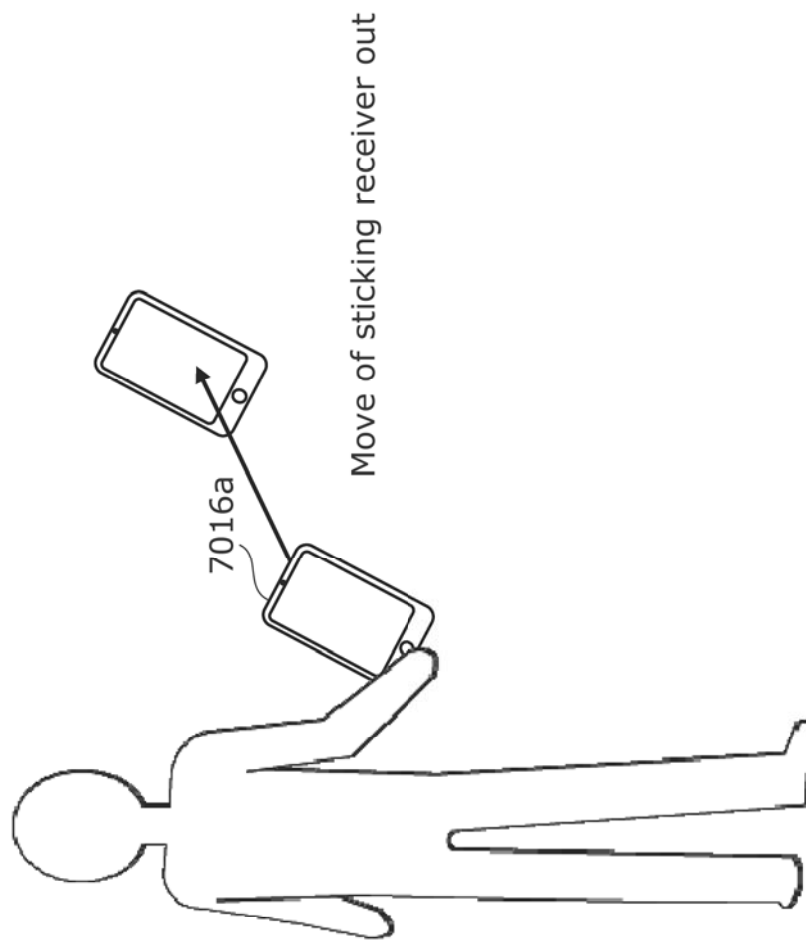


FIG. 234

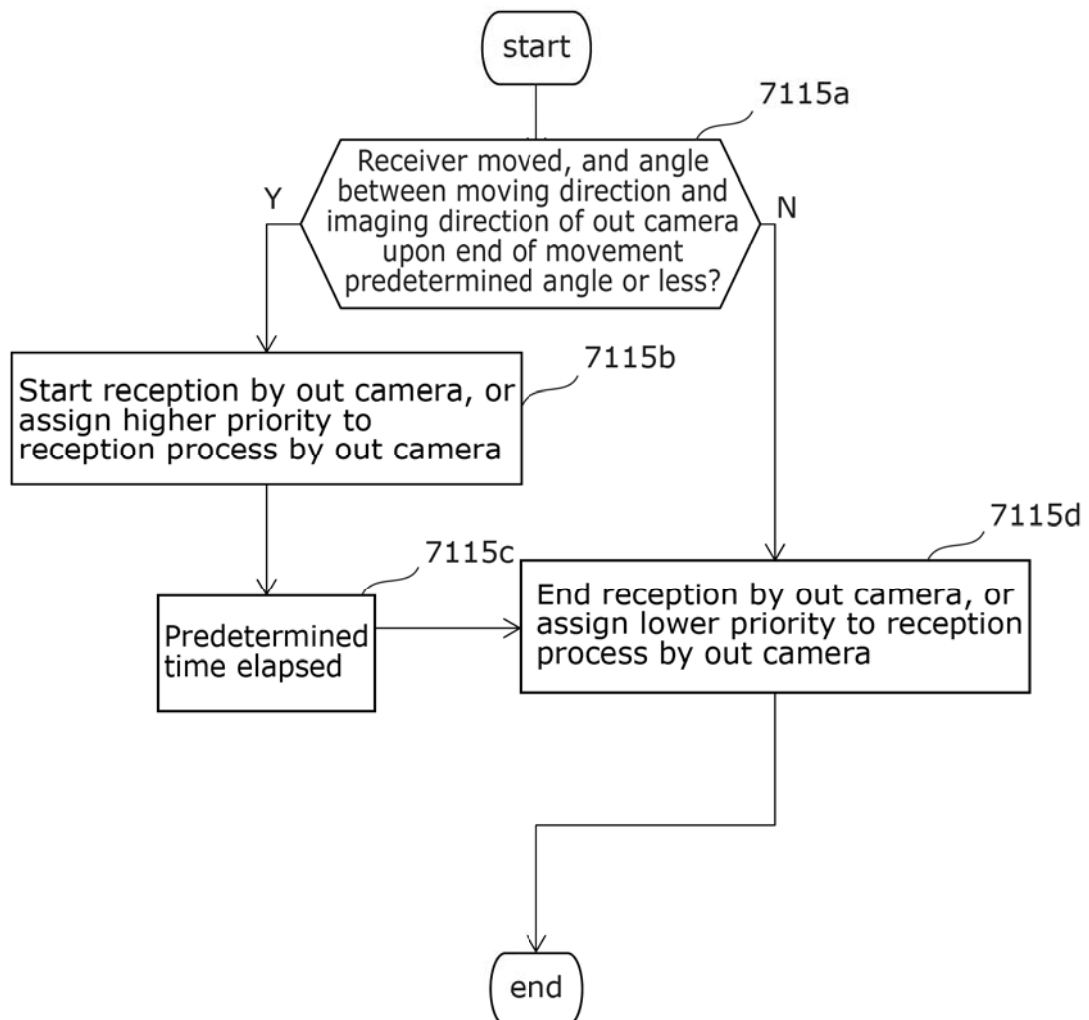


FIG. 235

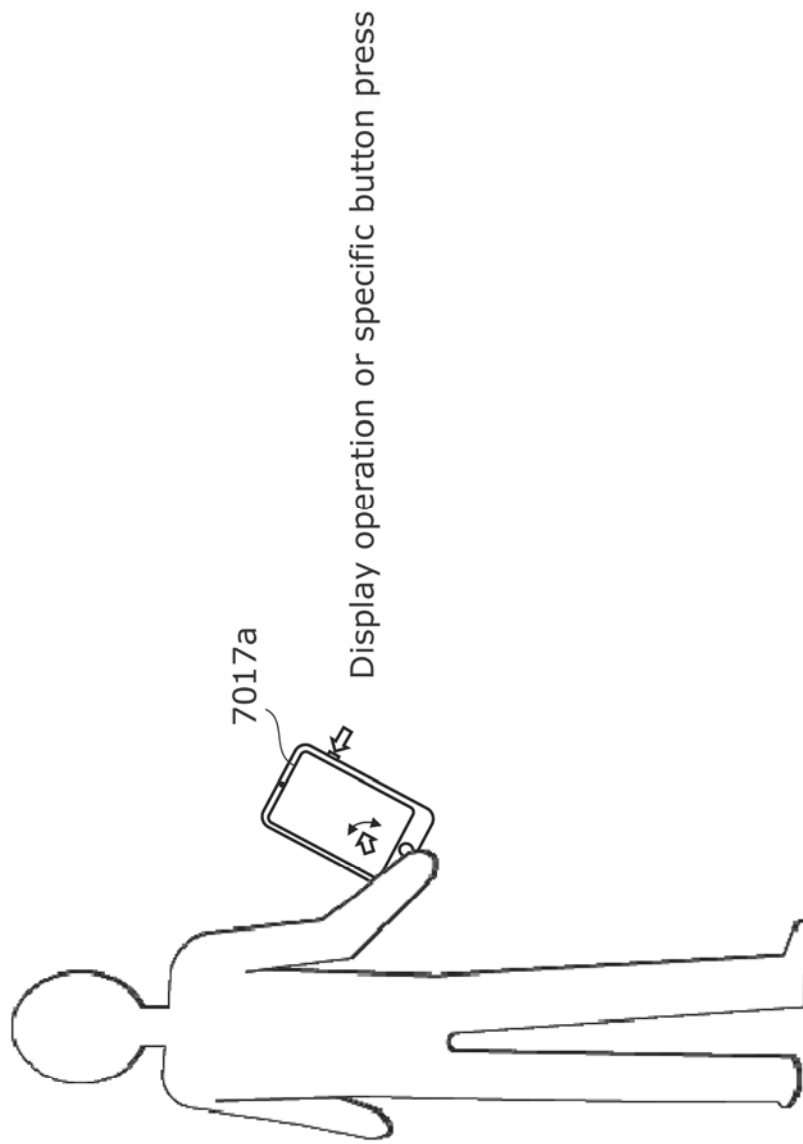


FIG. 236

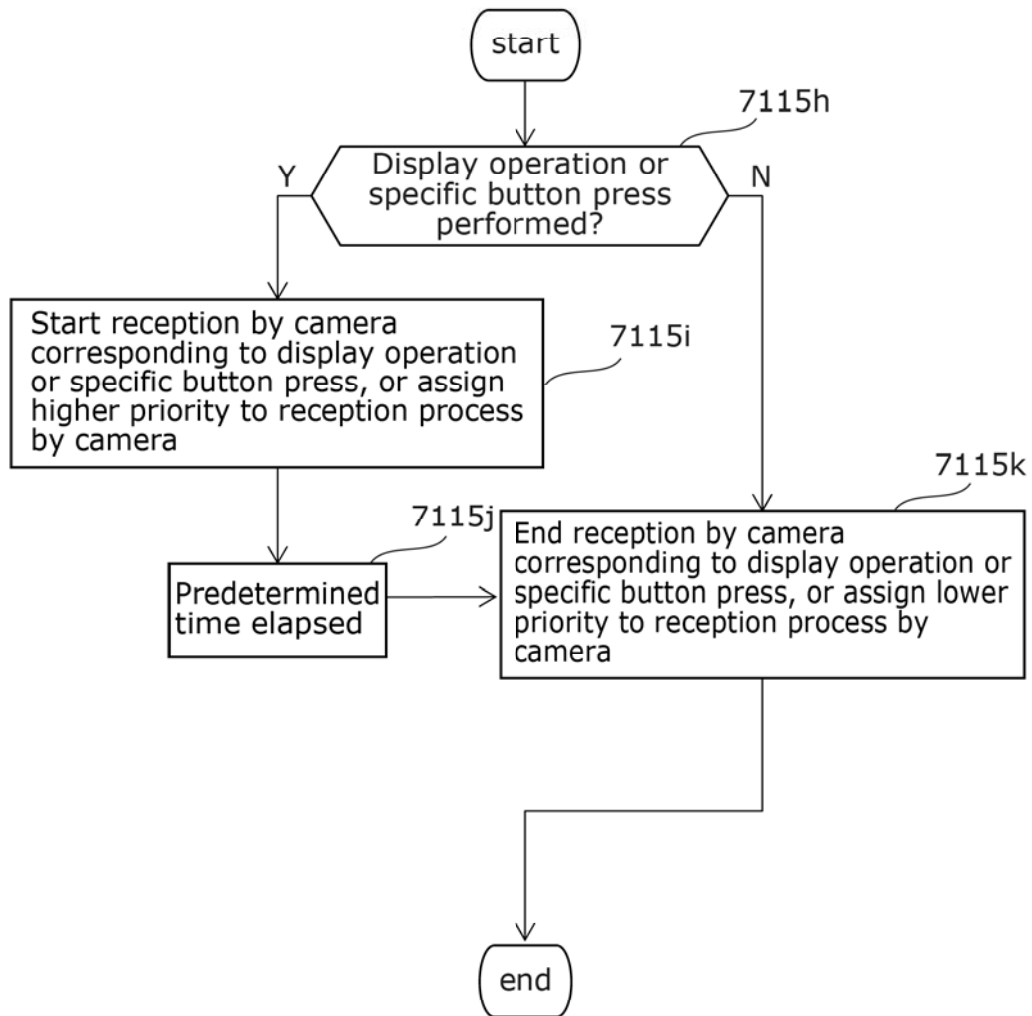


FIG. 237

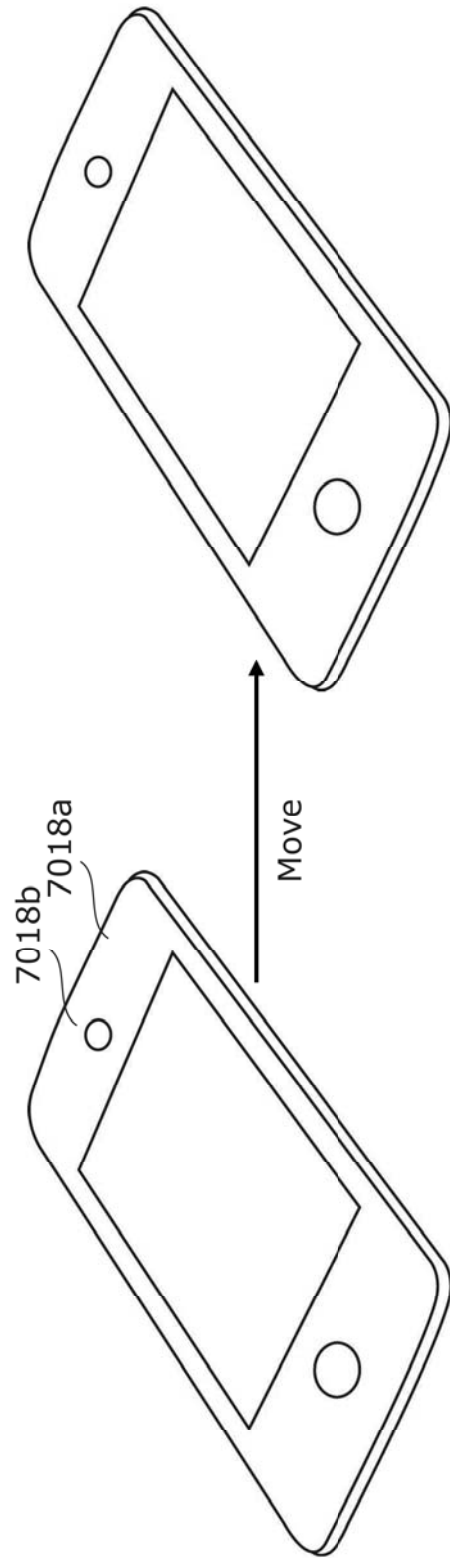


FIG. 238

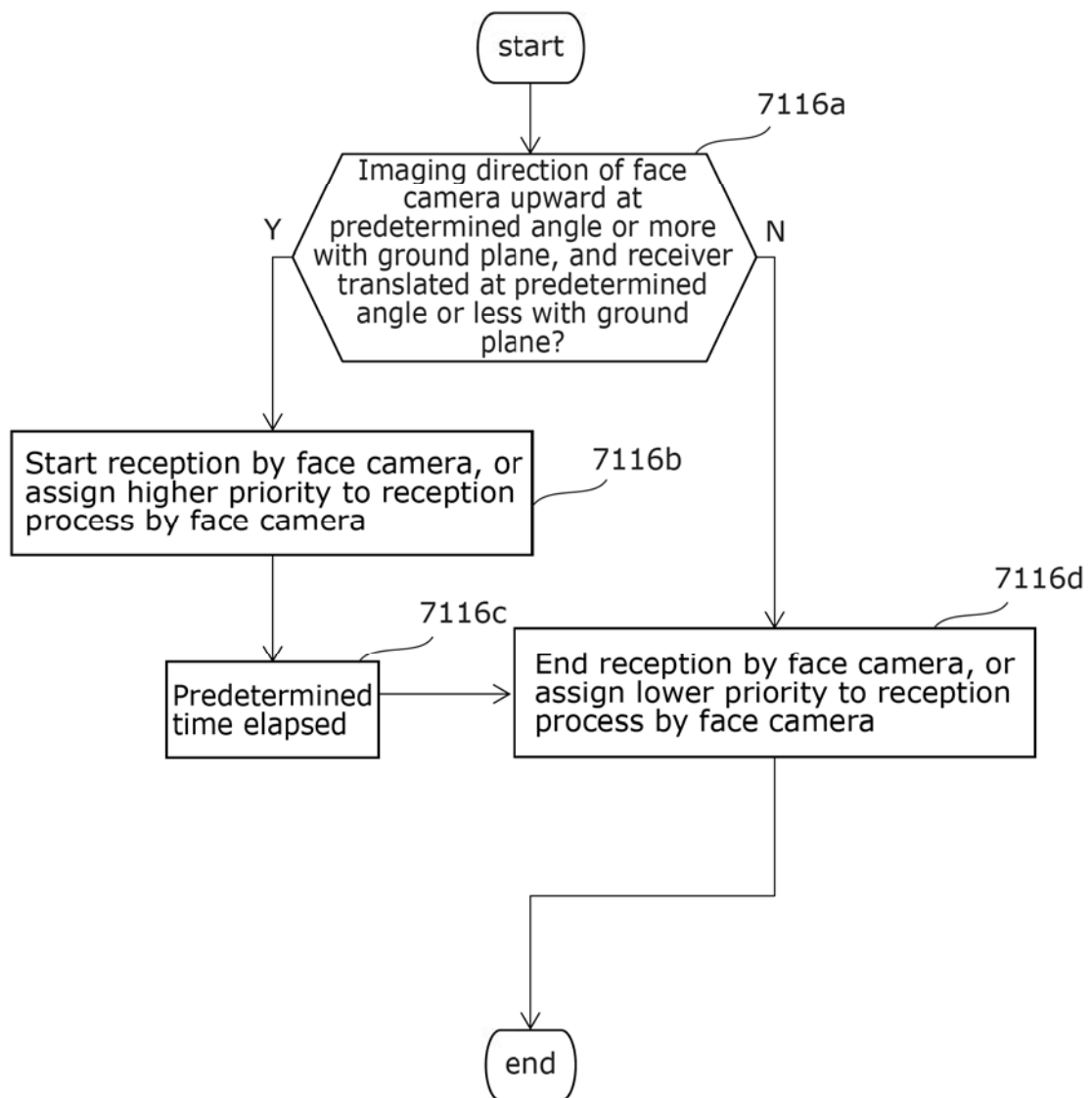


FIG. 239

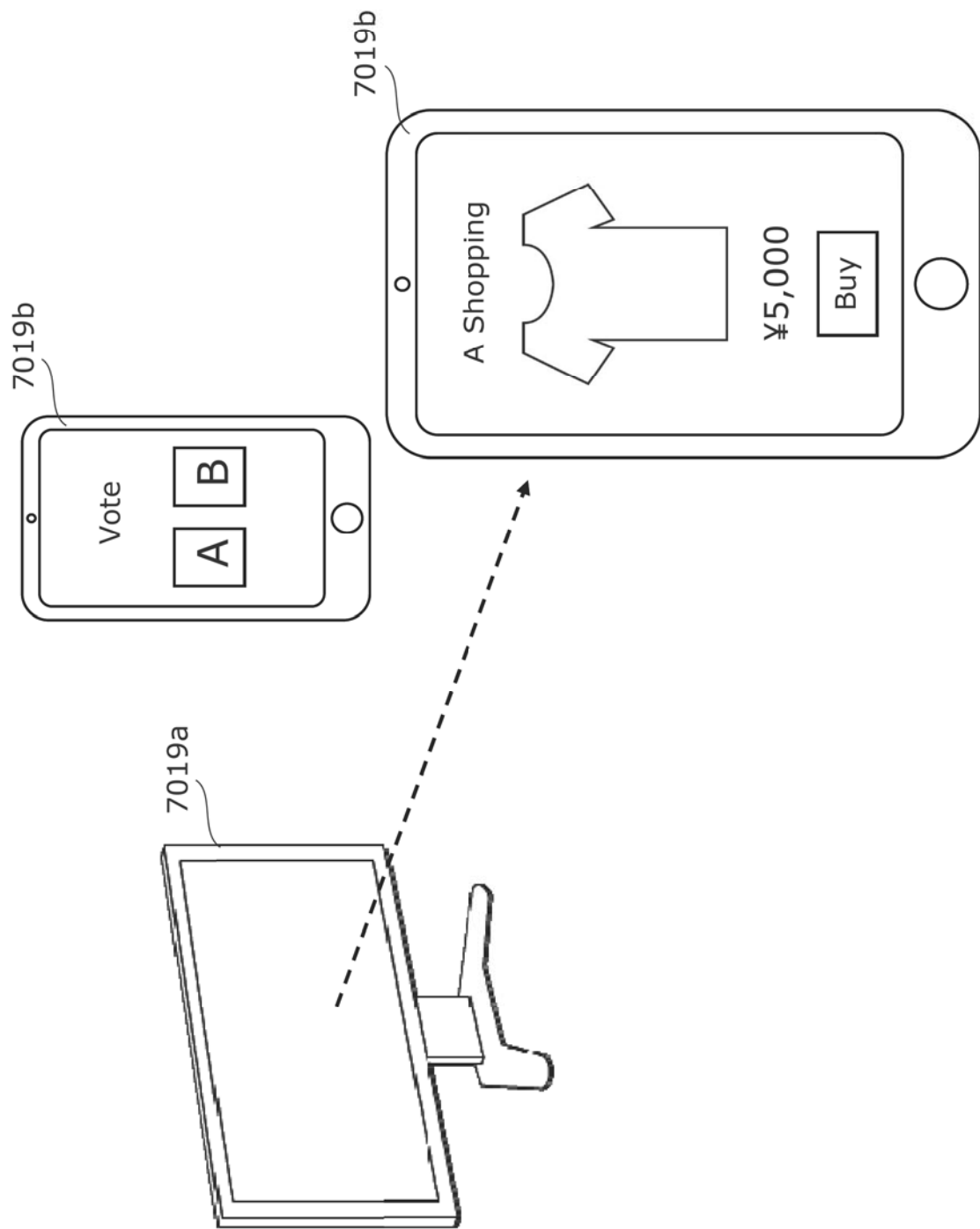


FIG. 240

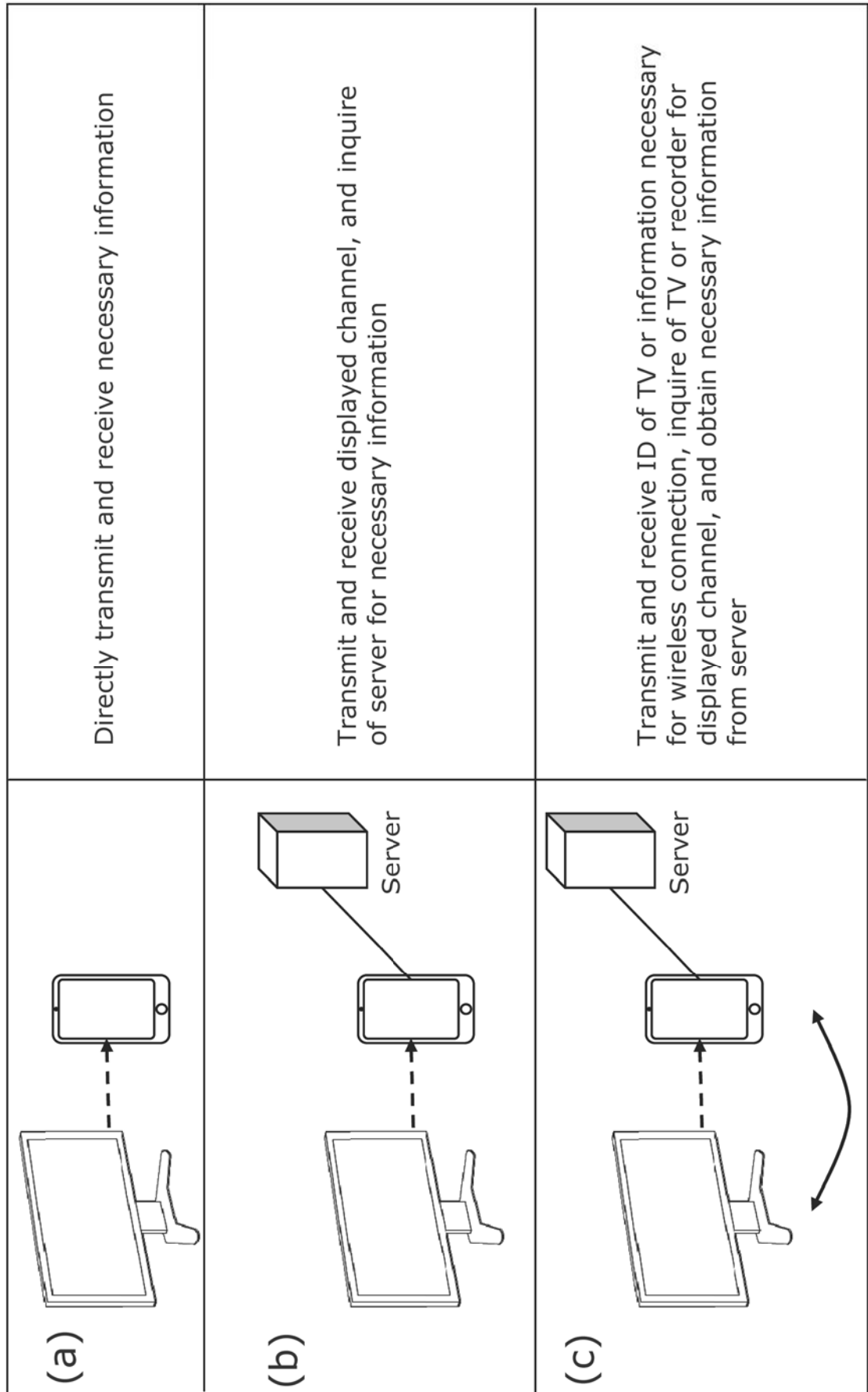


FIG. 241

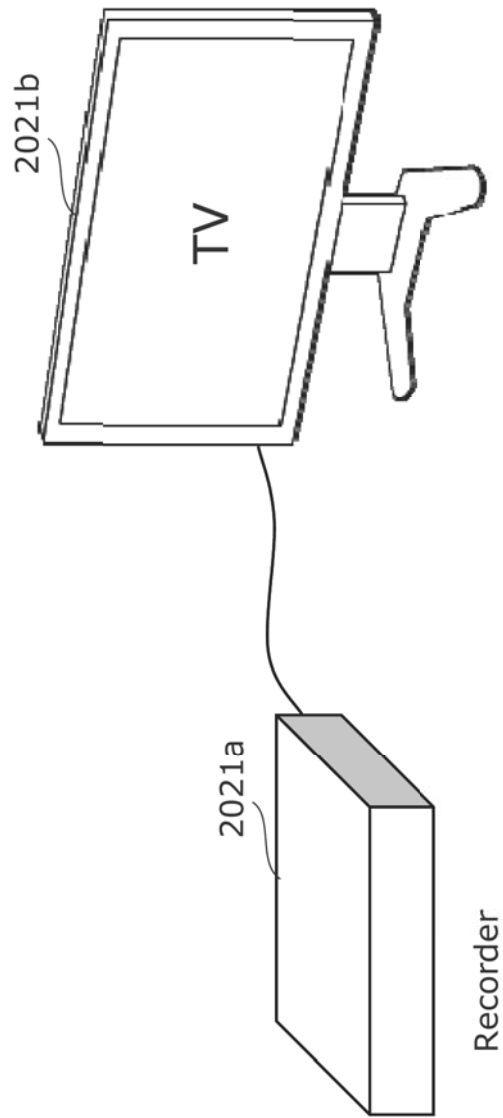


FIG. 242

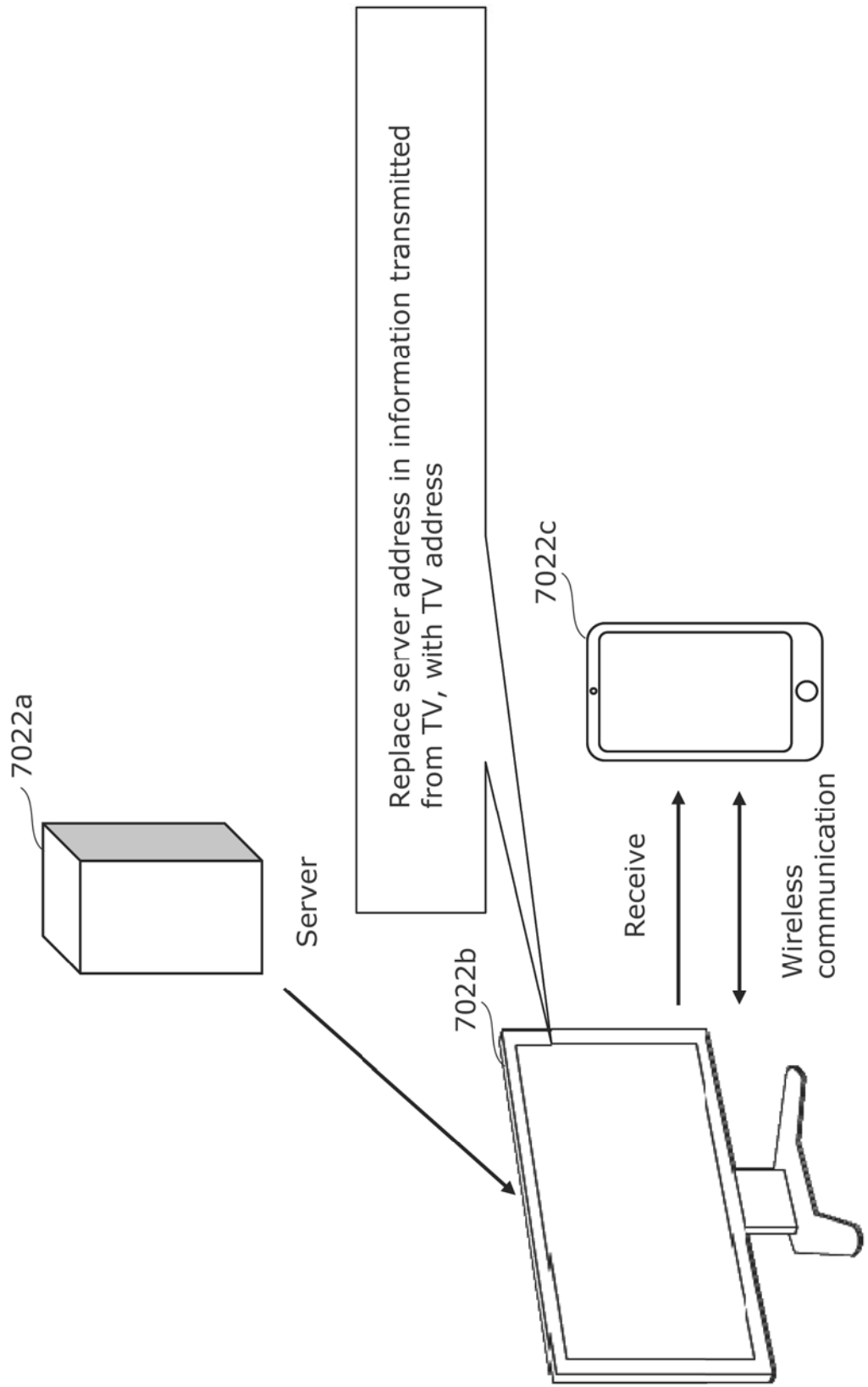
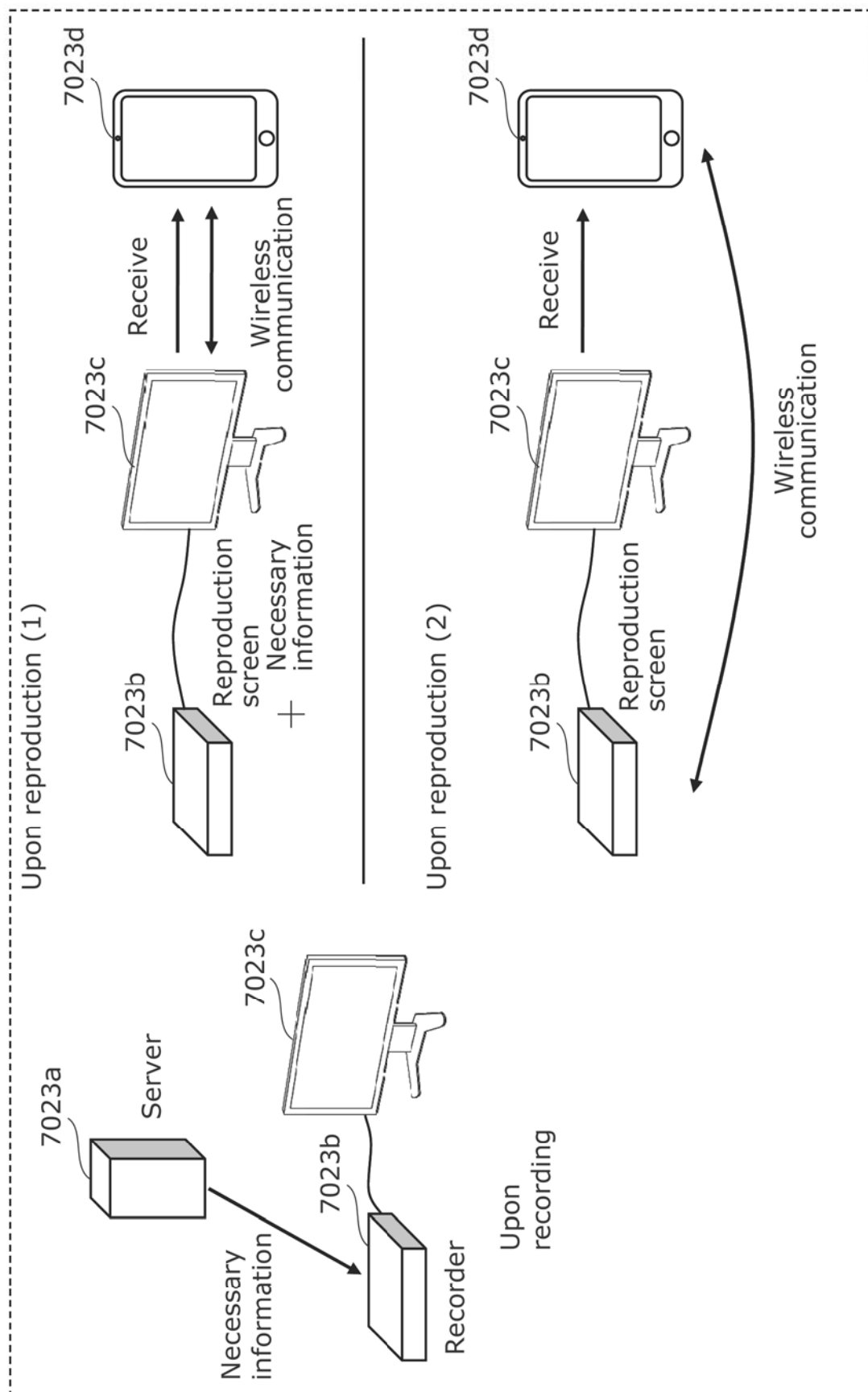


FIG. 243



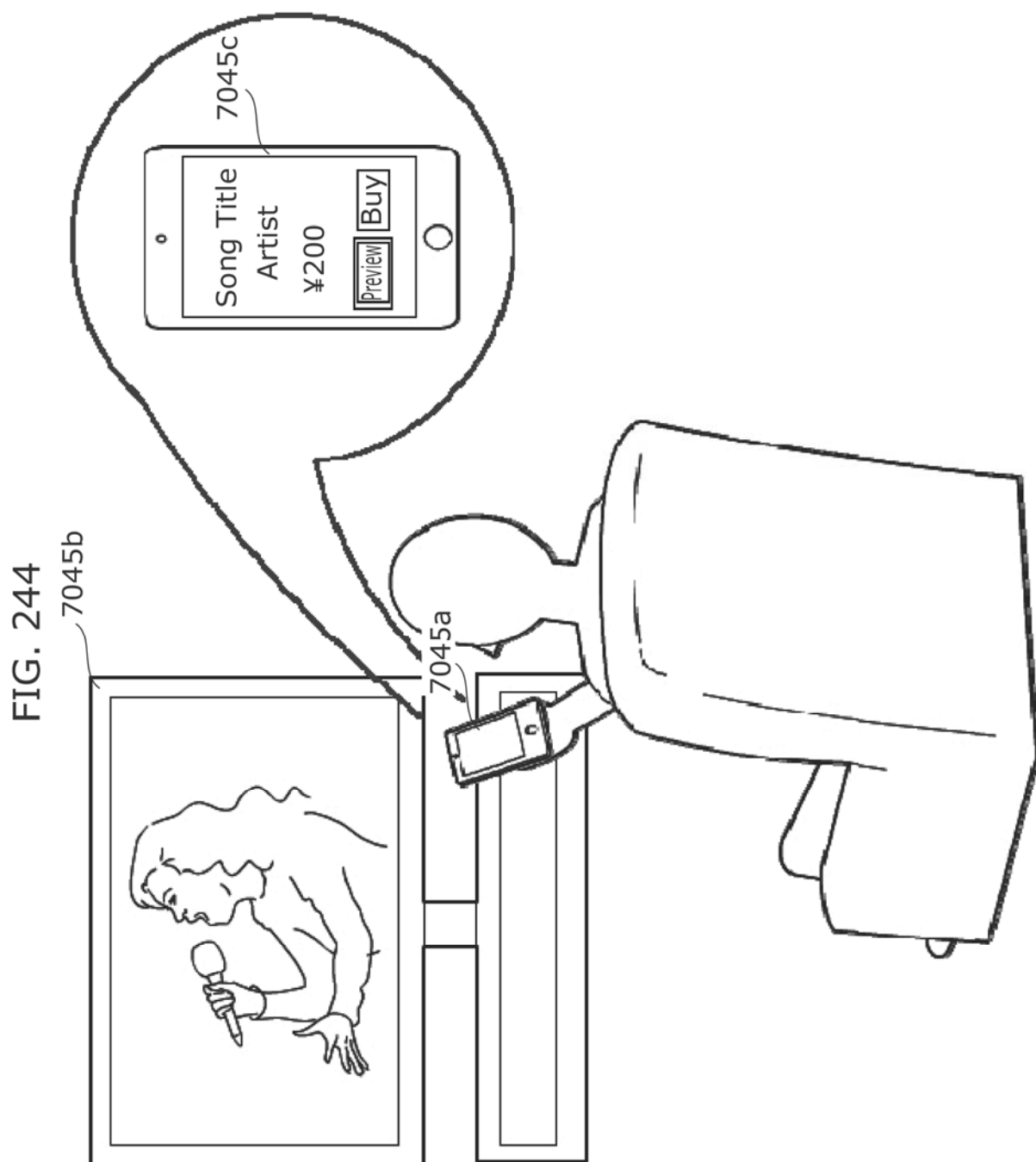


FIG. 245

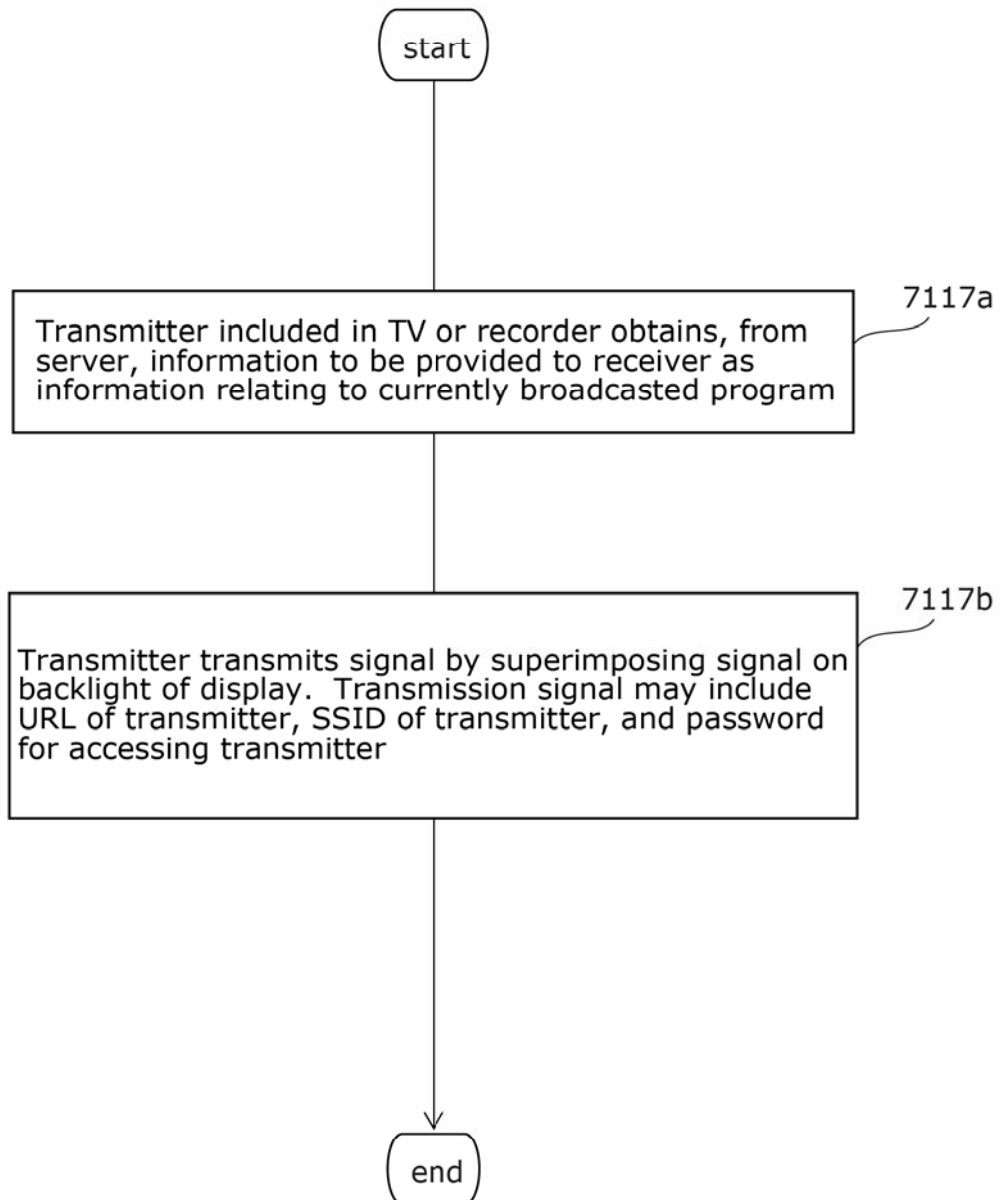


FIG. 246

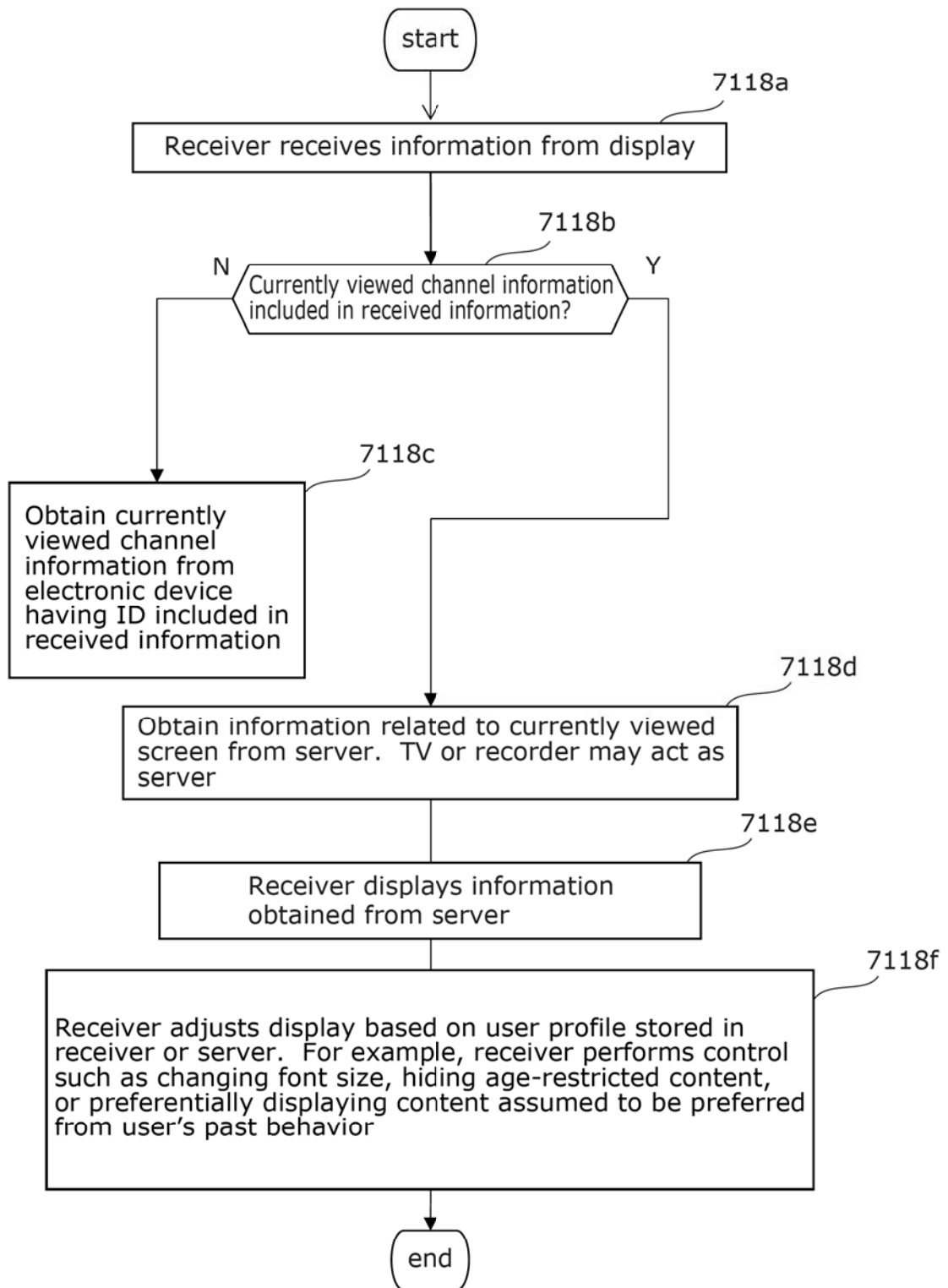


FIG. 247

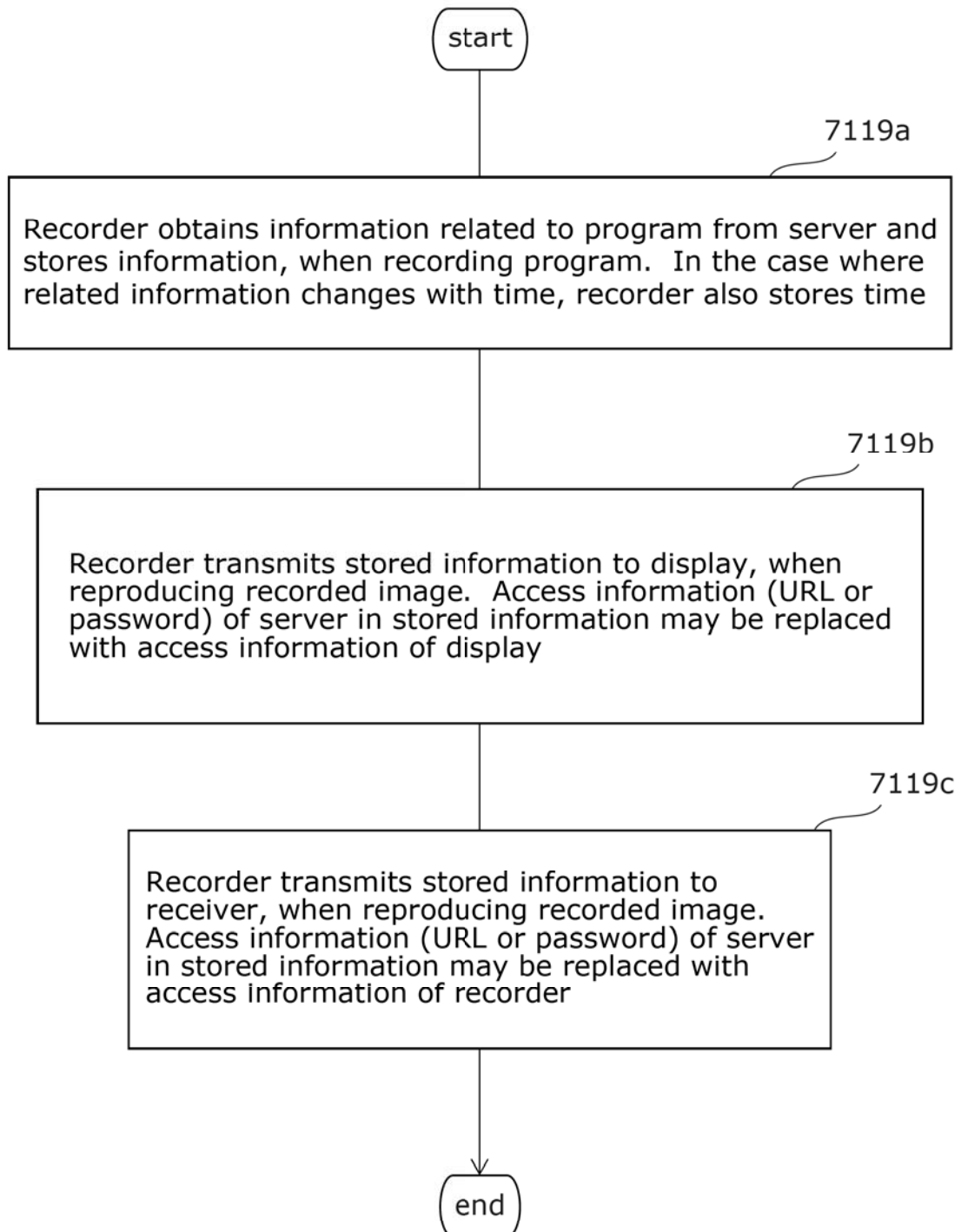


FIG. 248

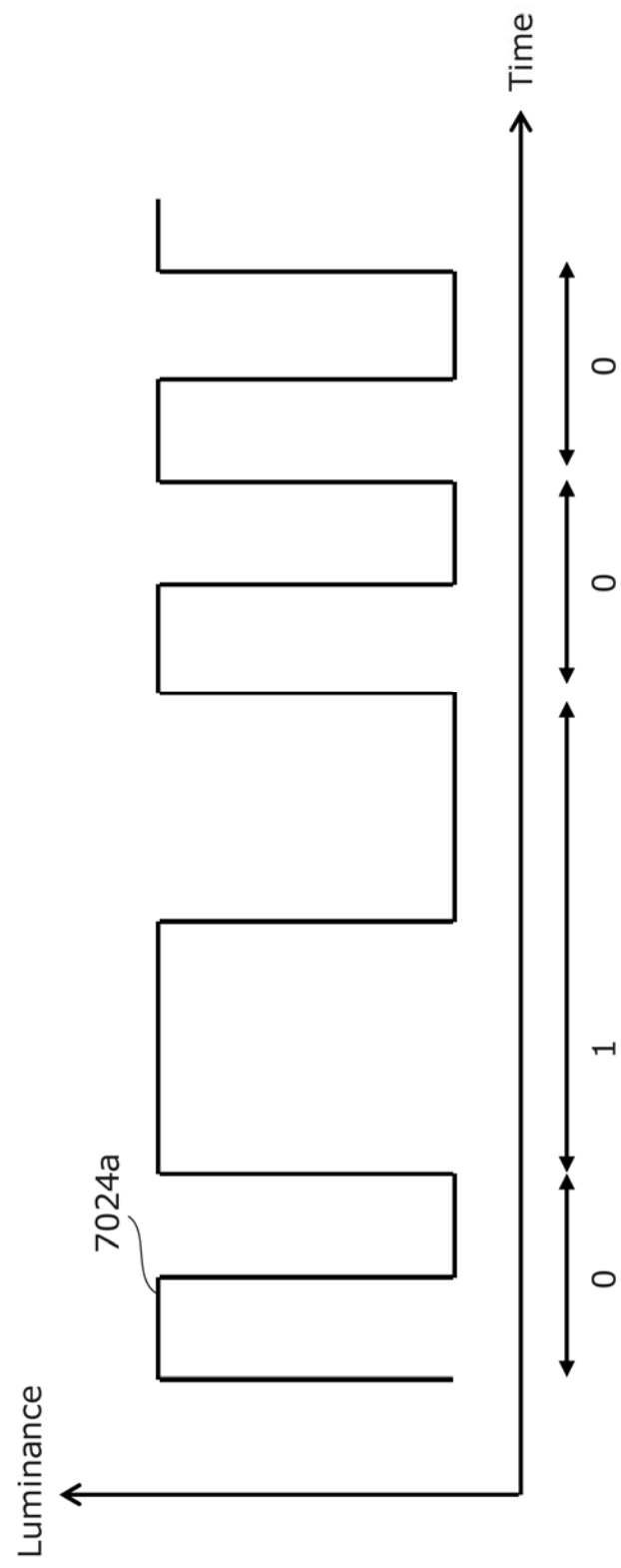


FIG. 249

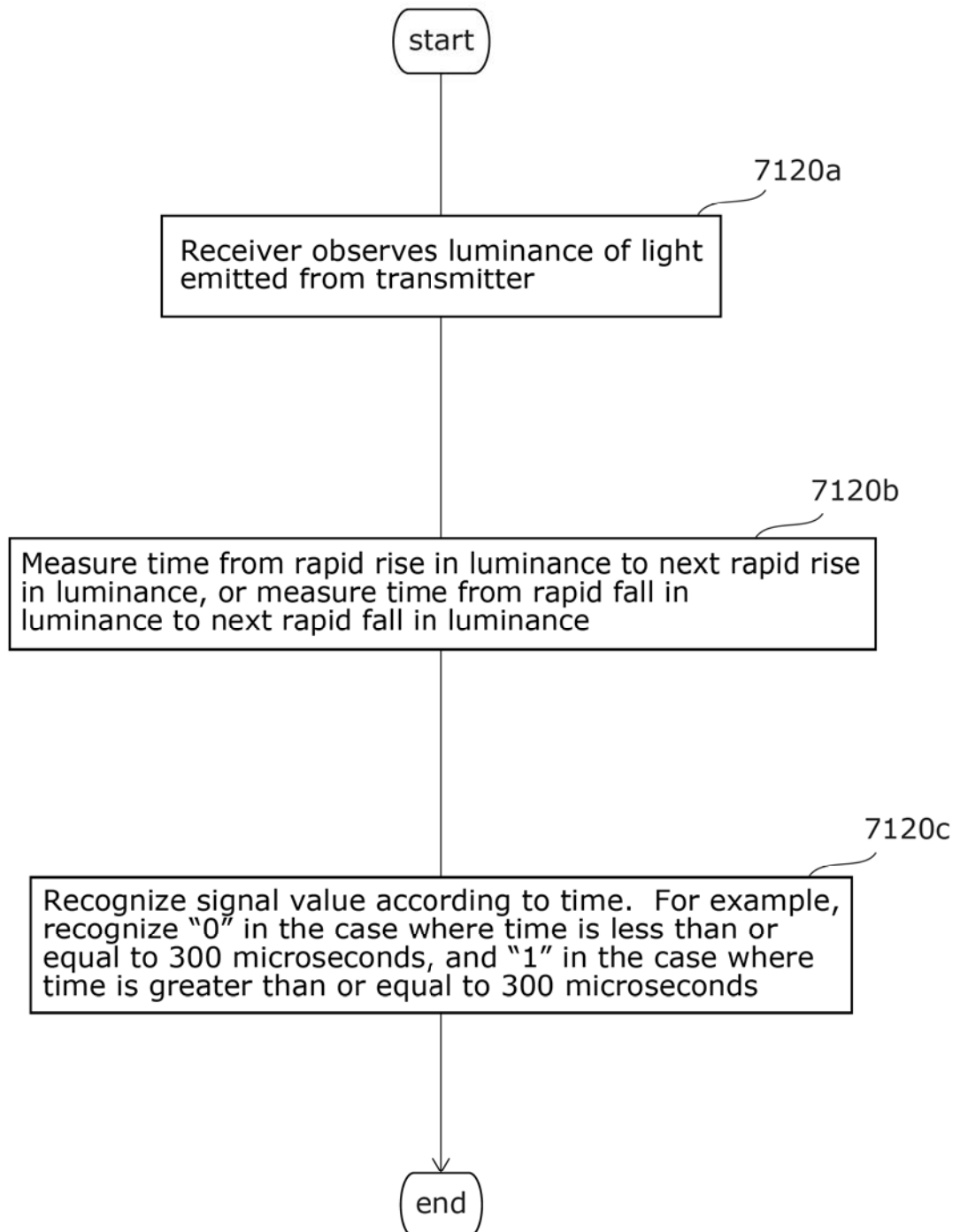


FIG. 250

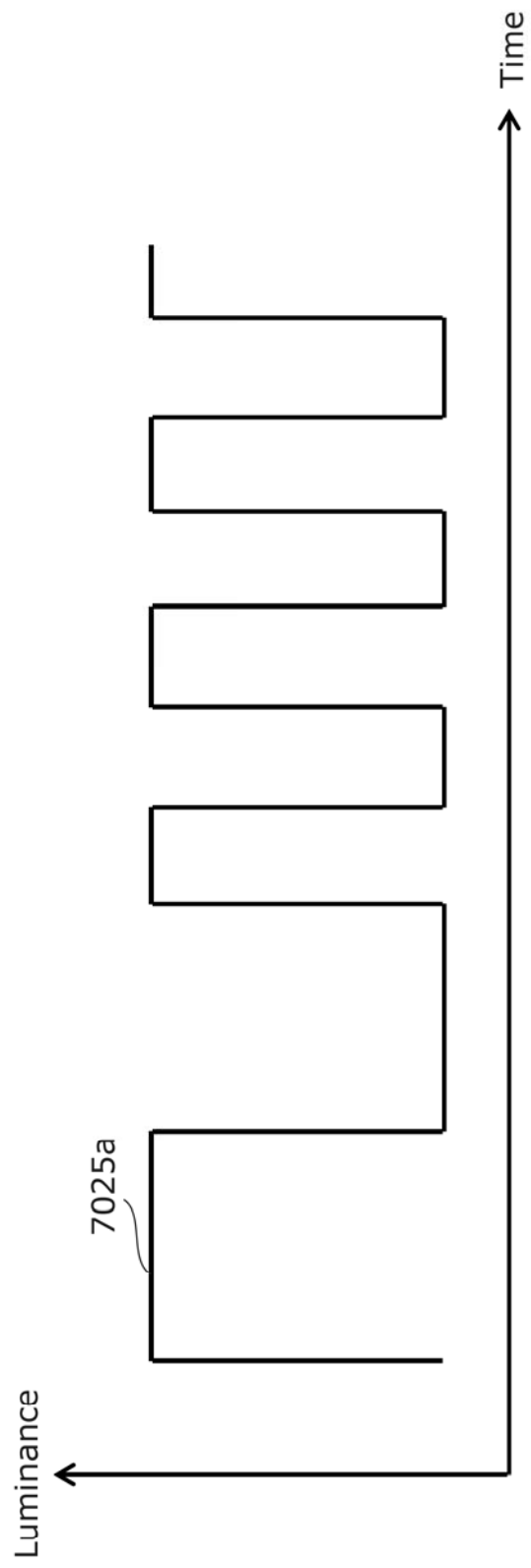


FIG. 251

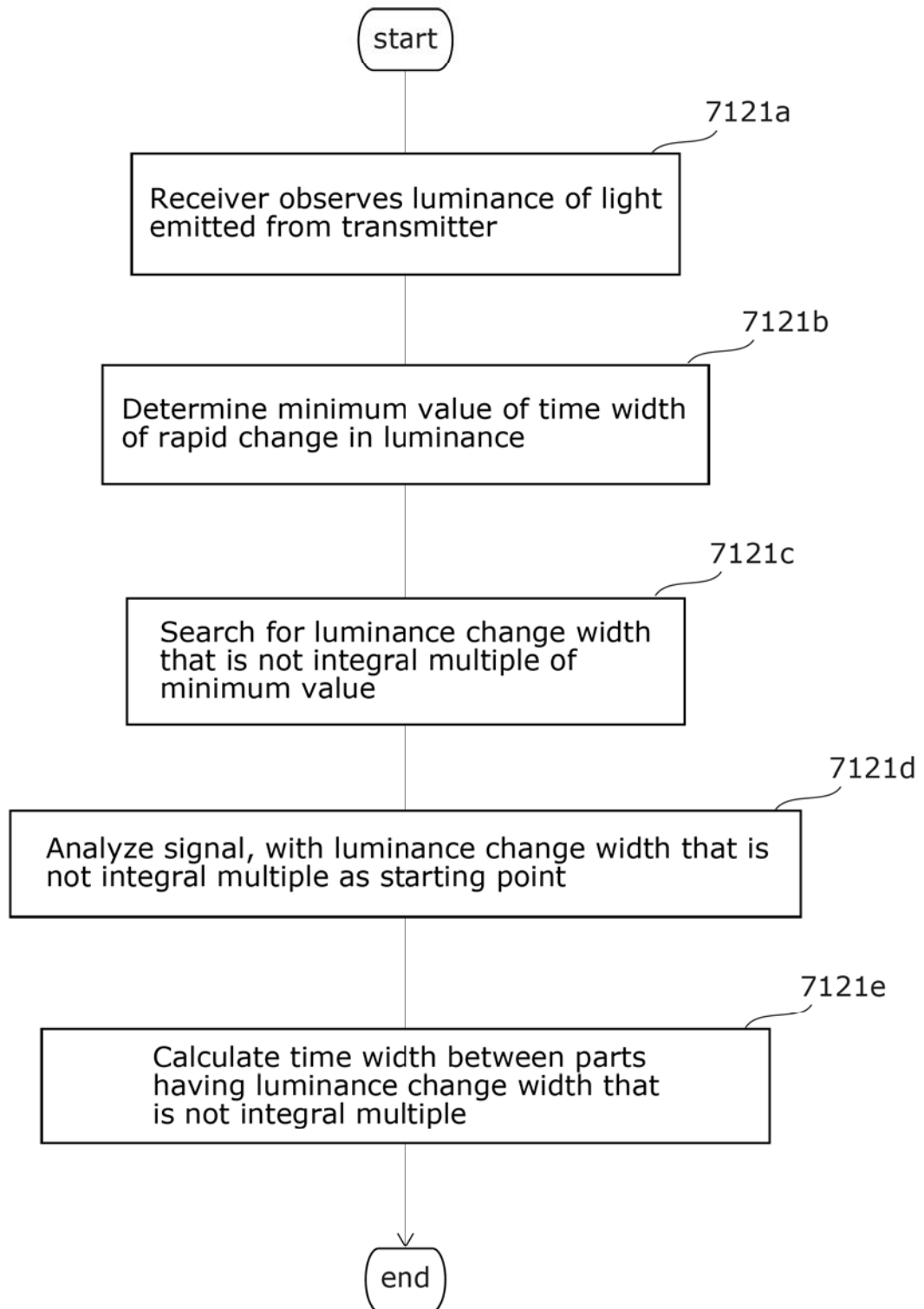


FIG. 252

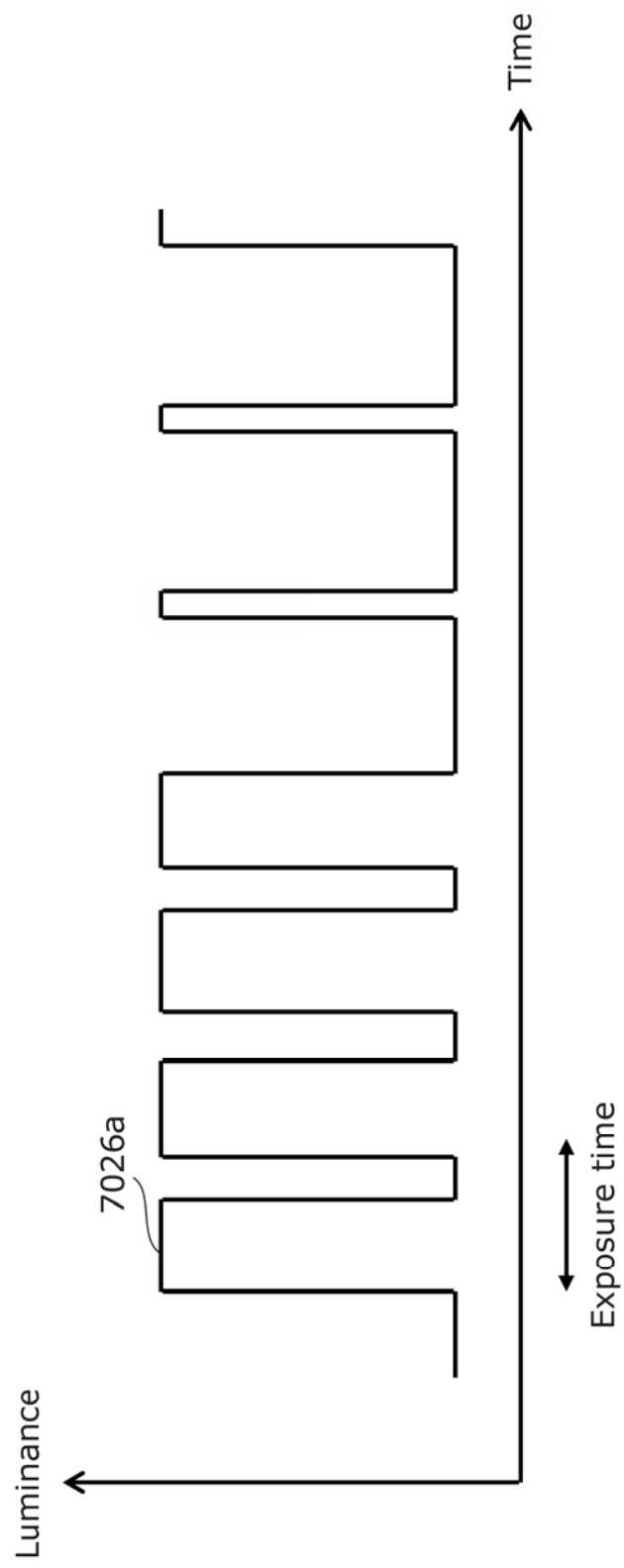


FIG. 253

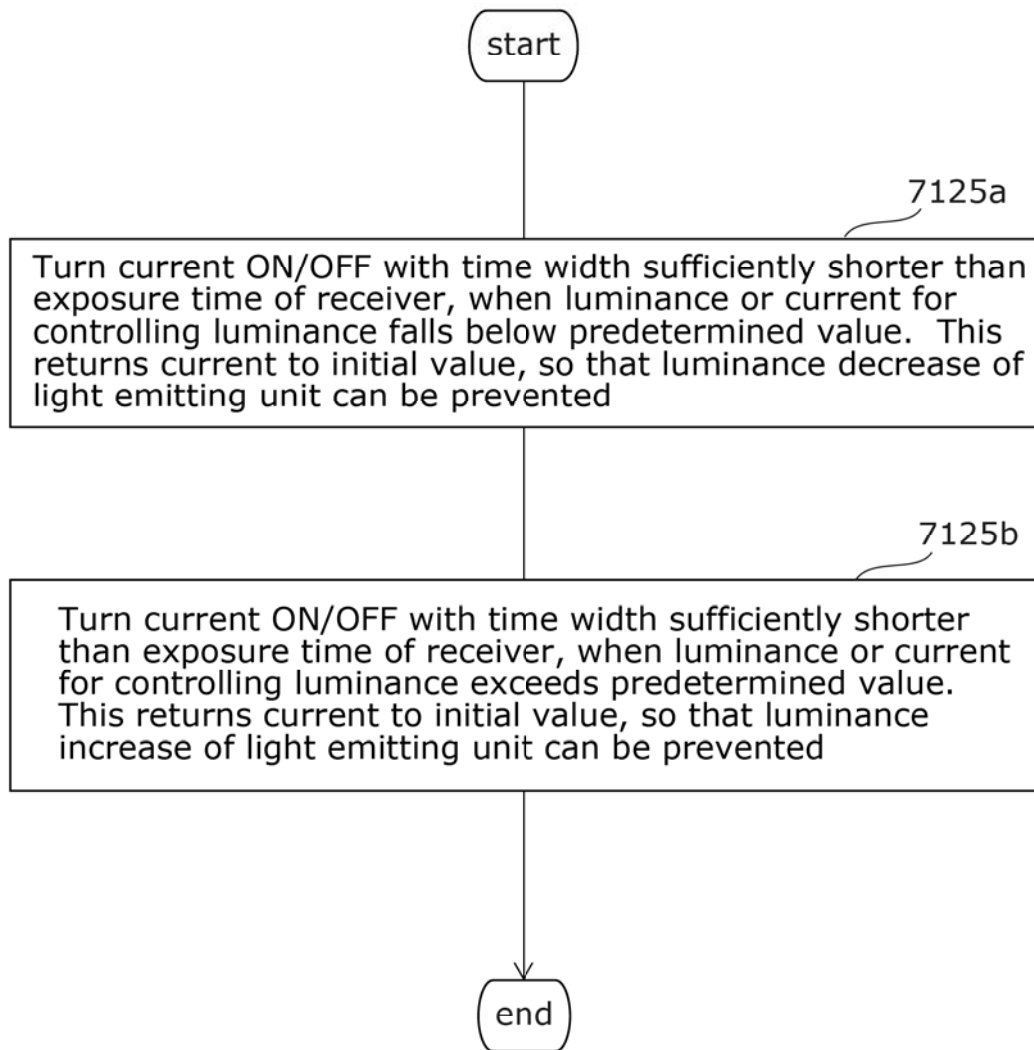


FIG. 254

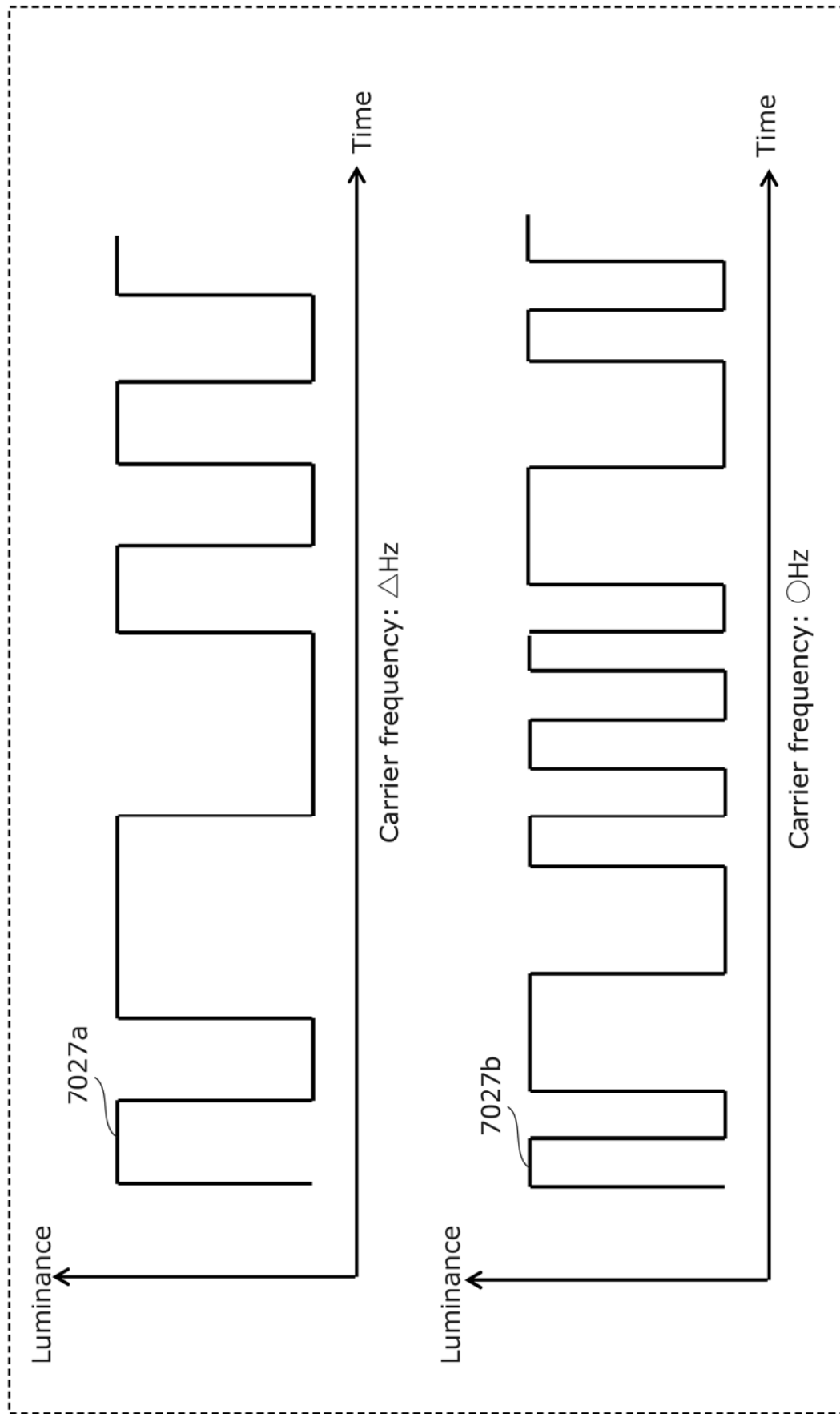


FIG. 255

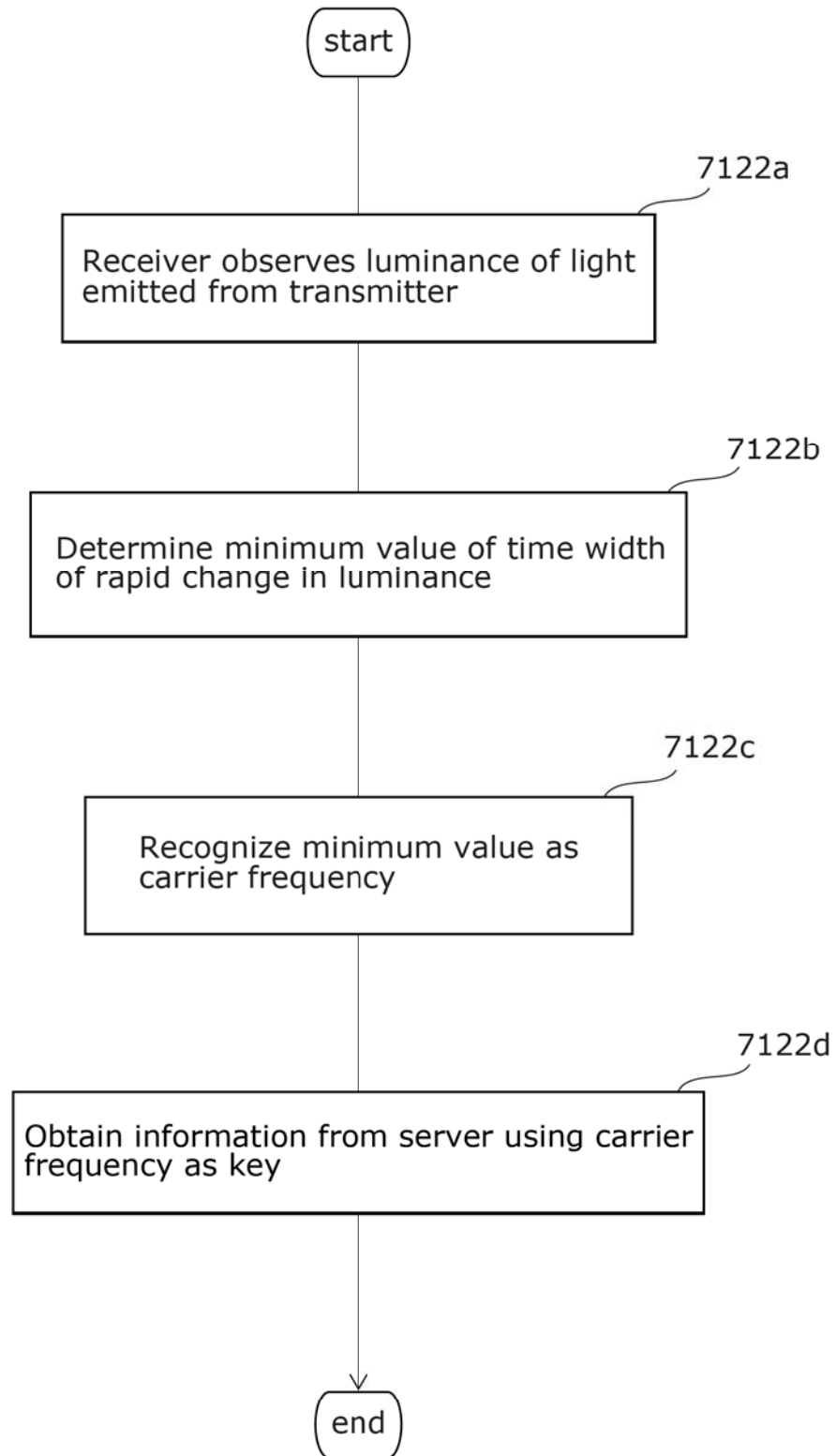


FIG. 256

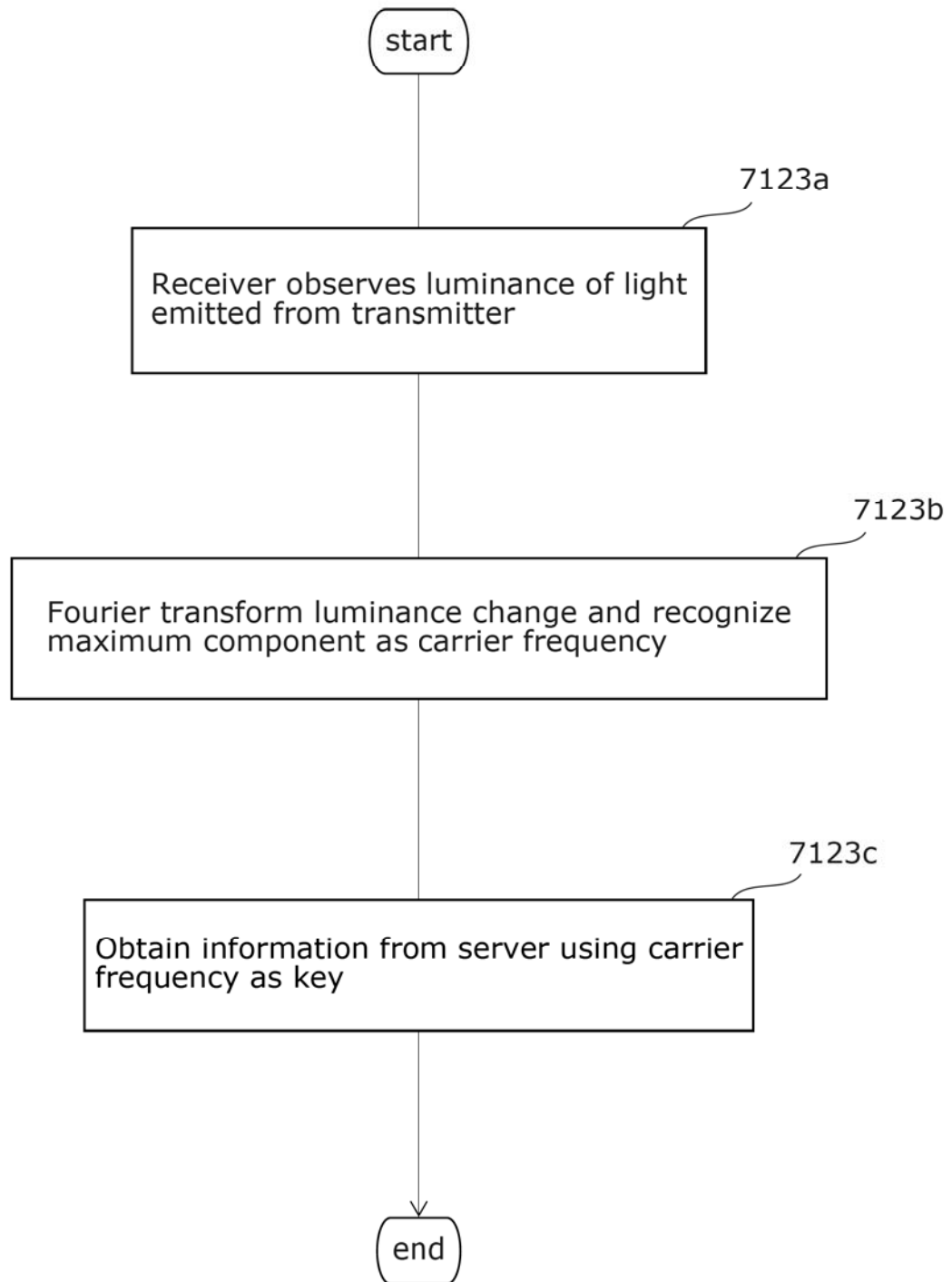


FIG. 257

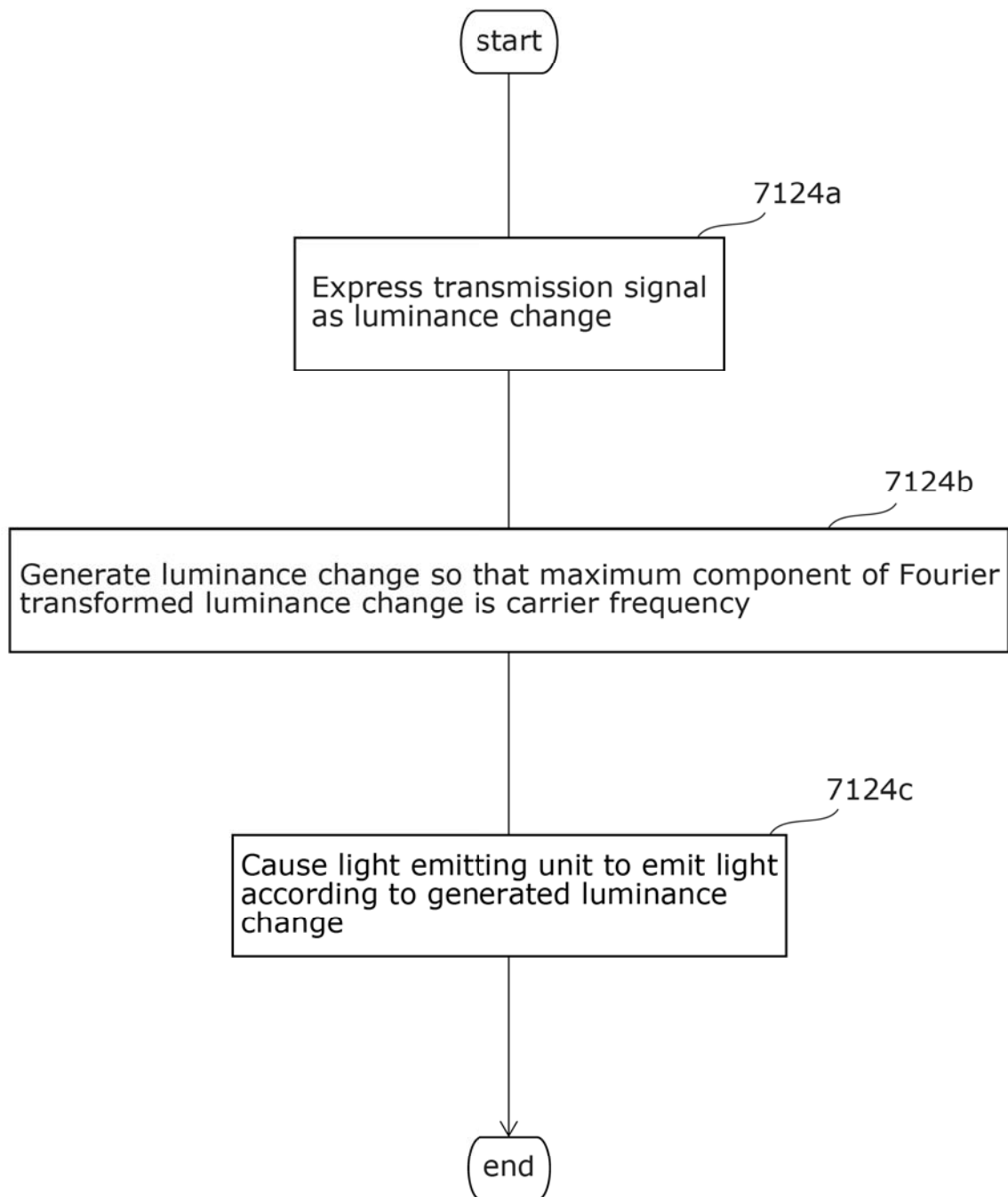


FIG. 258

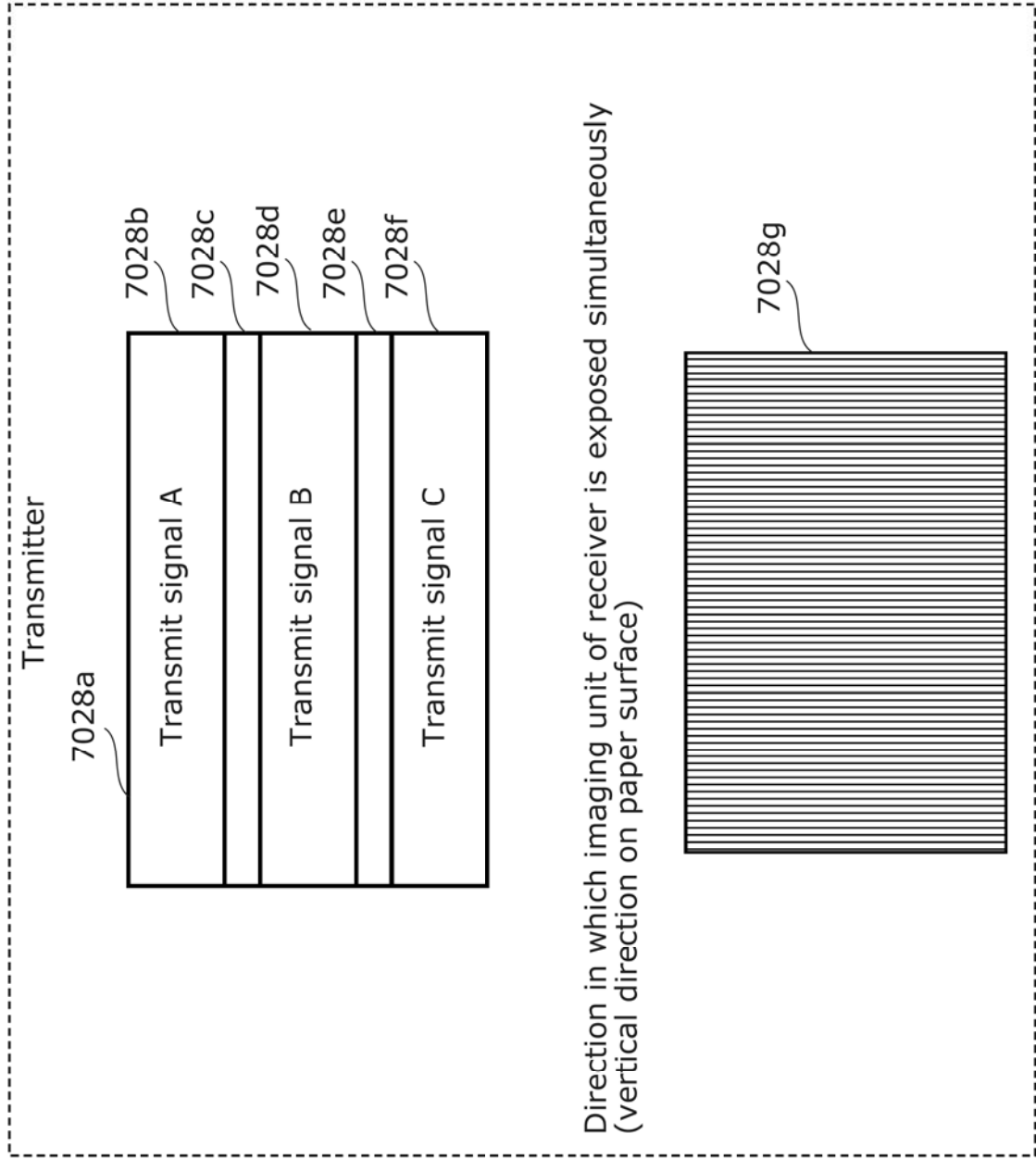


FIG. 259

Transmitter

A	C	B
B	A	C
C	B	A

7029a

FIG. 260

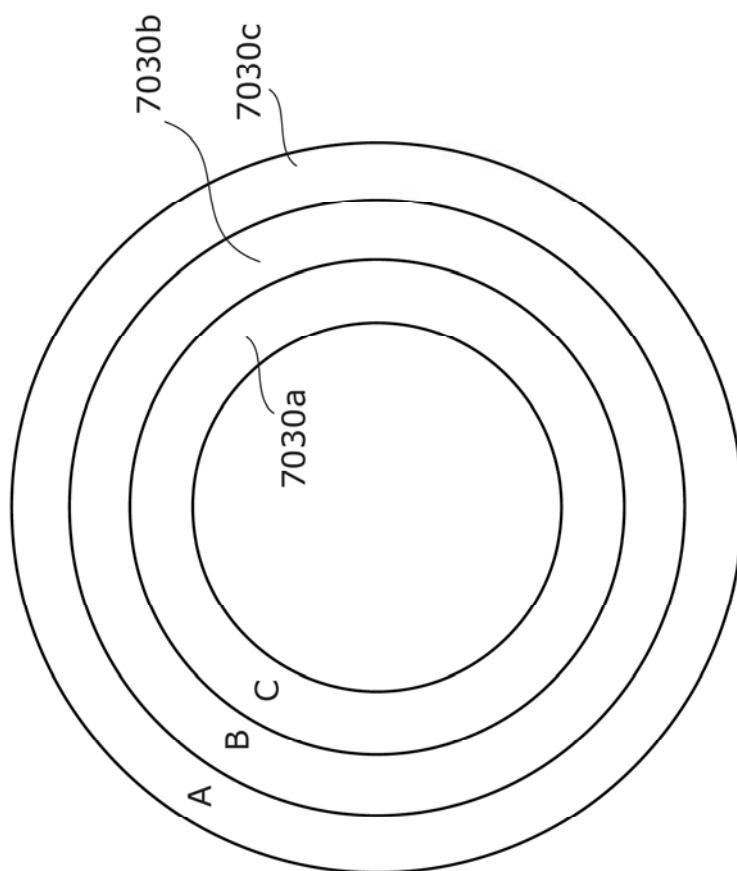


FIG. 261

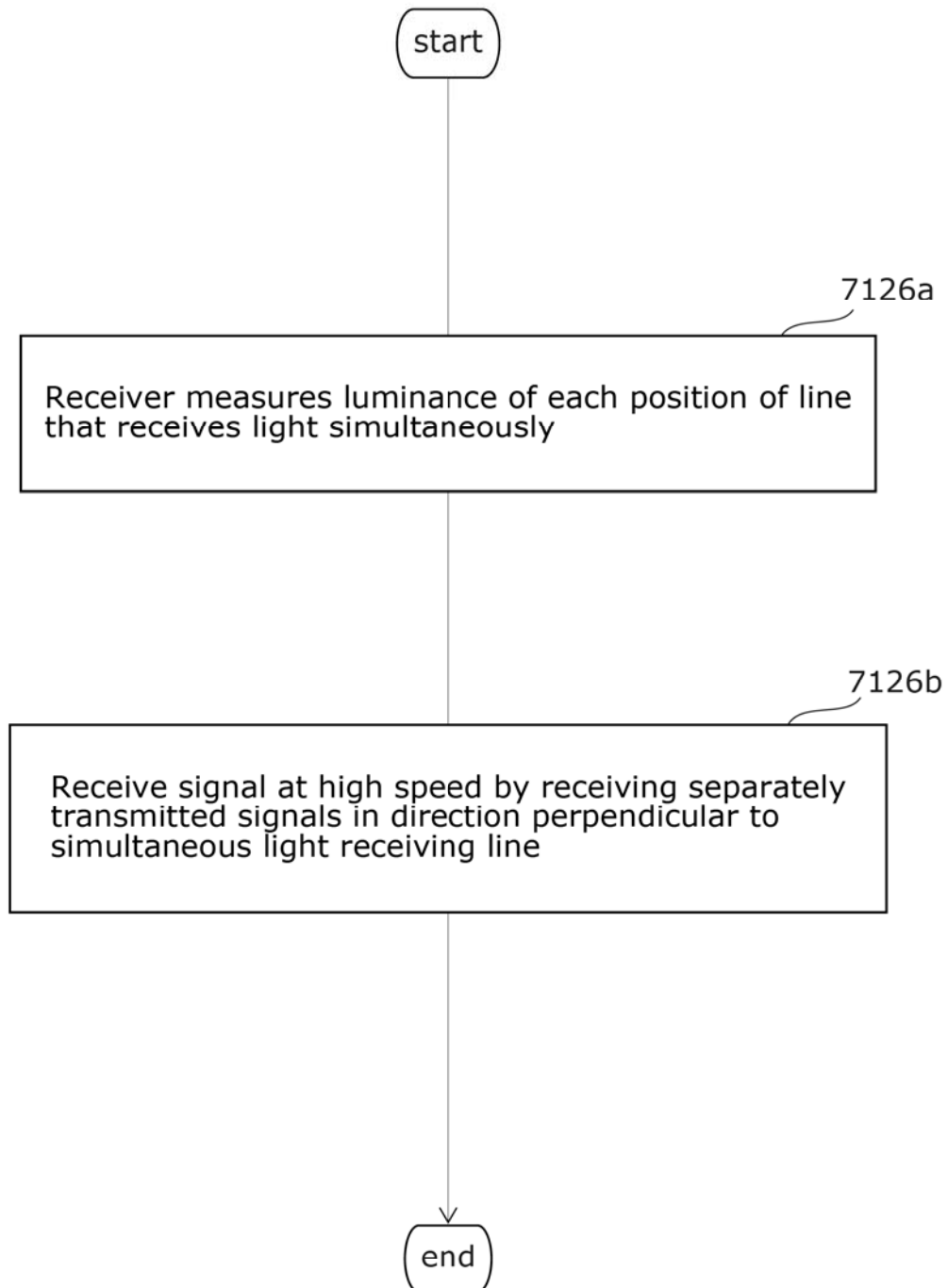


FIG. 262

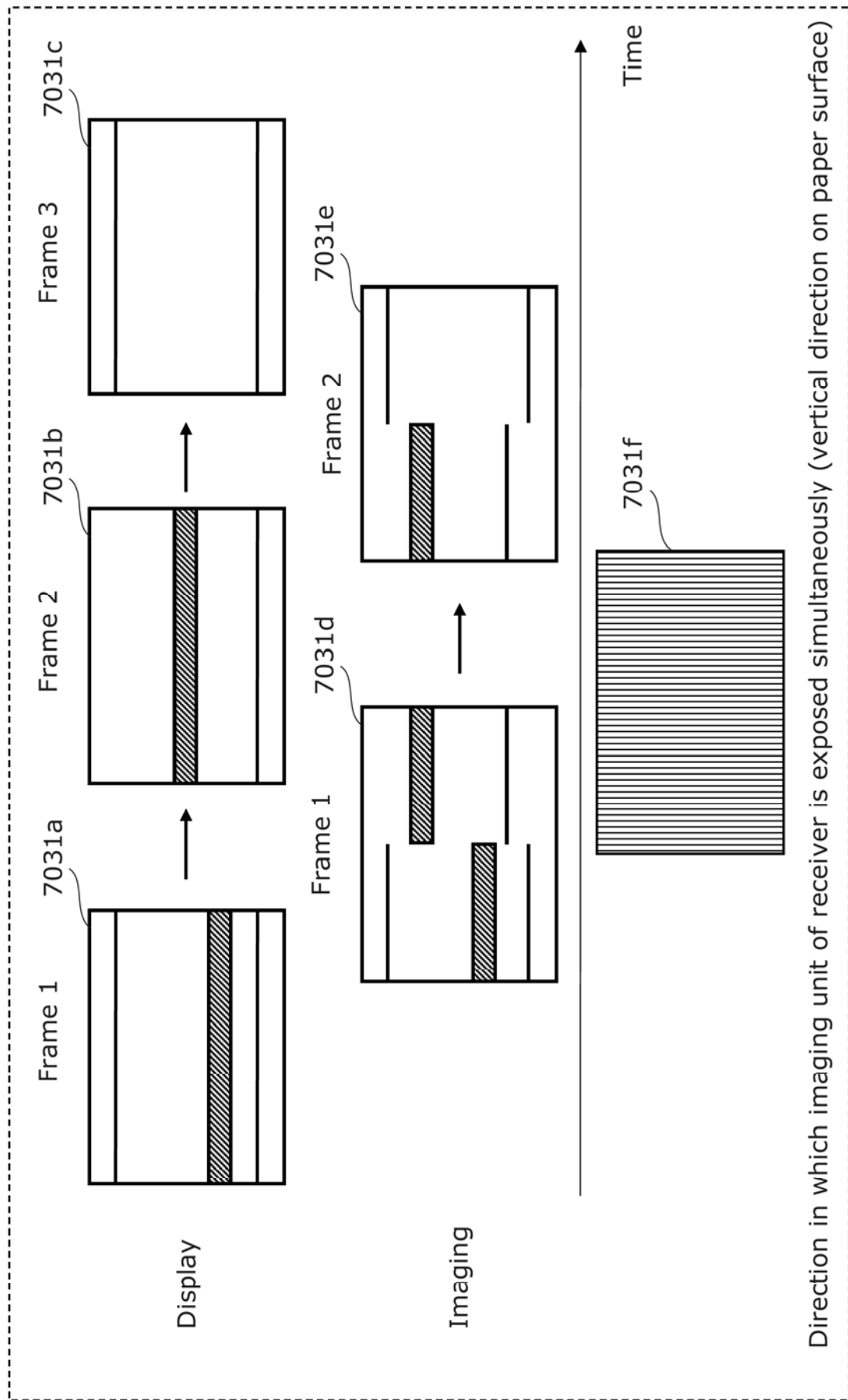


FIG. 263

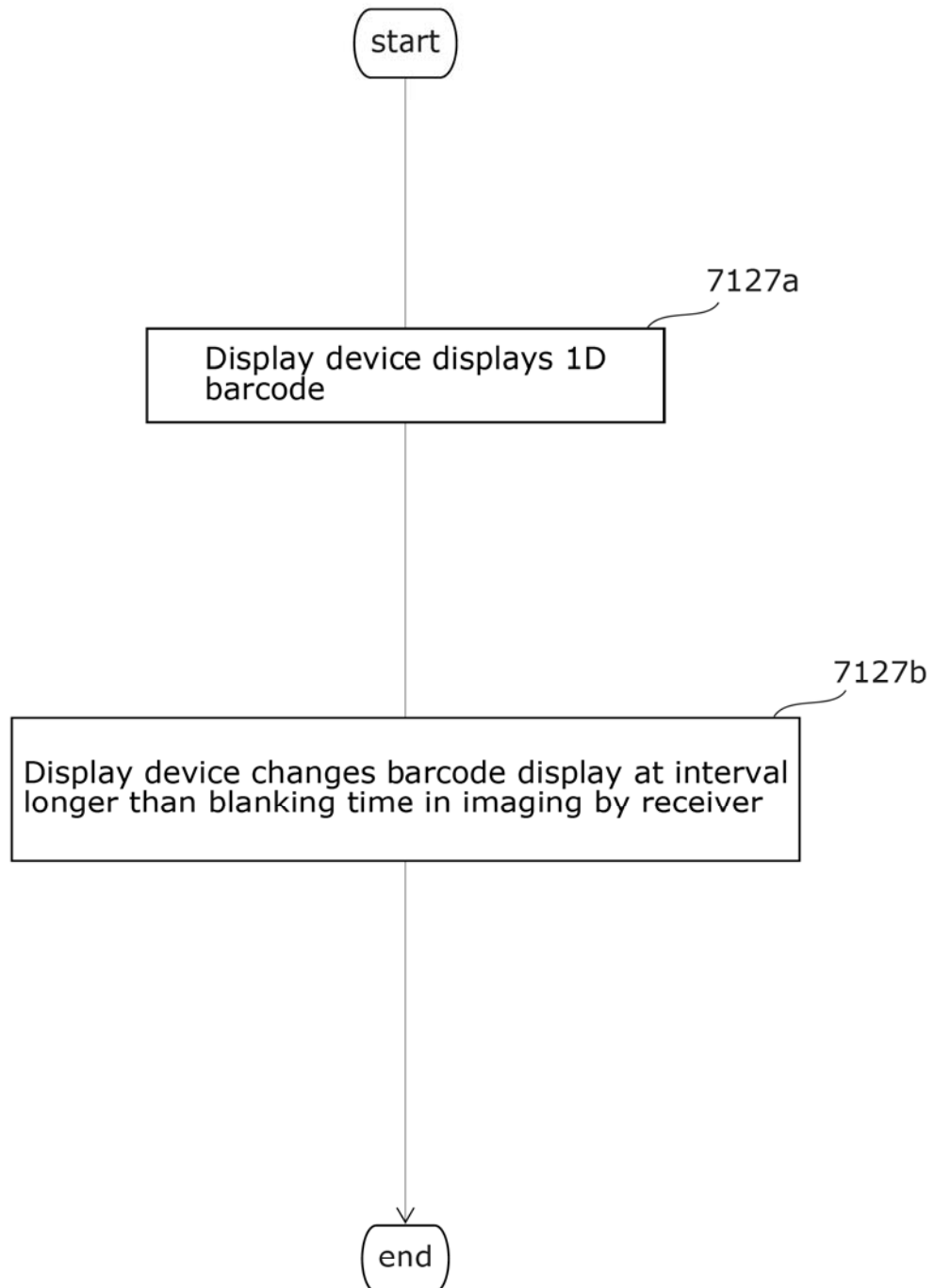


FIG. 264

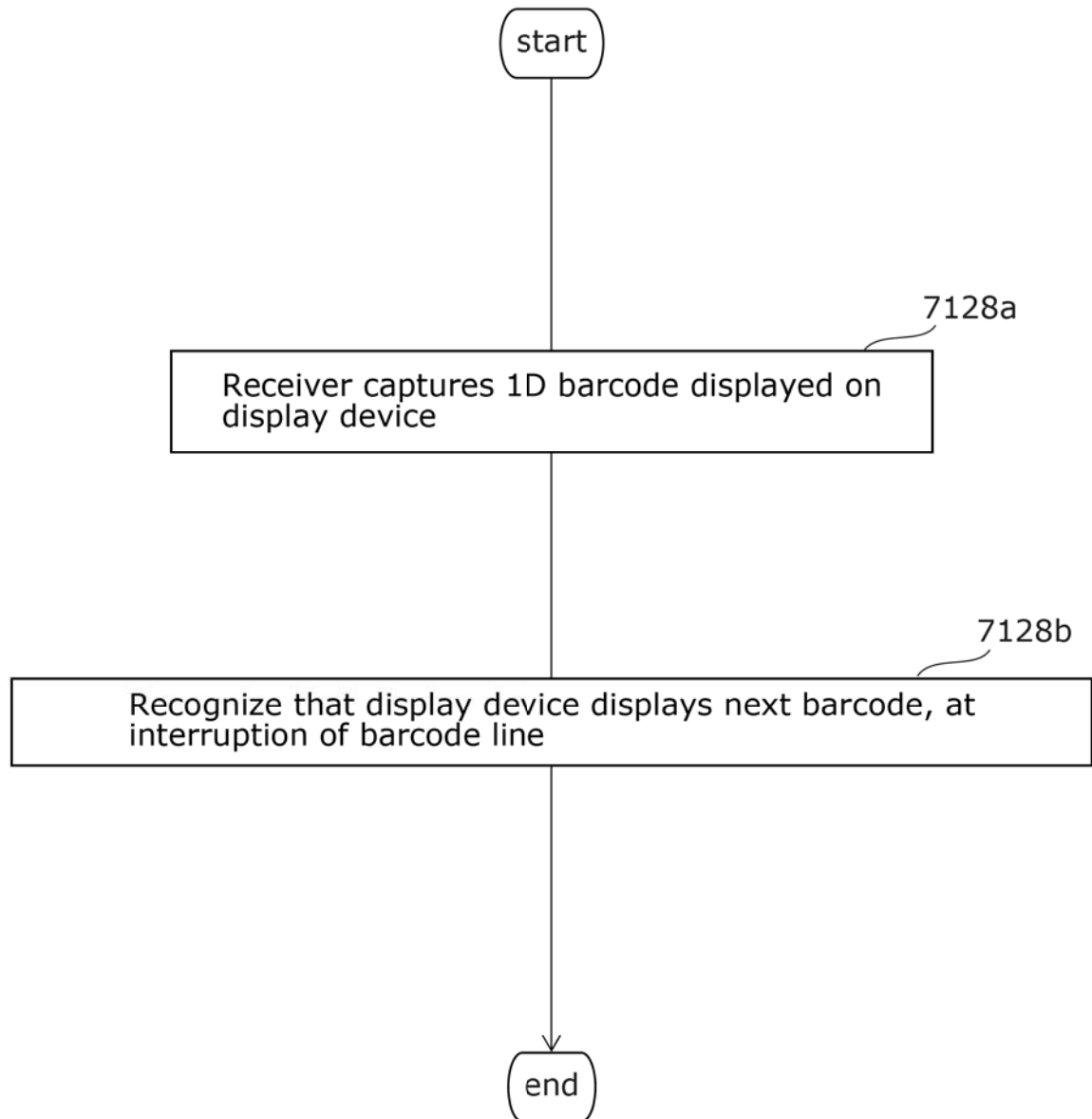


FIG. 265

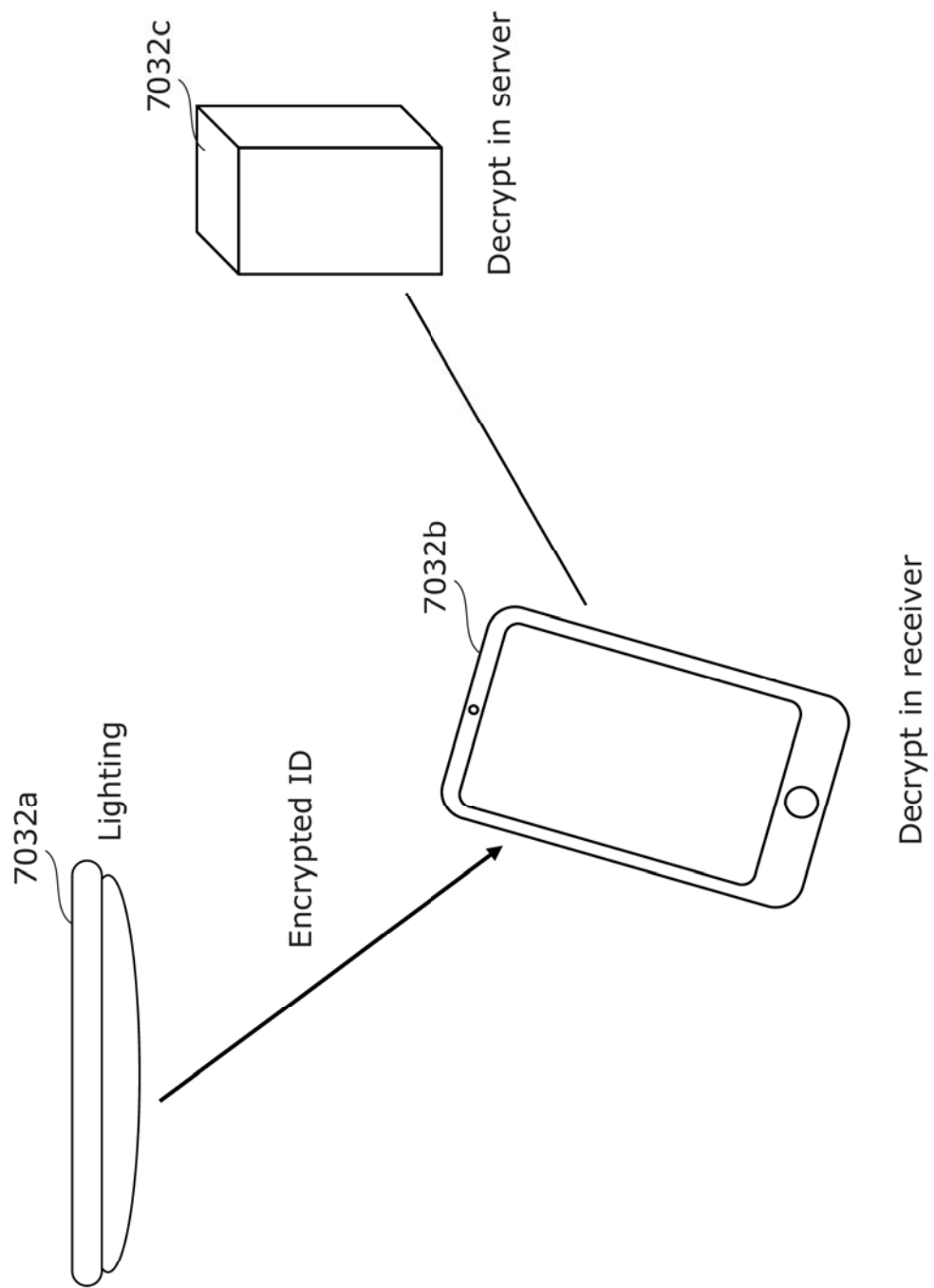


FIG. 266

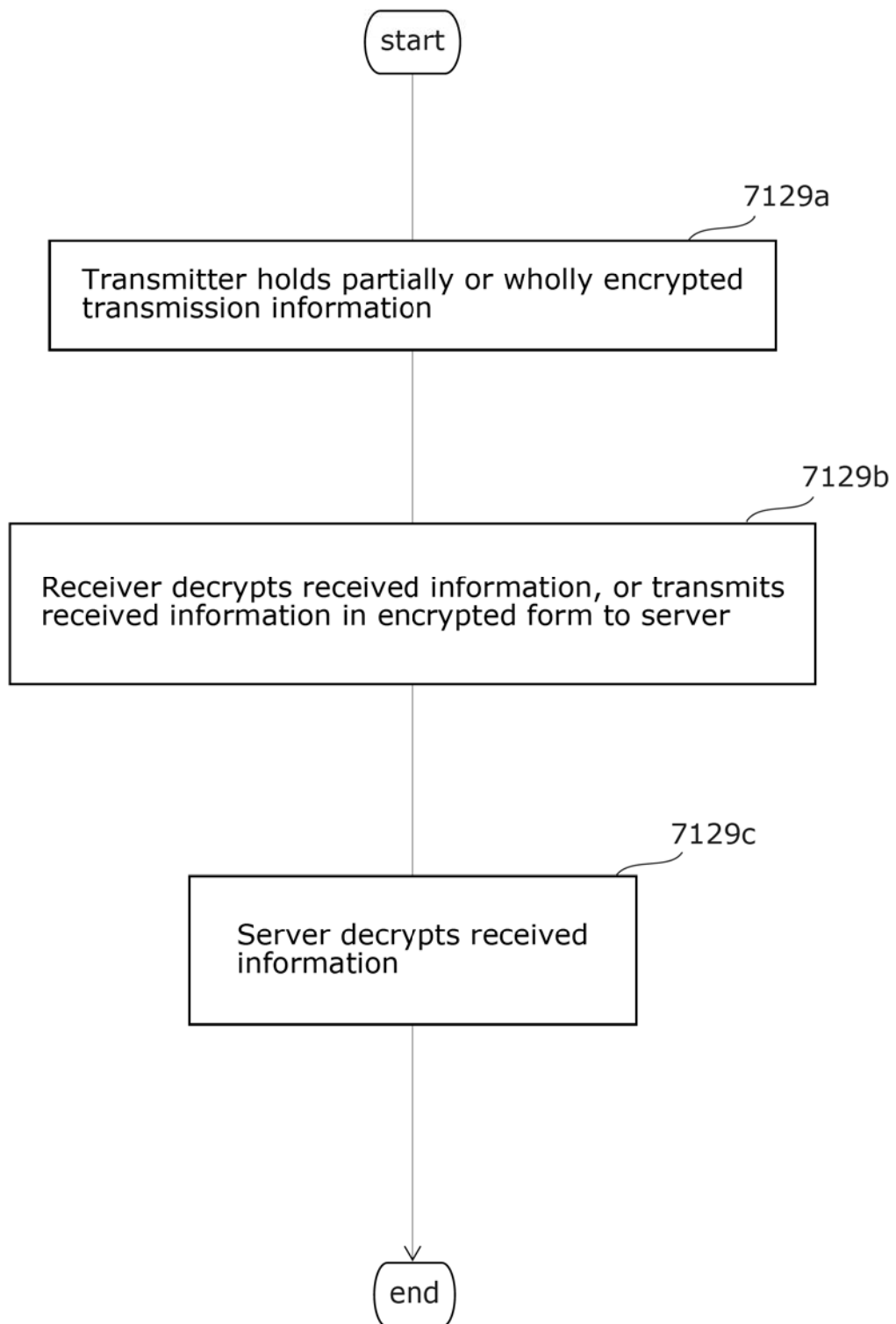
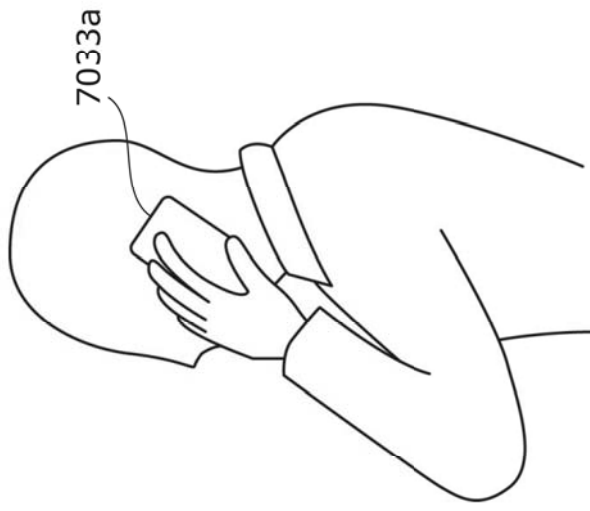


FIG. 267



Stop reception in the case where value of
illuminance sensor is low and receiver is estimated
to be in call state

FIG. 268

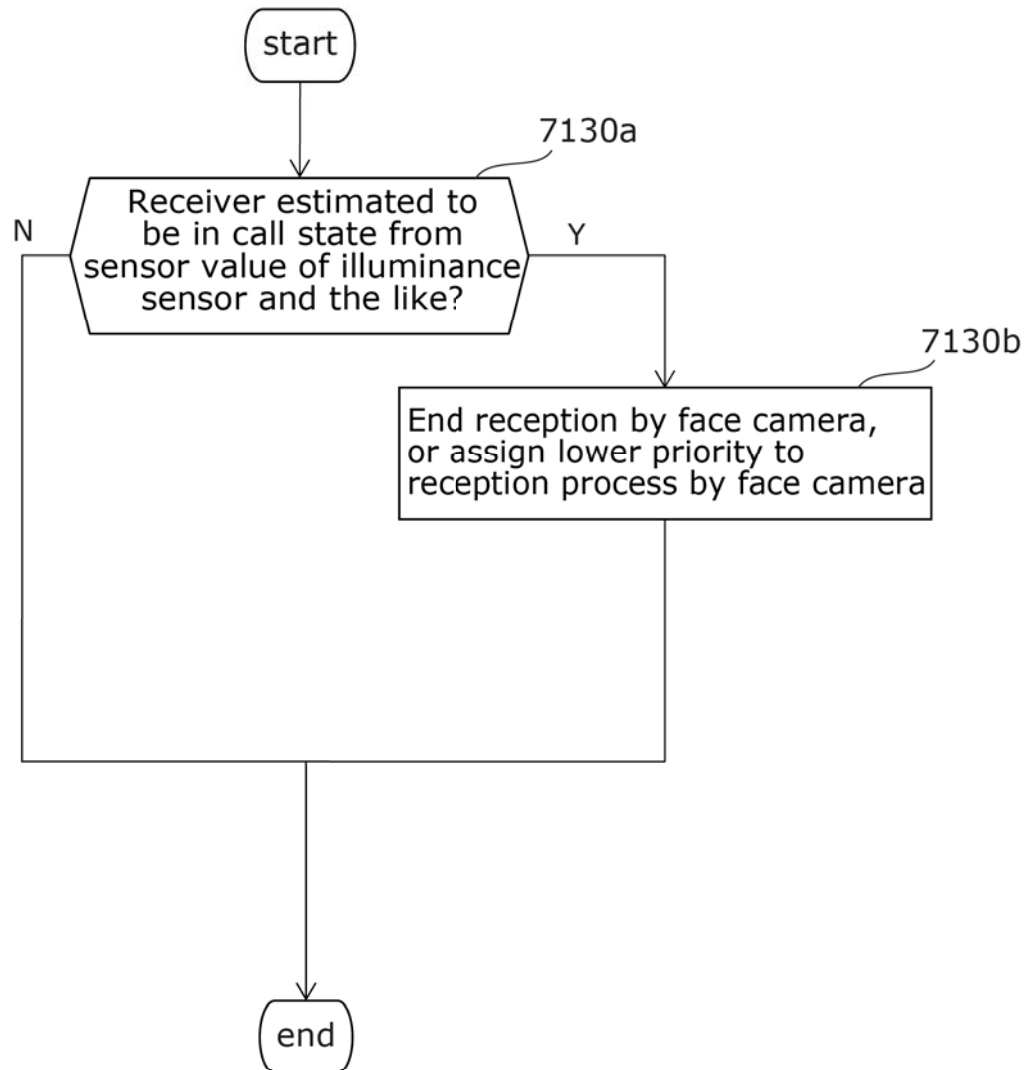
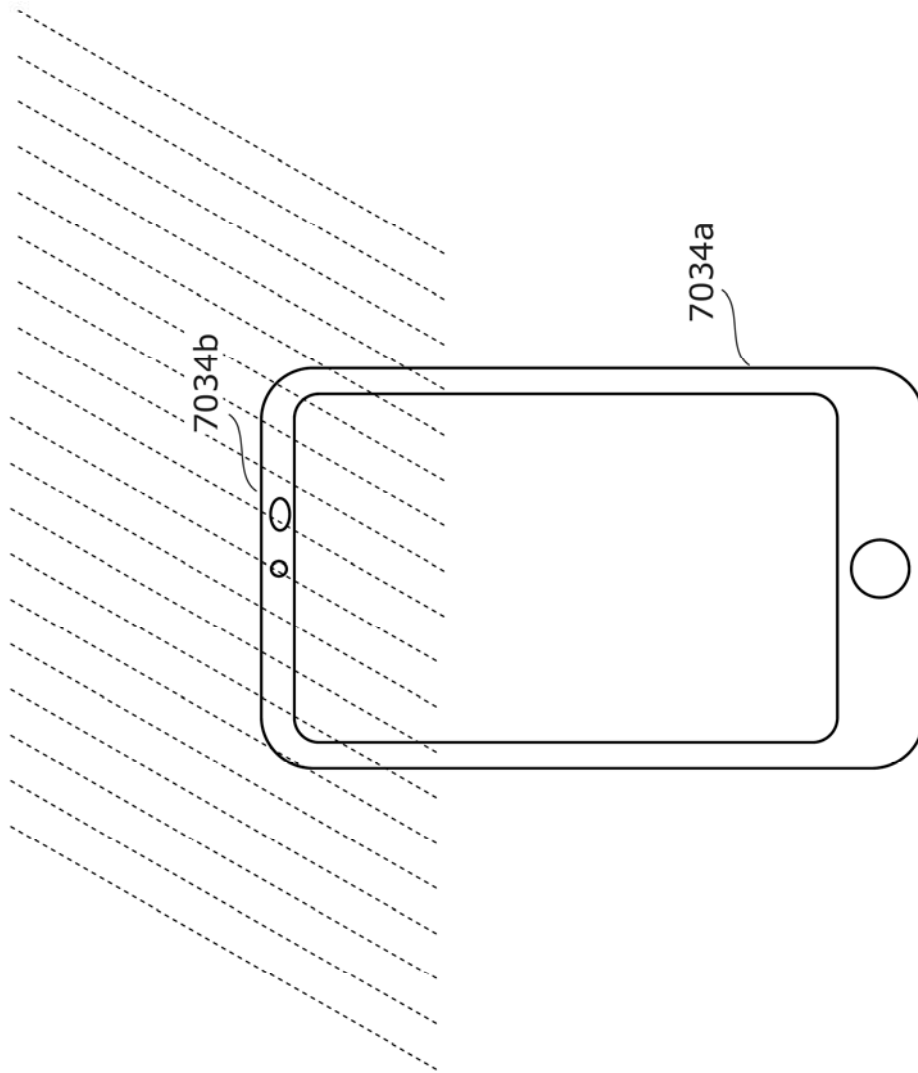


FIG. 269



Stop reception process by imaging device on illuminance sensor side or assign lower priority to reception process, in the case where measurement value of illuminance sensor is less than or equal to predetermined value

FIG. 270

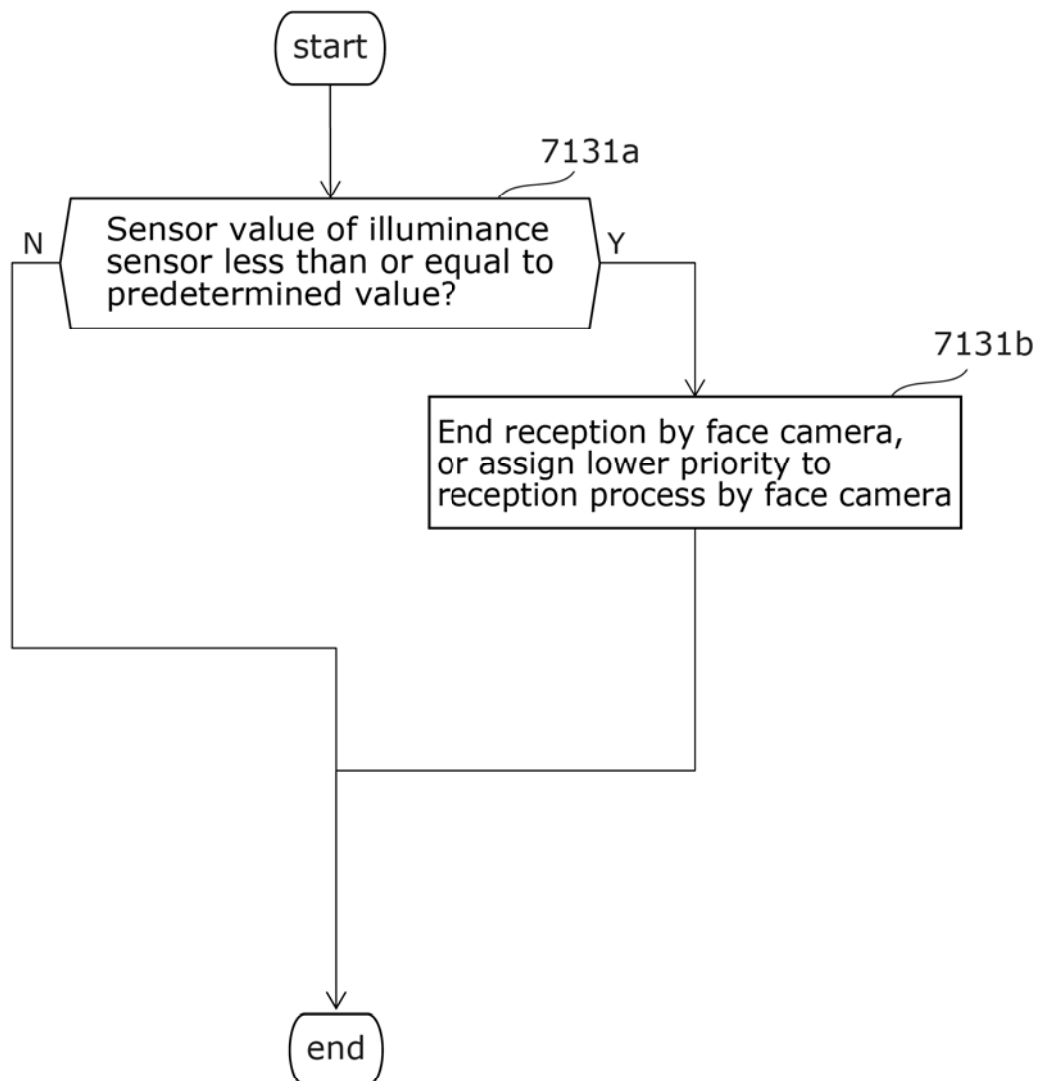


FIG. 271

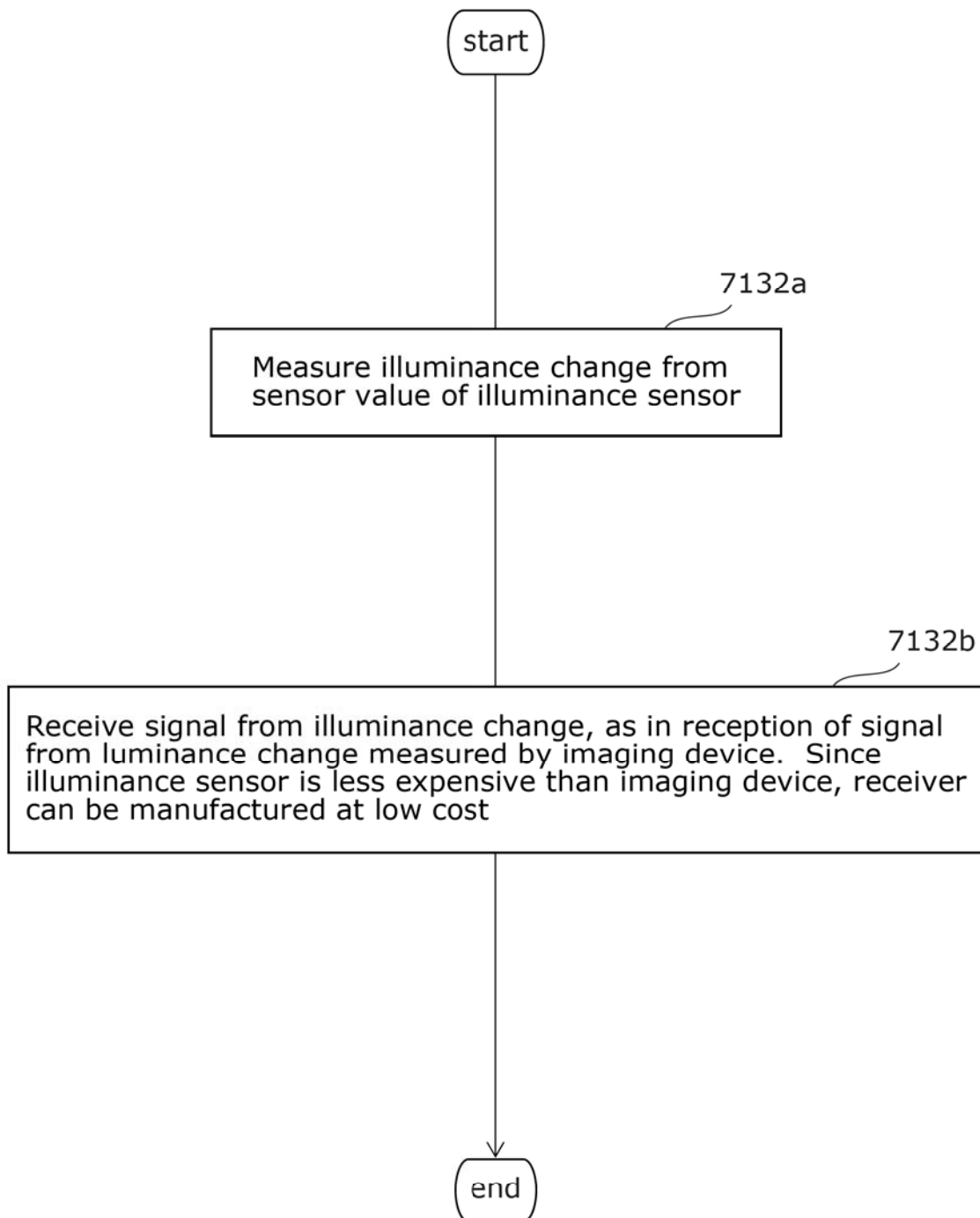


FIG. 272

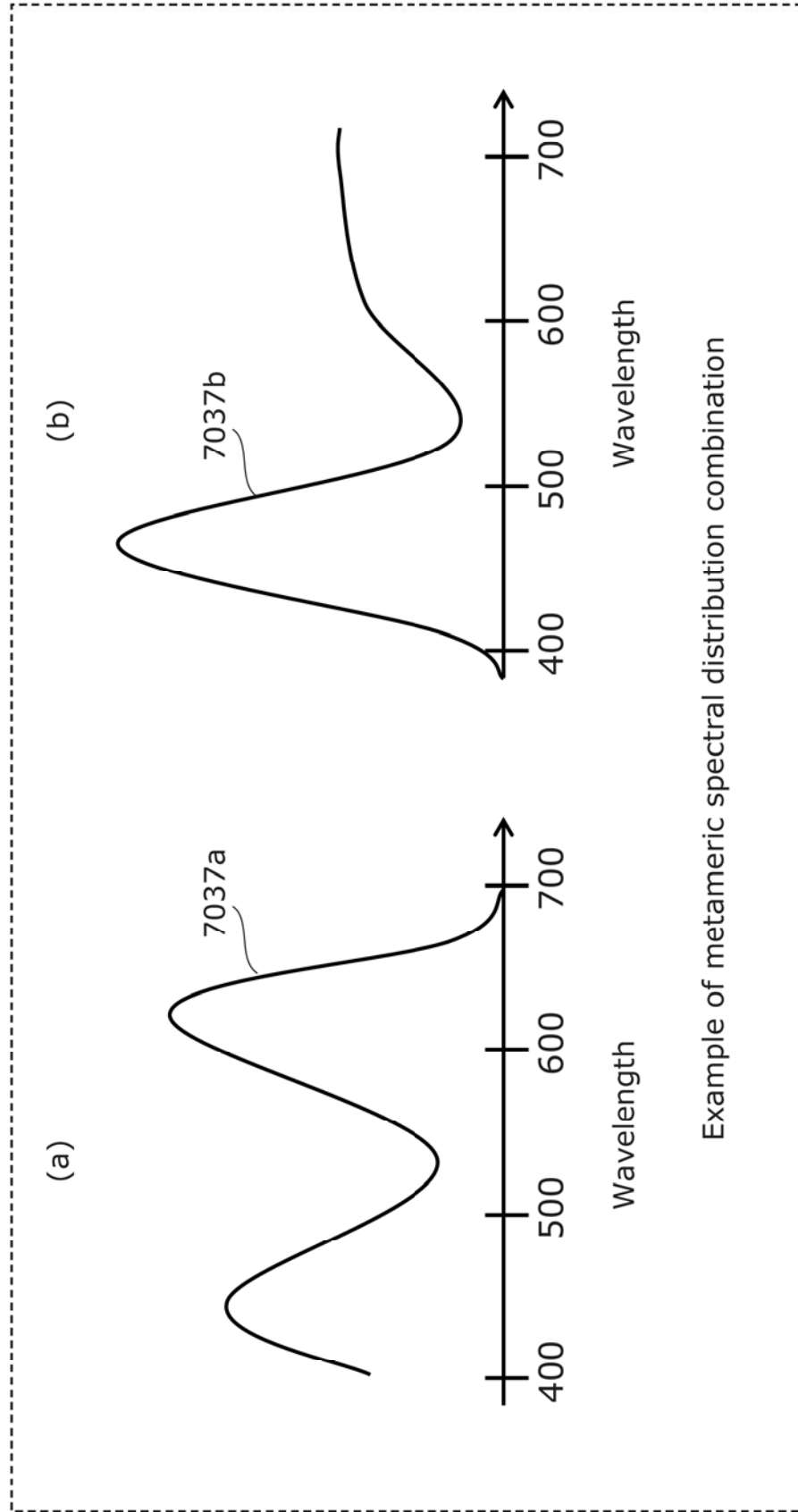


FIG. 273

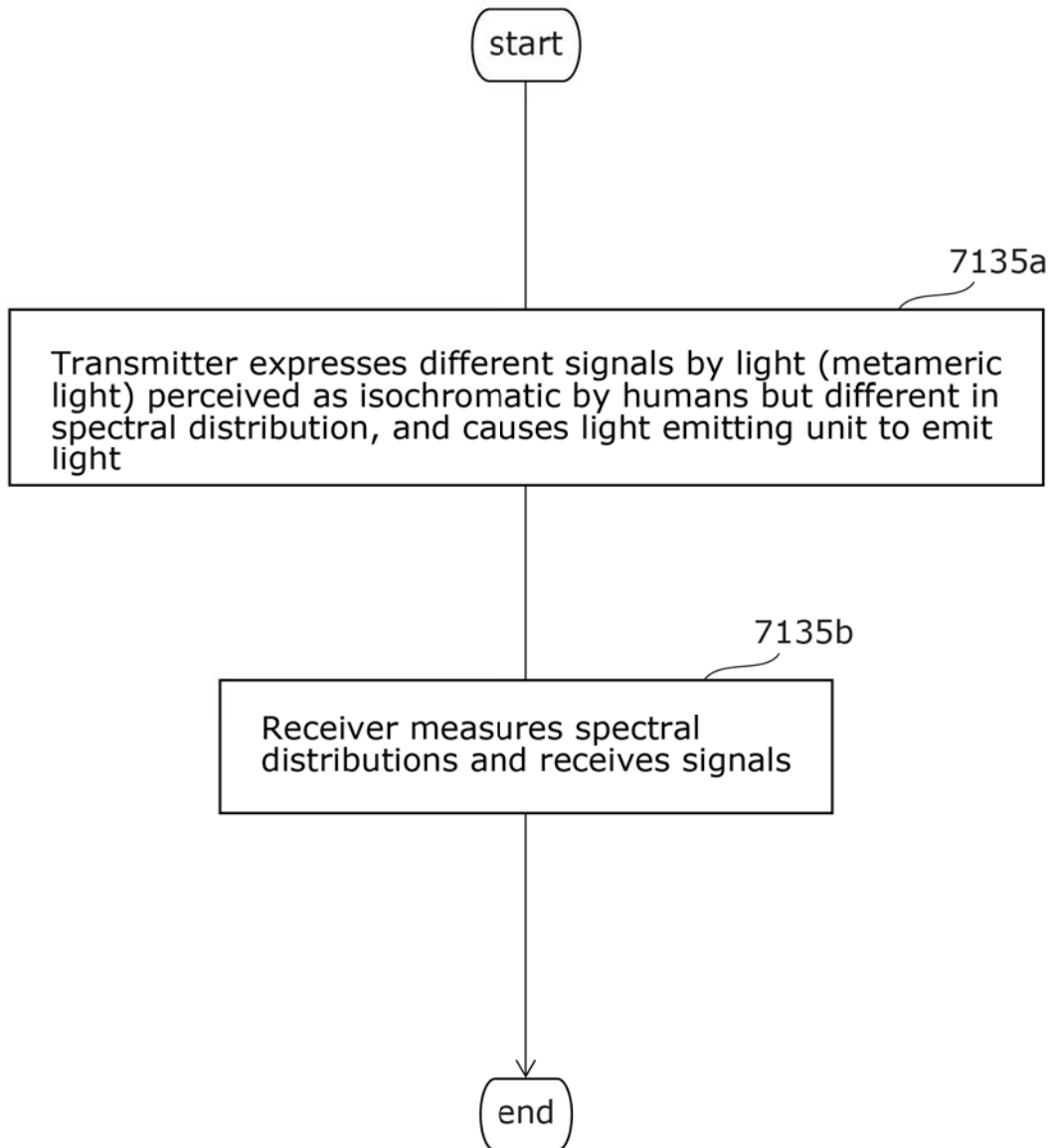


FIG. 274

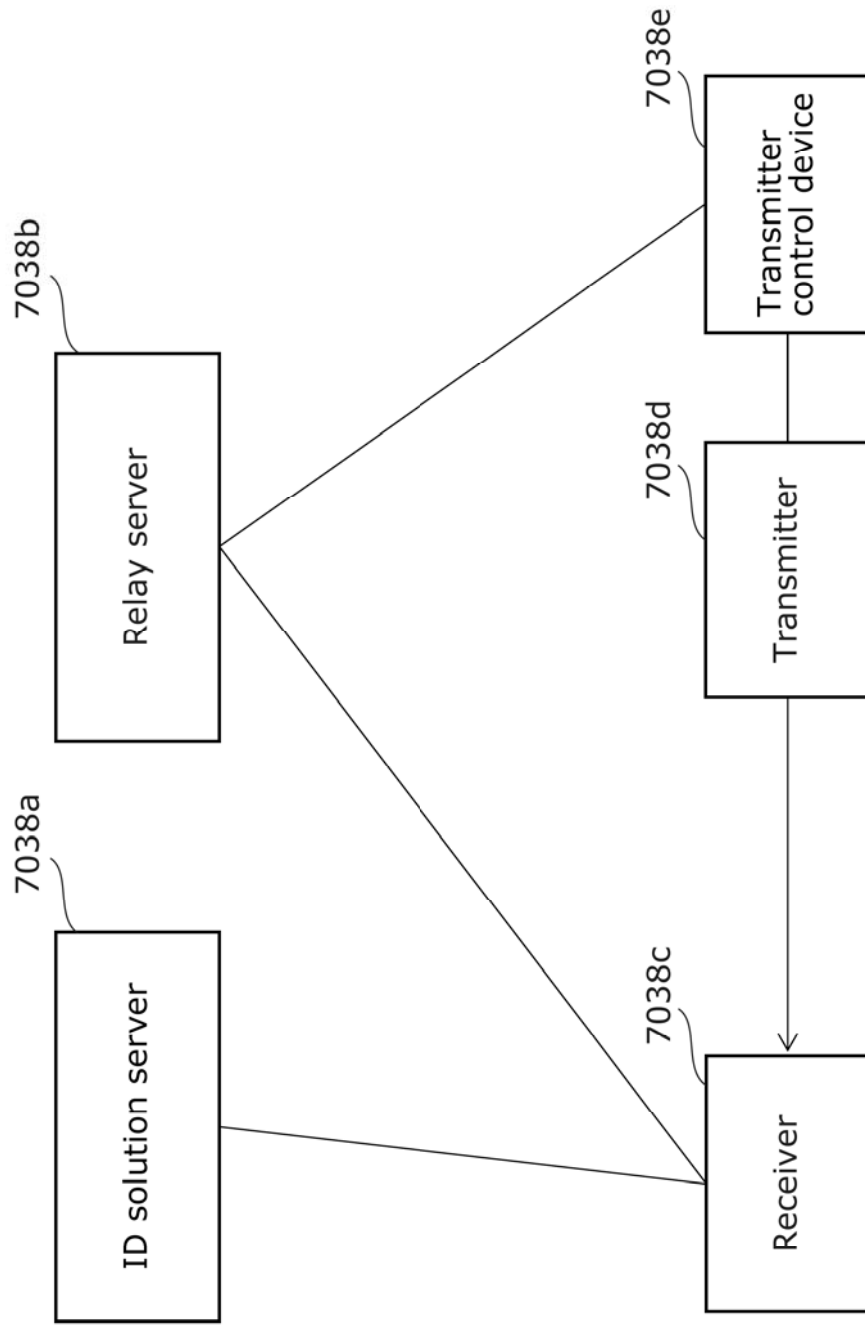


FIG. 275

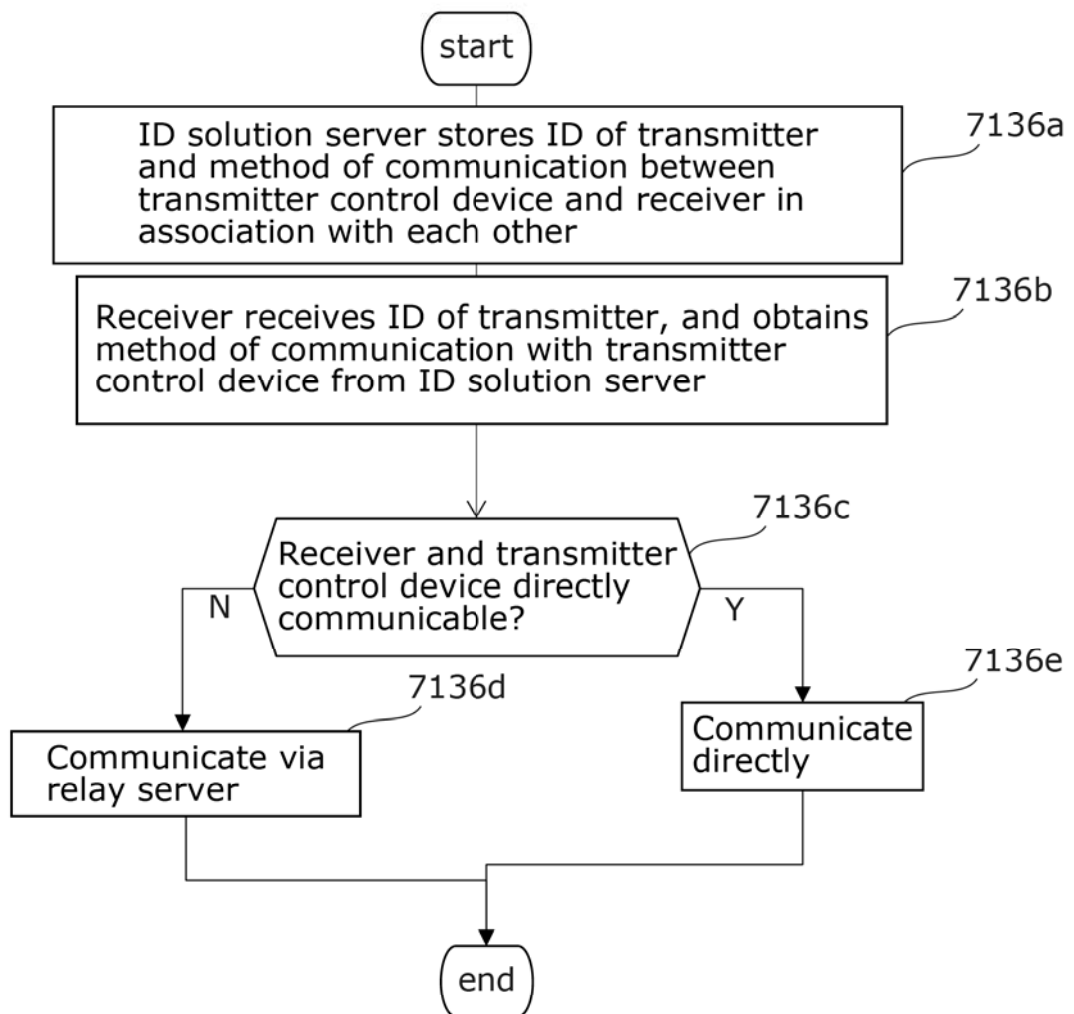


FIG. 276

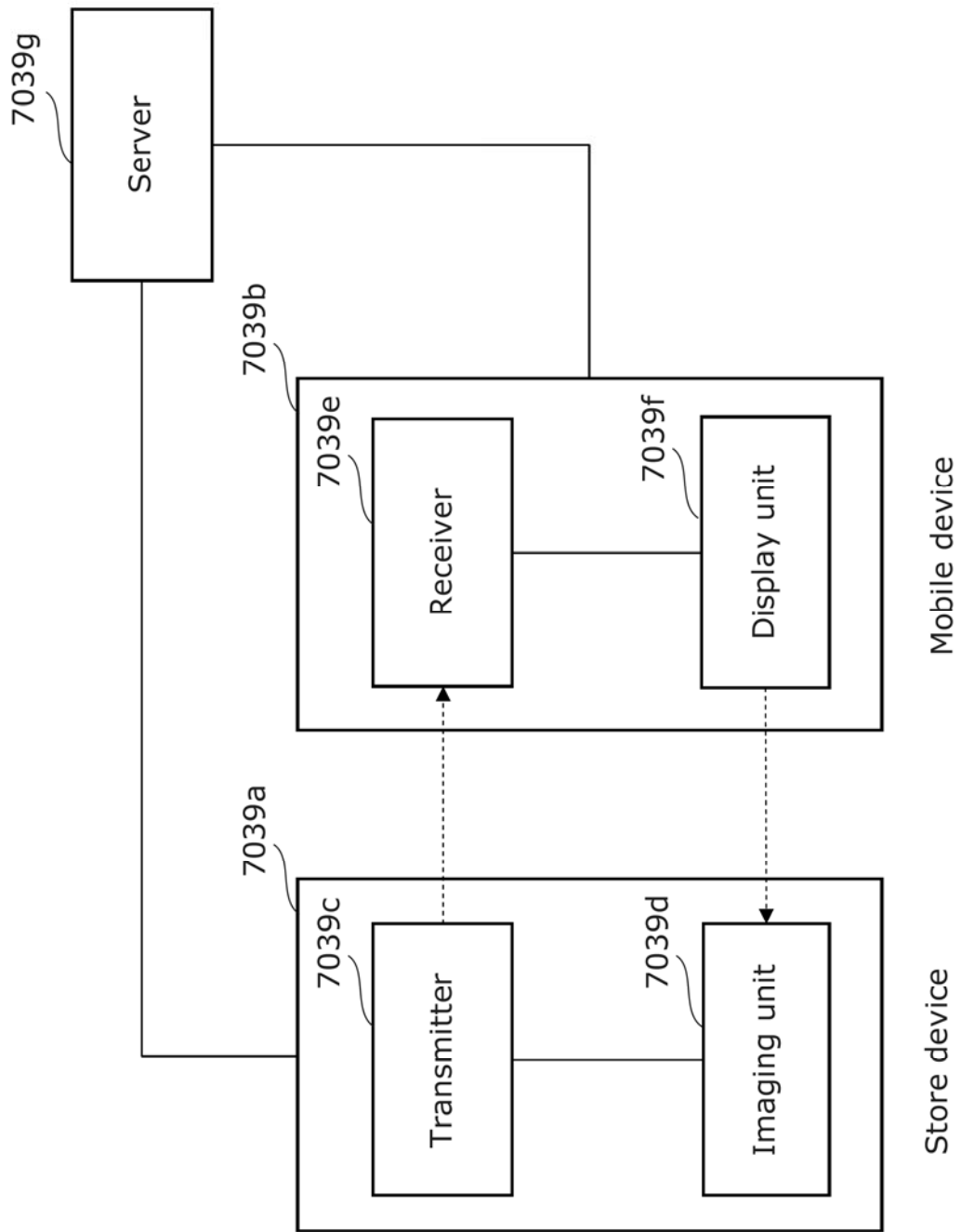


FIG. 277

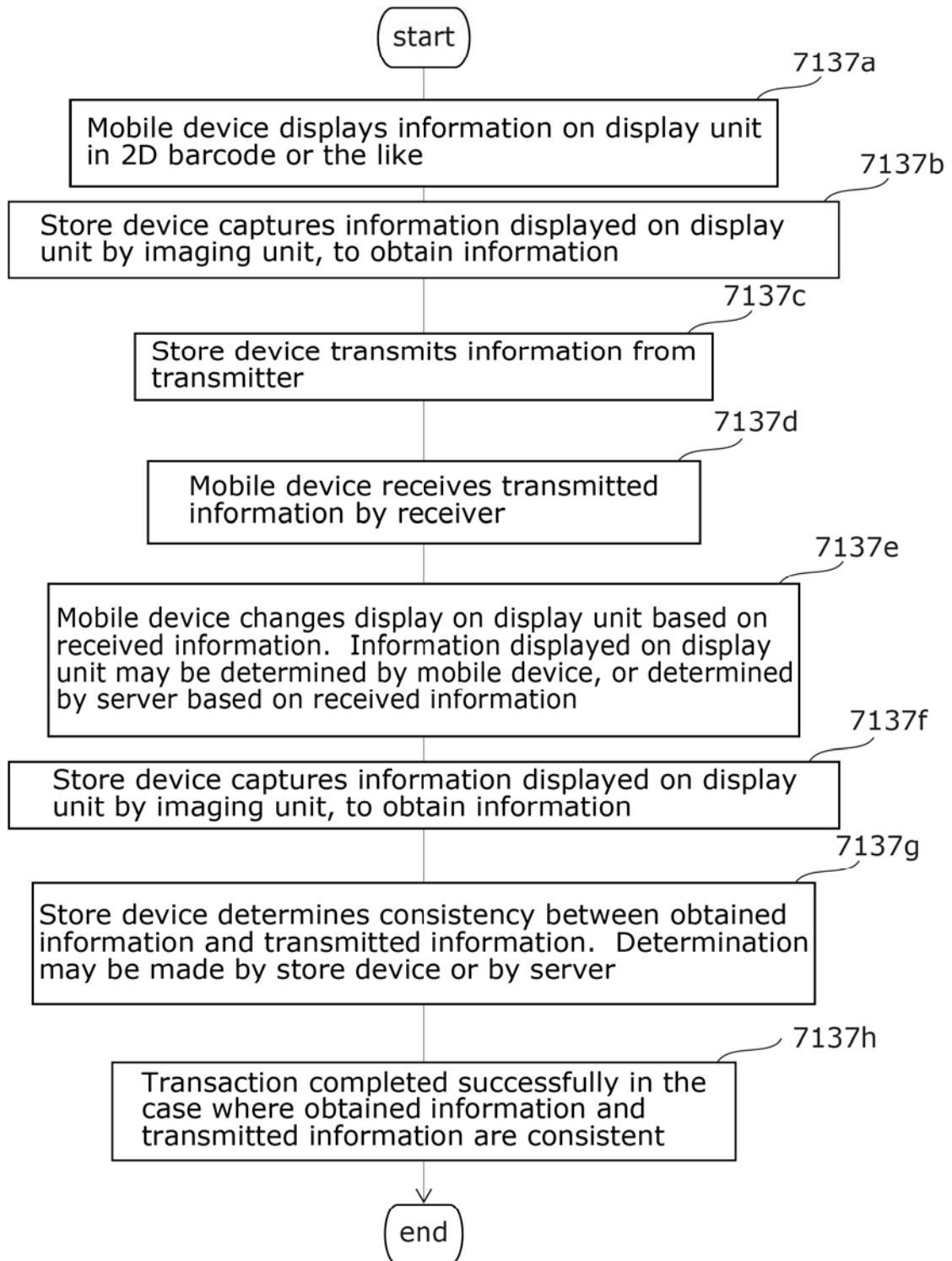


FIG. 278

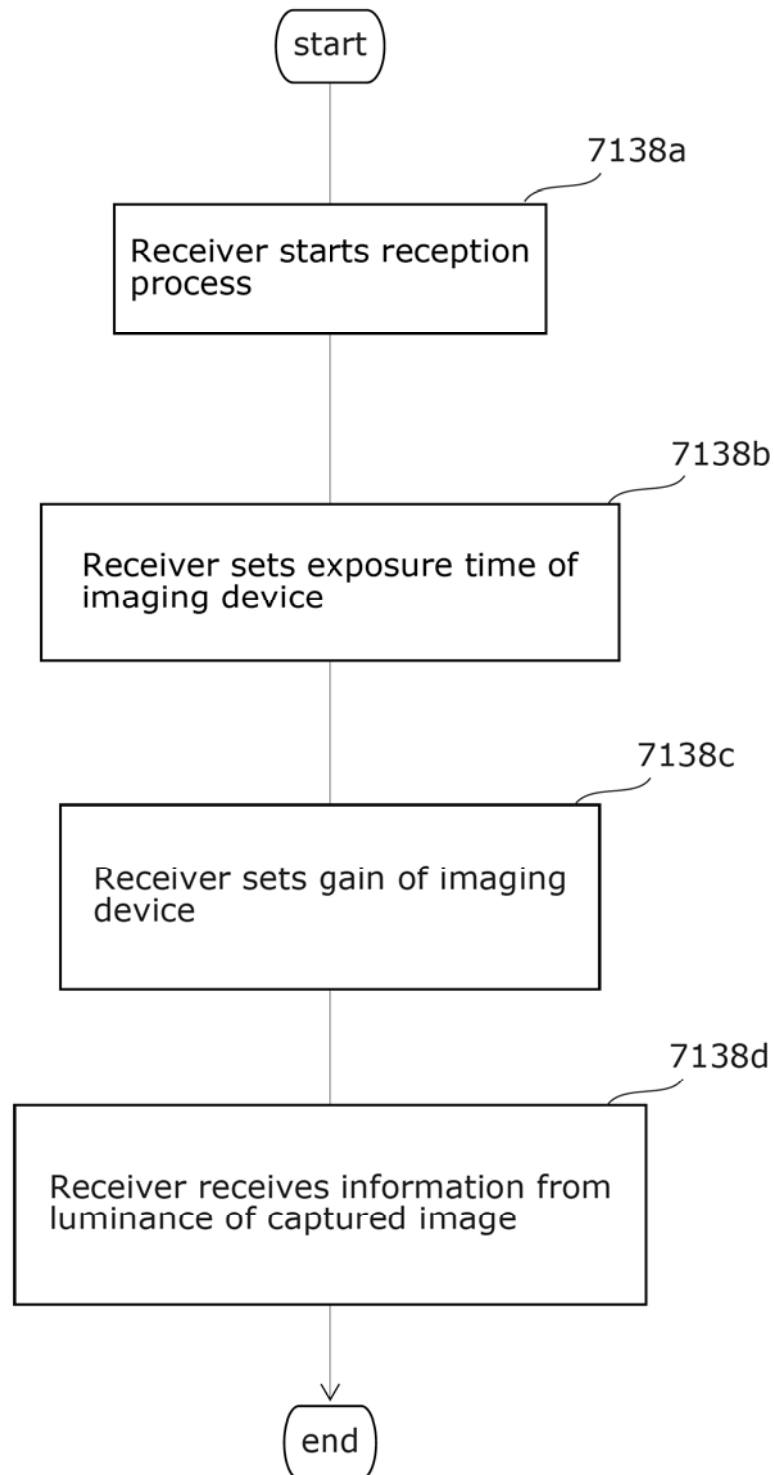


FIG. 279

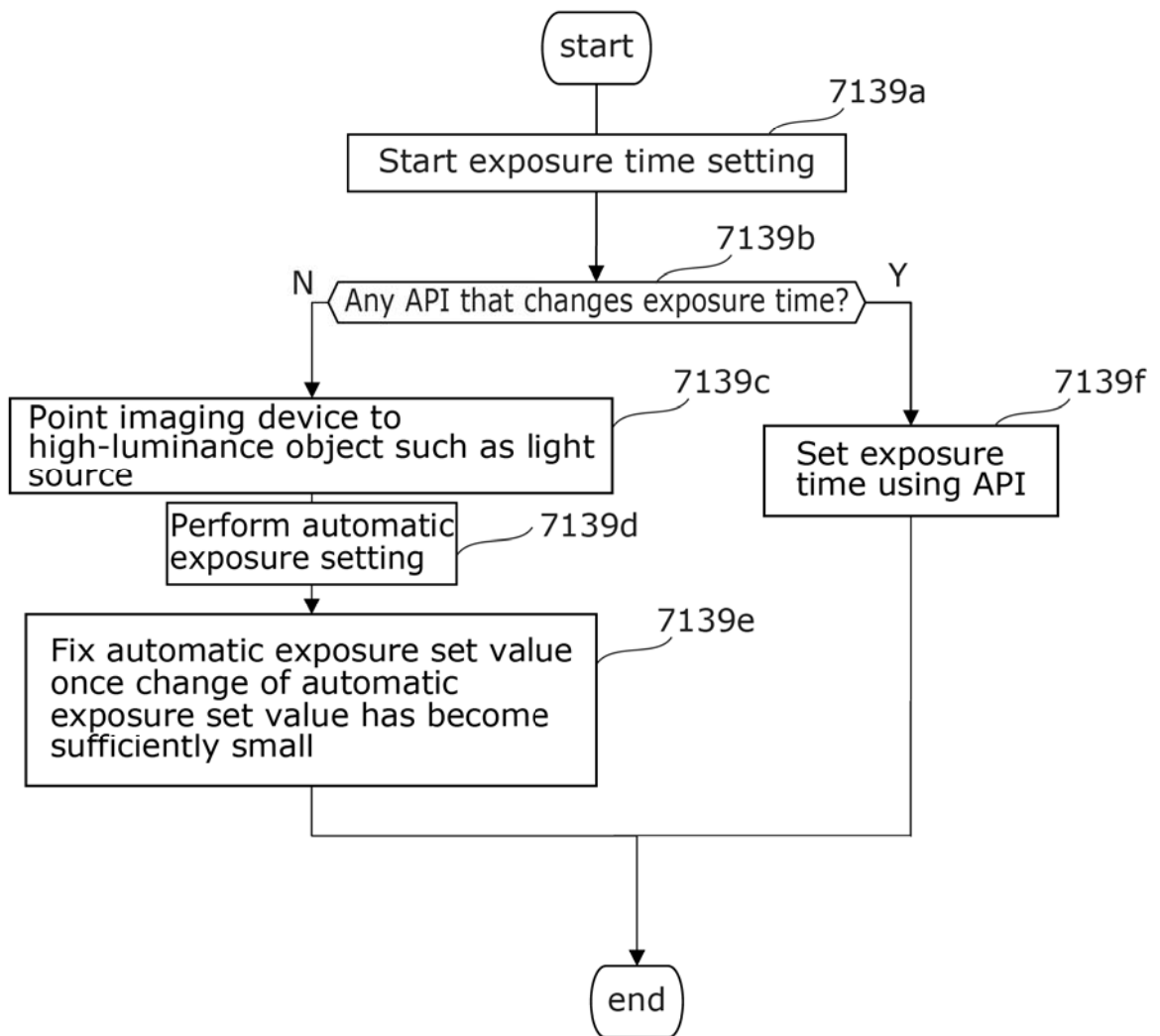


FIG. 280

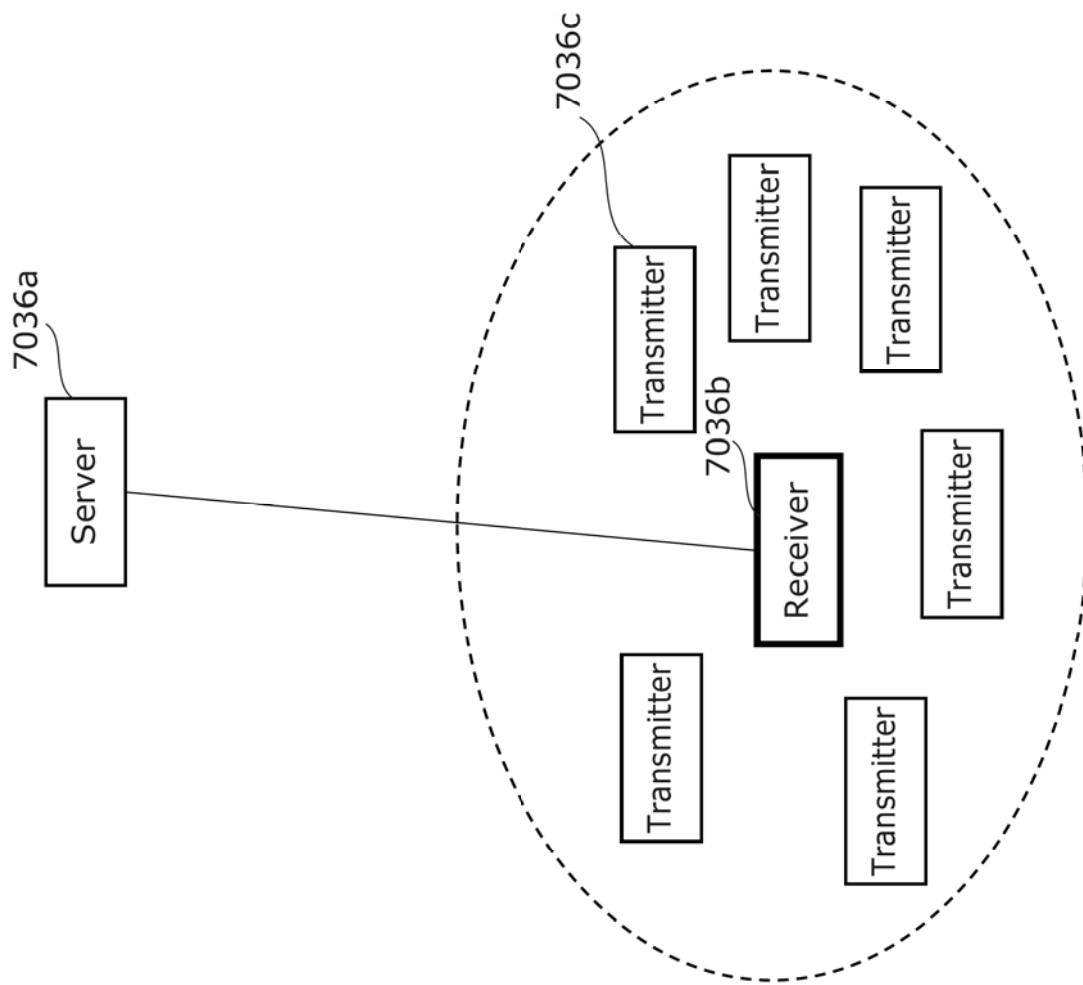


FIG. 281

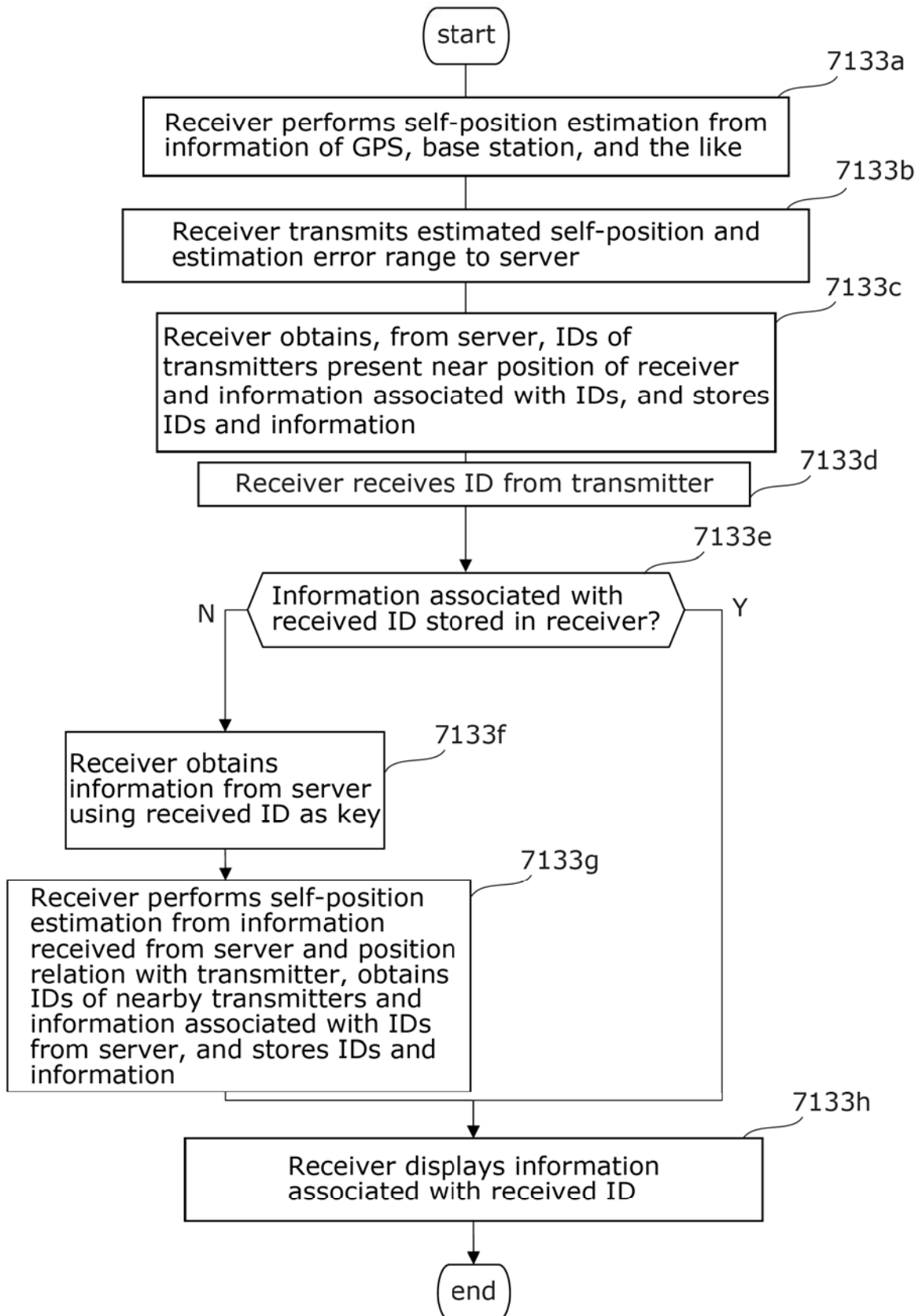


FIG. 282

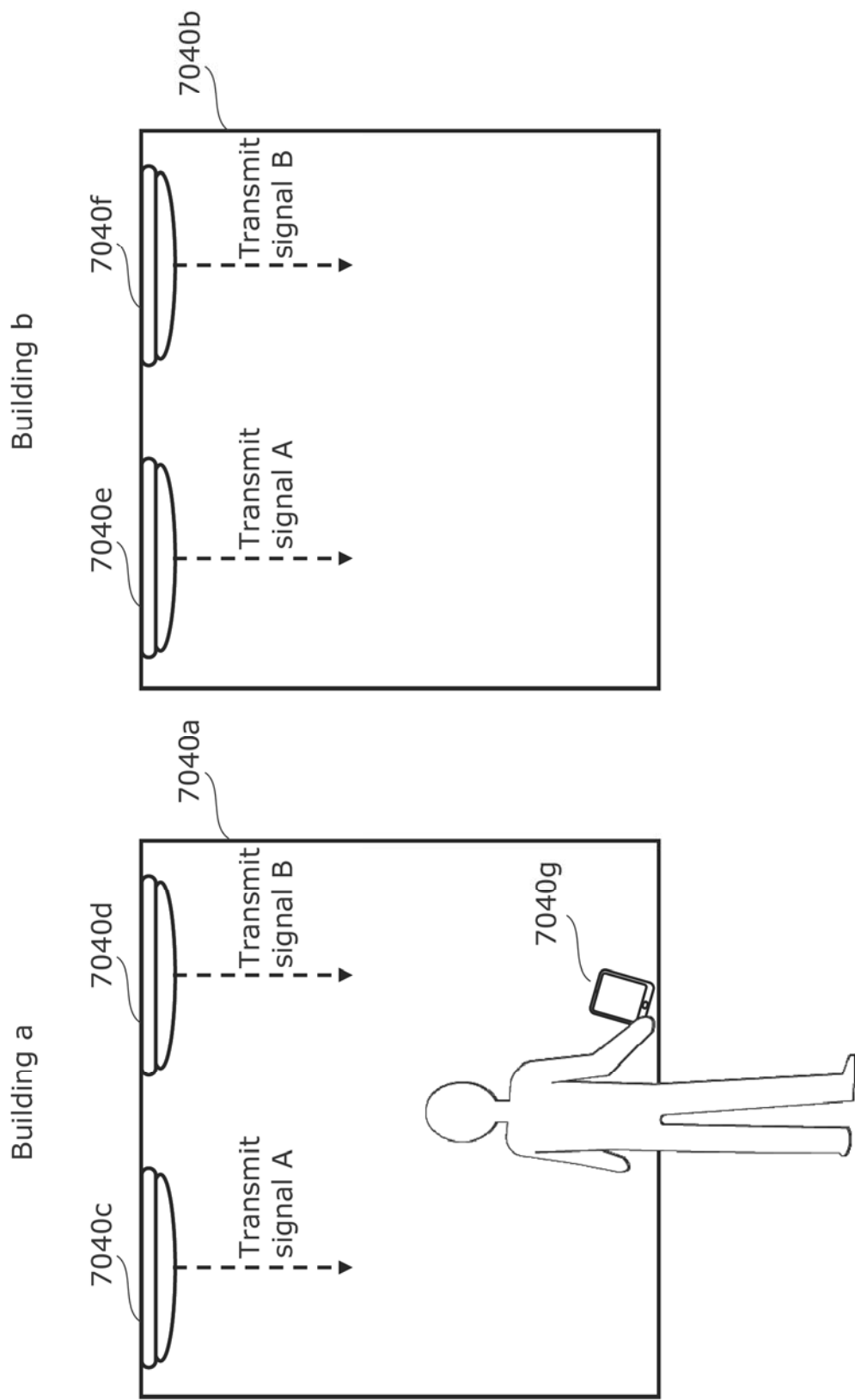


FIG. 283

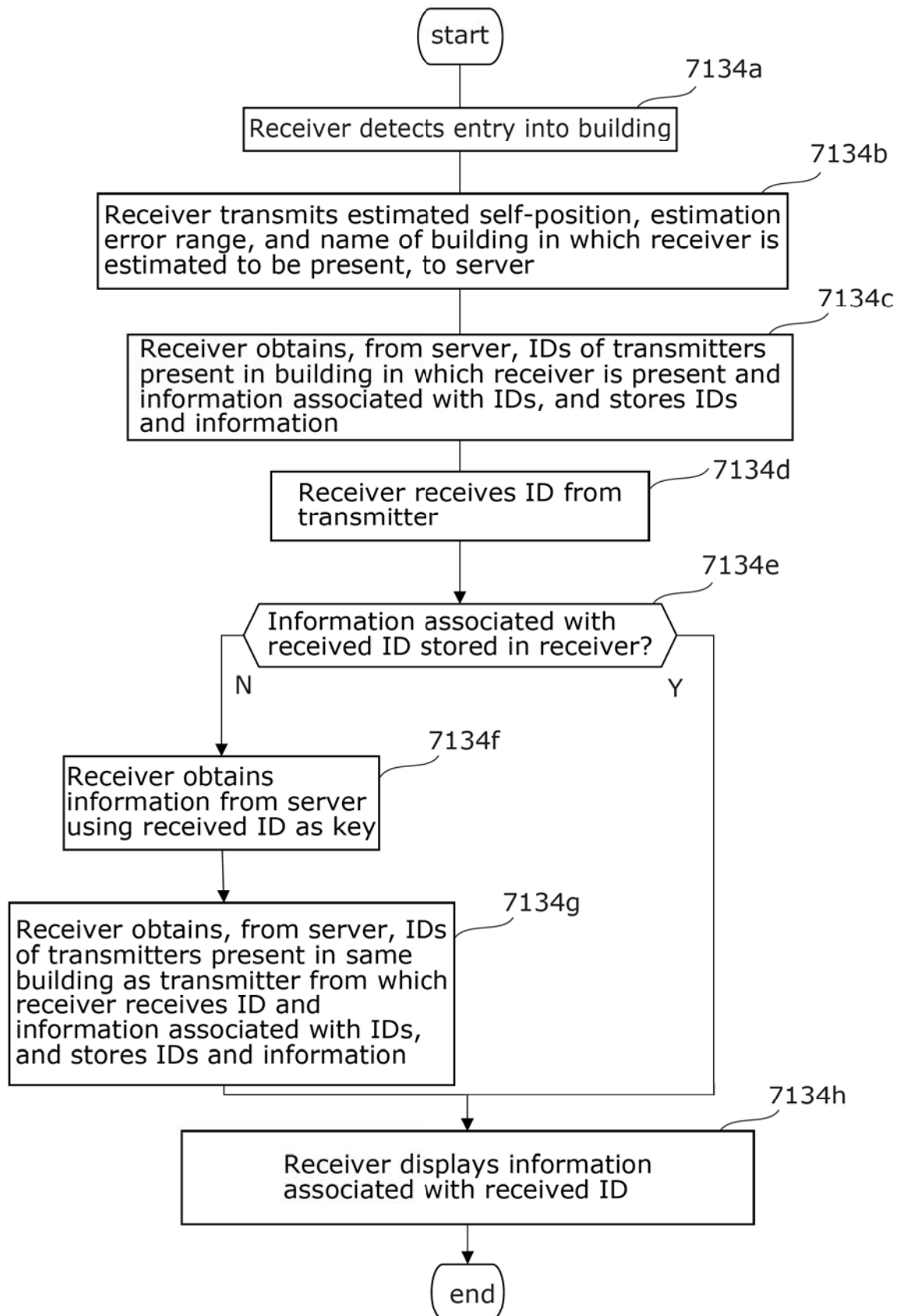


FIG. 284

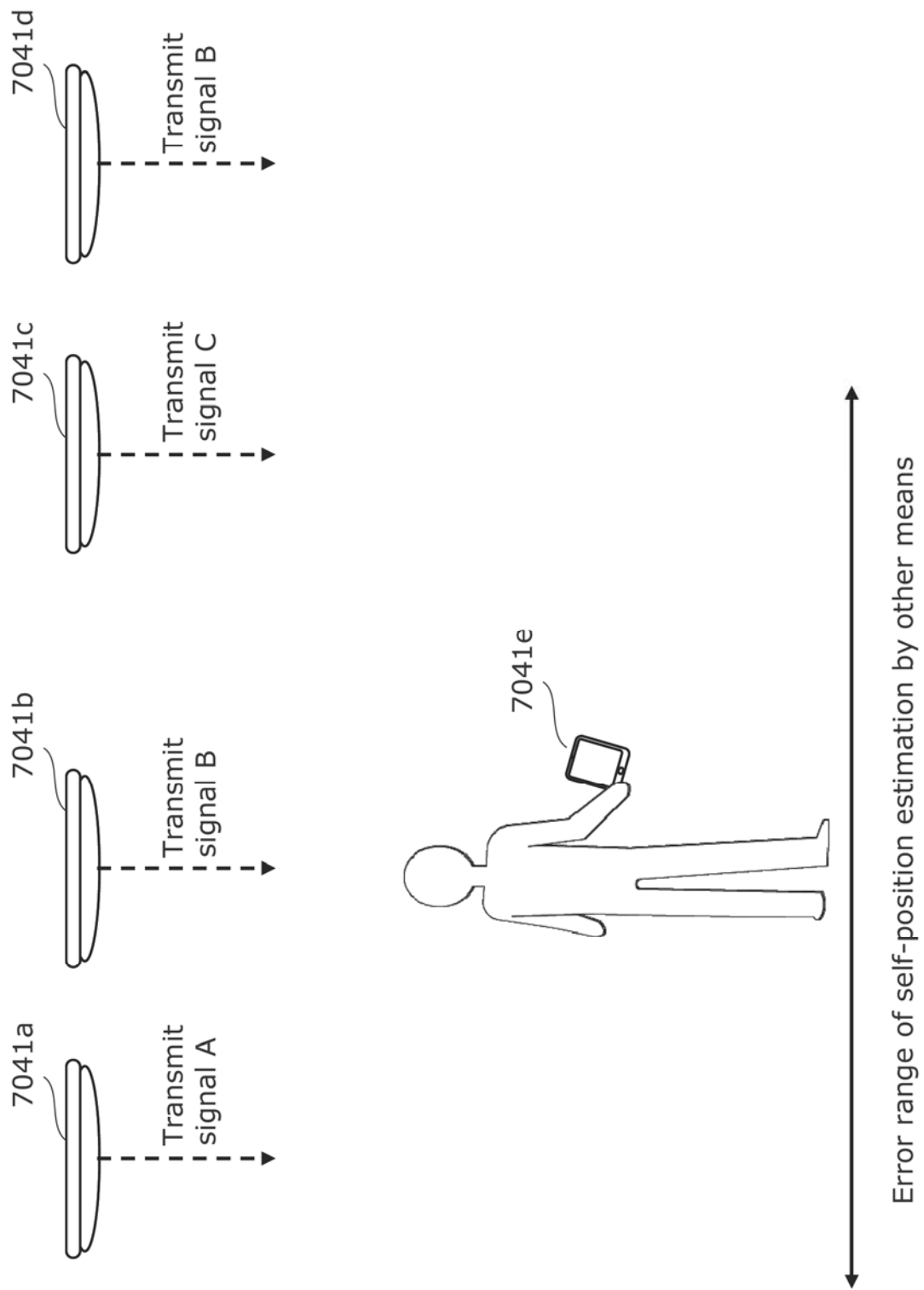


FIG. 285

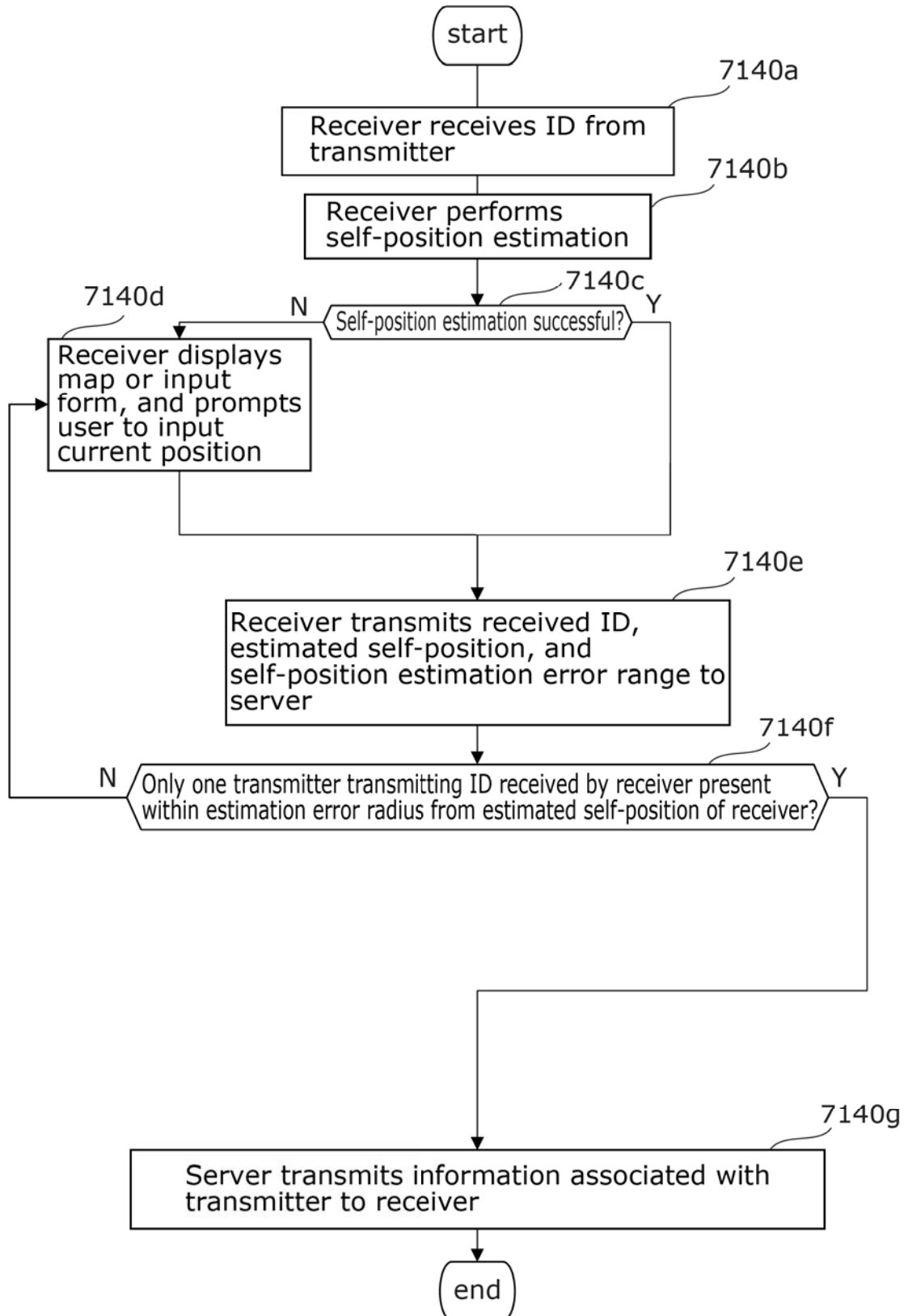


FIG. 286

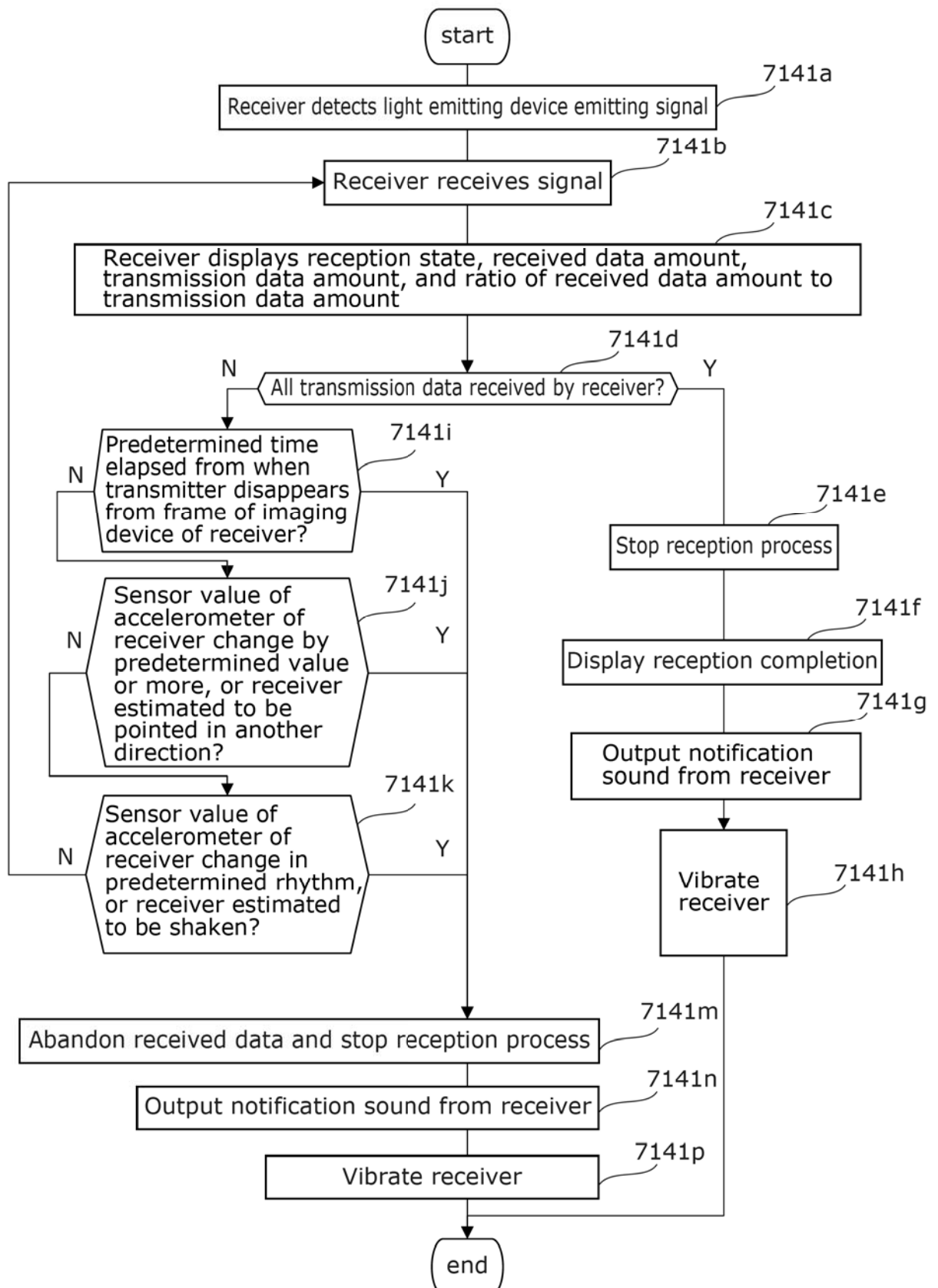


FIG. 287A

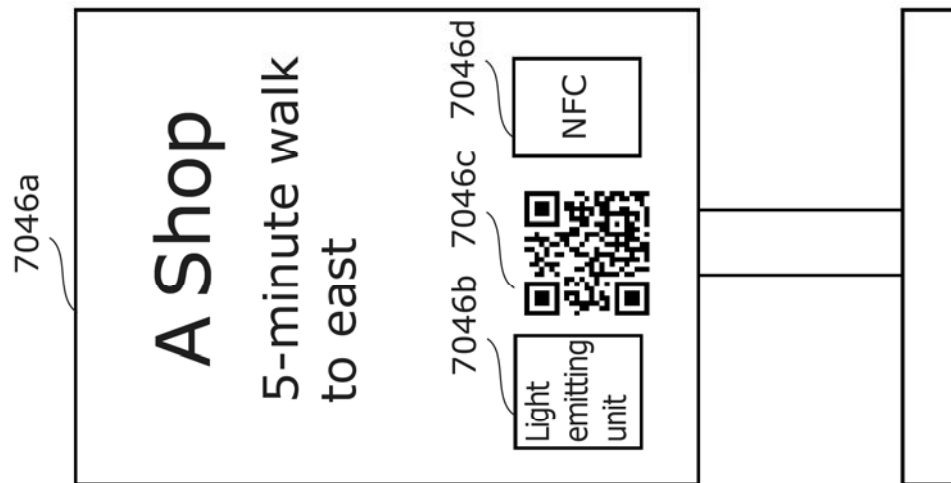


FIG. 287B

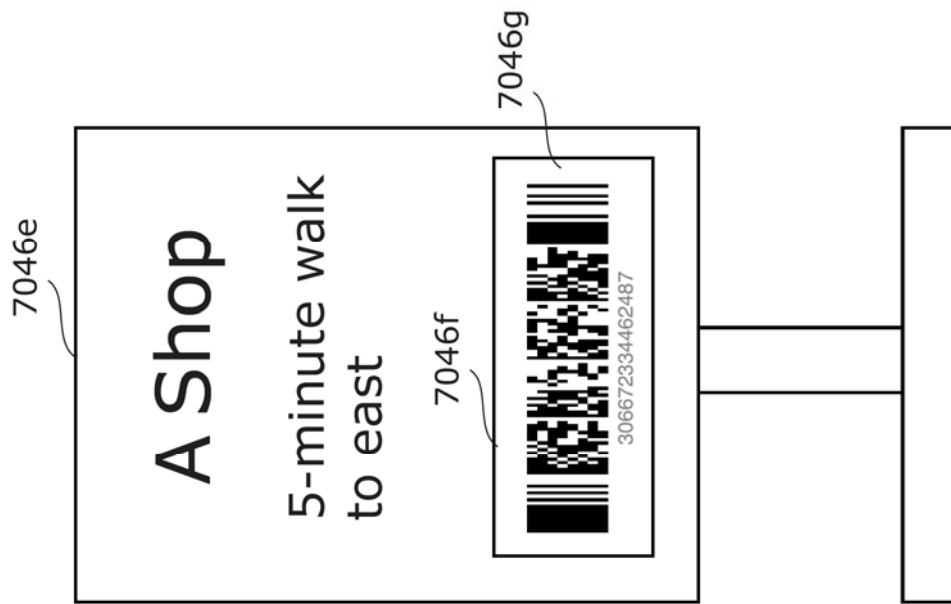


FIG. 288

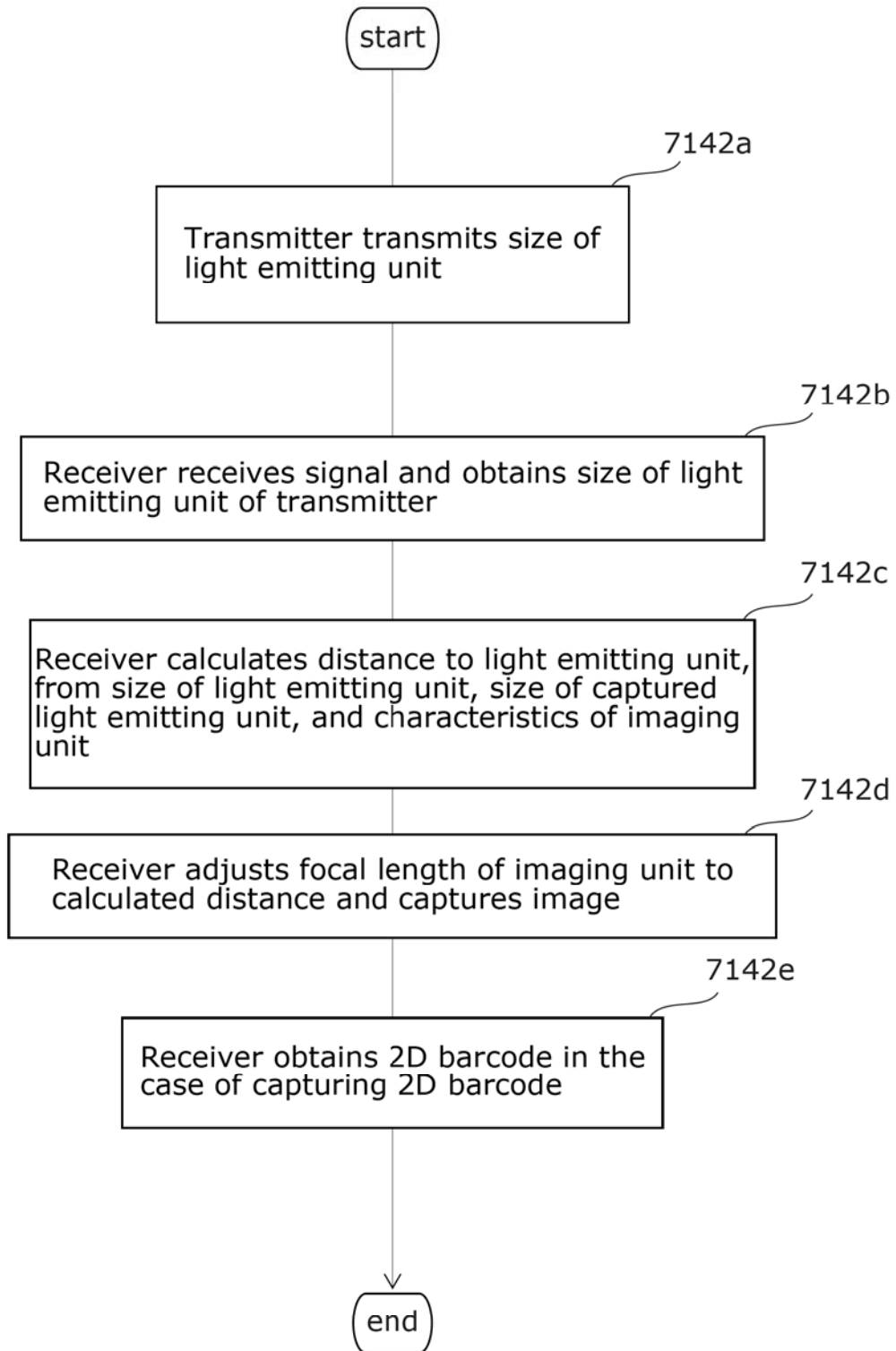


FIG. 289

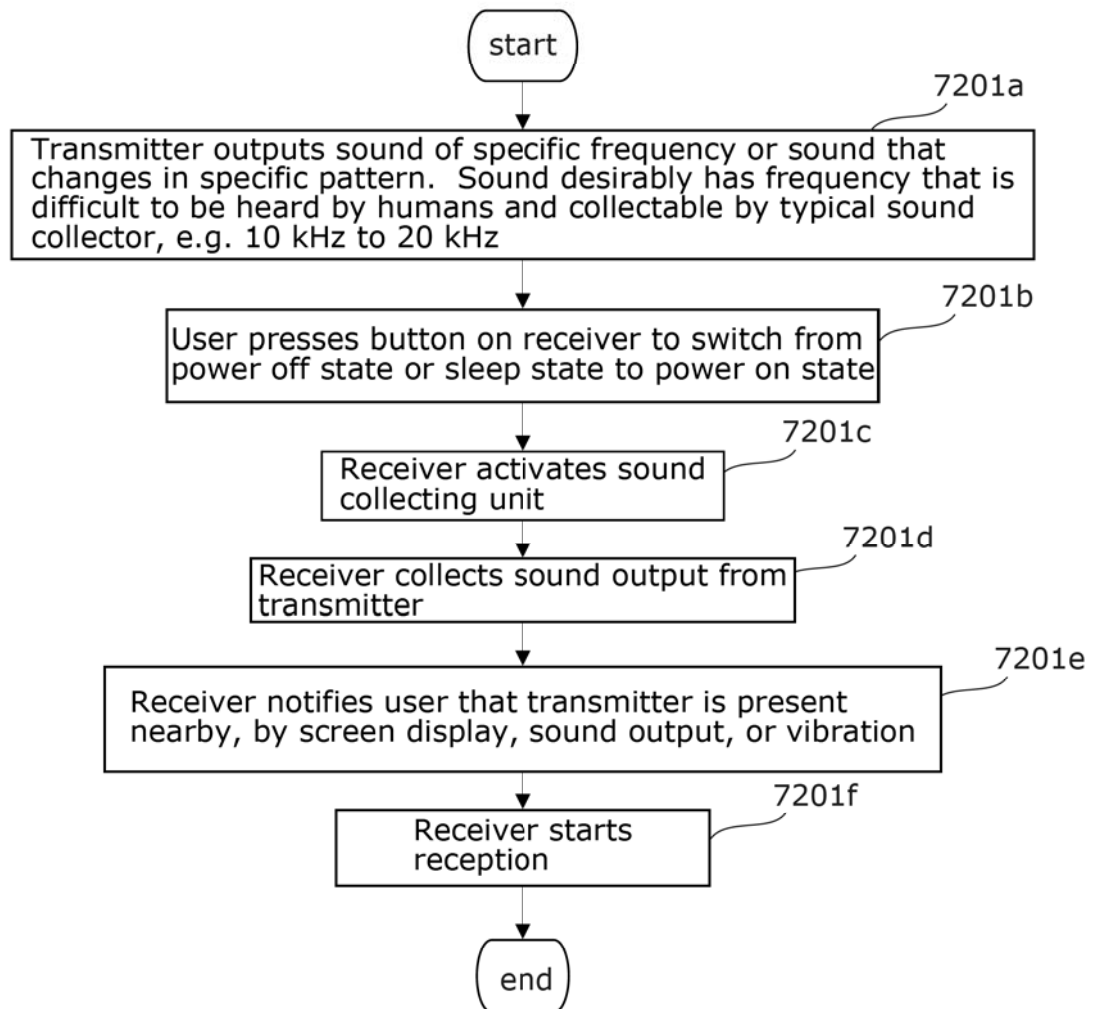


FIG. 290

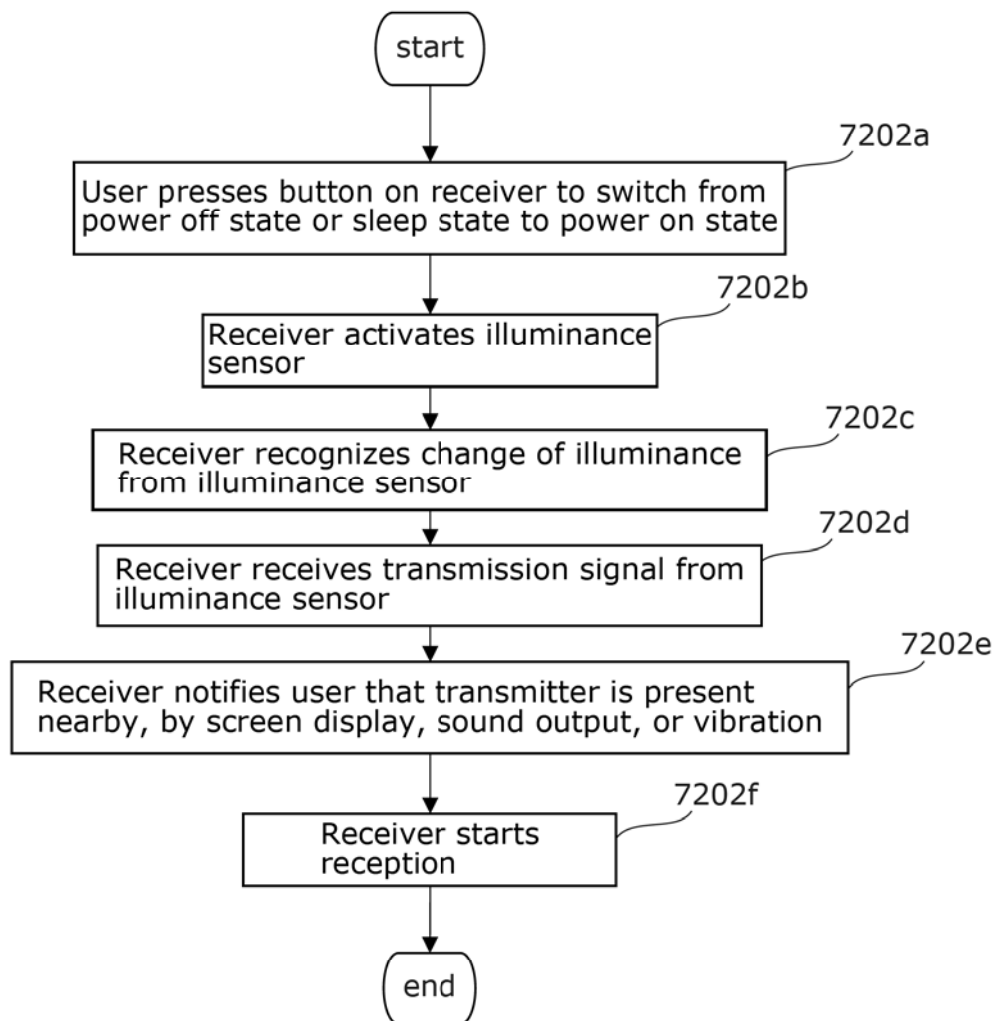


FIG. 291

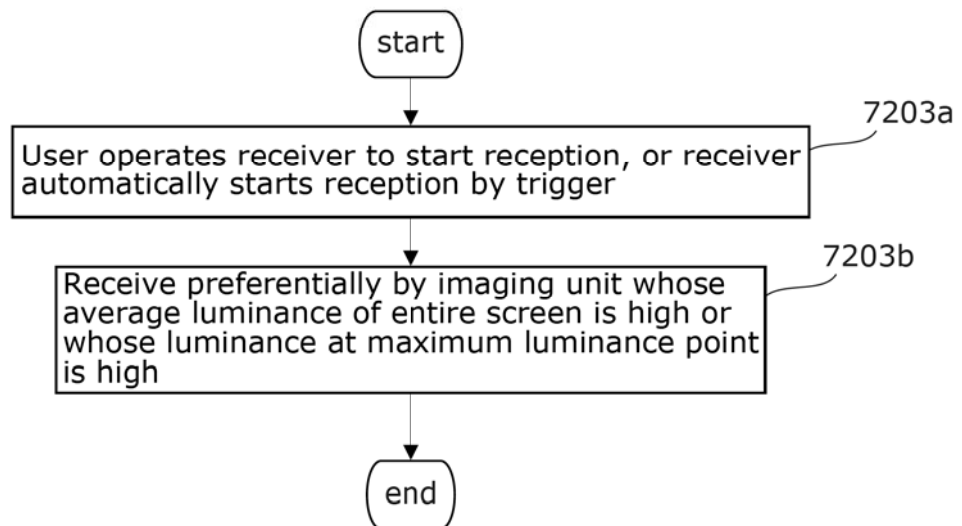


FIG. 292

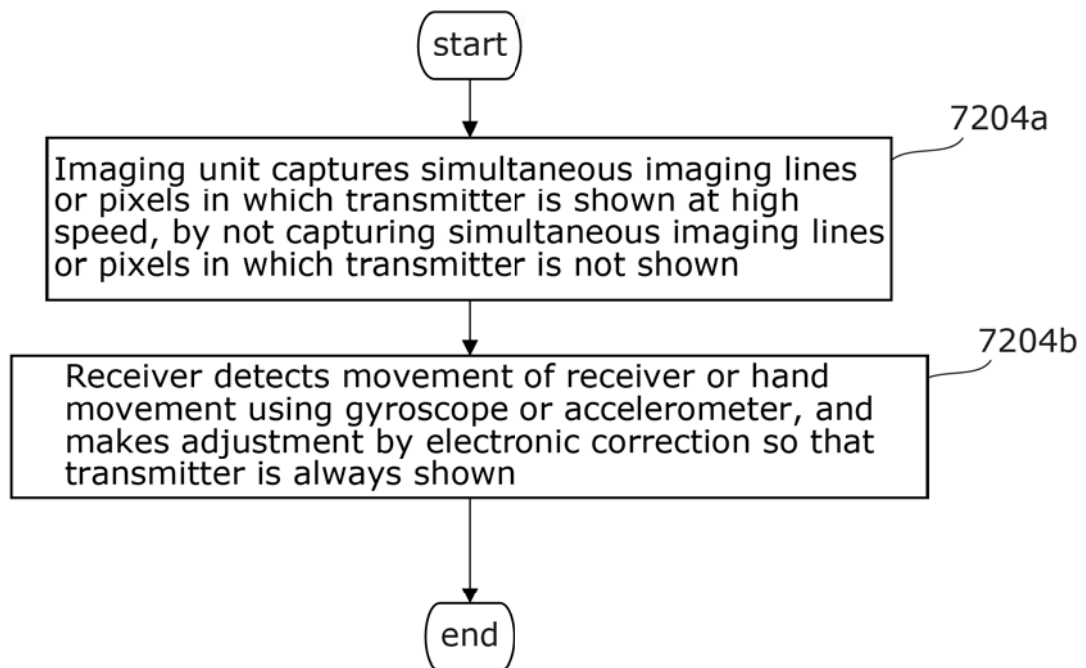


FIG. 293

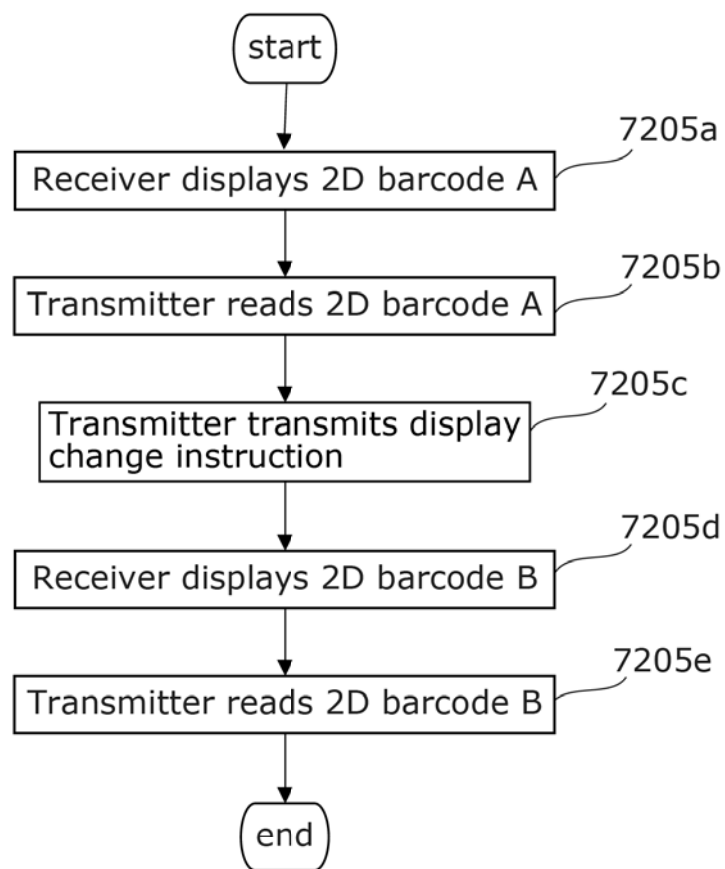


FIG. 294

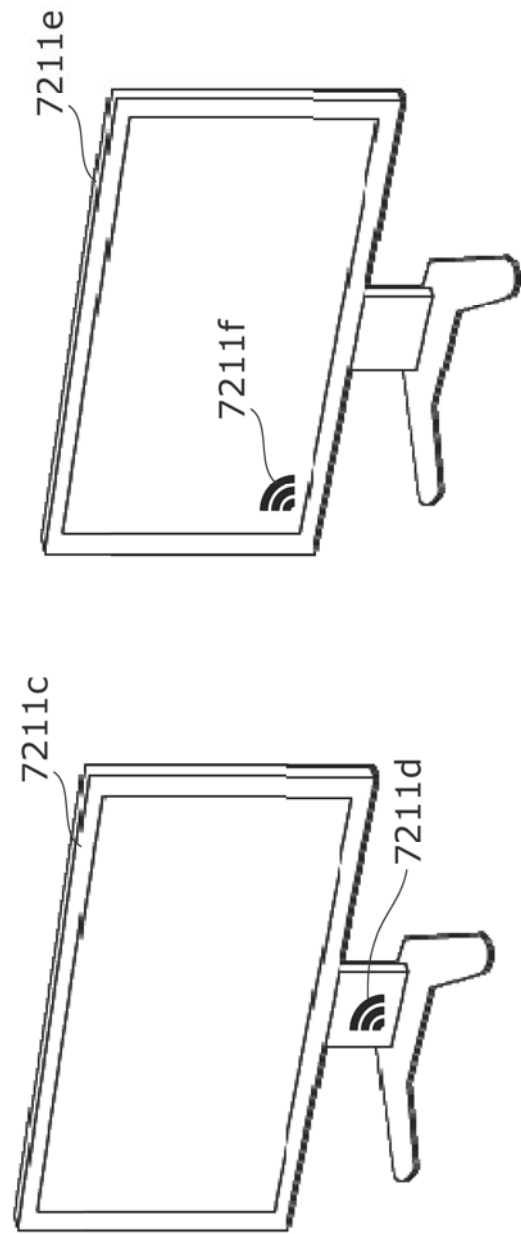
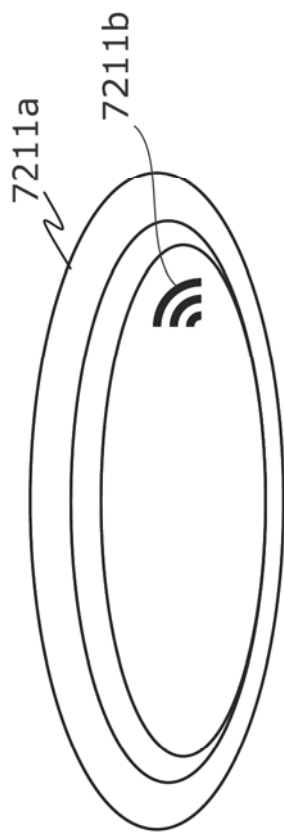


FIG. 295

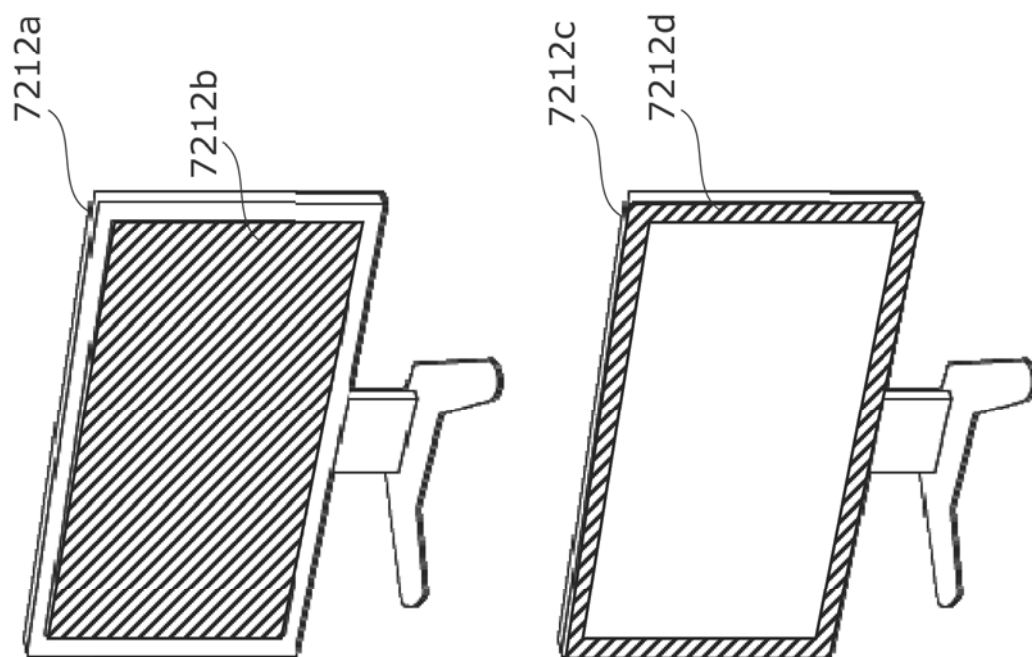


FIG. 296

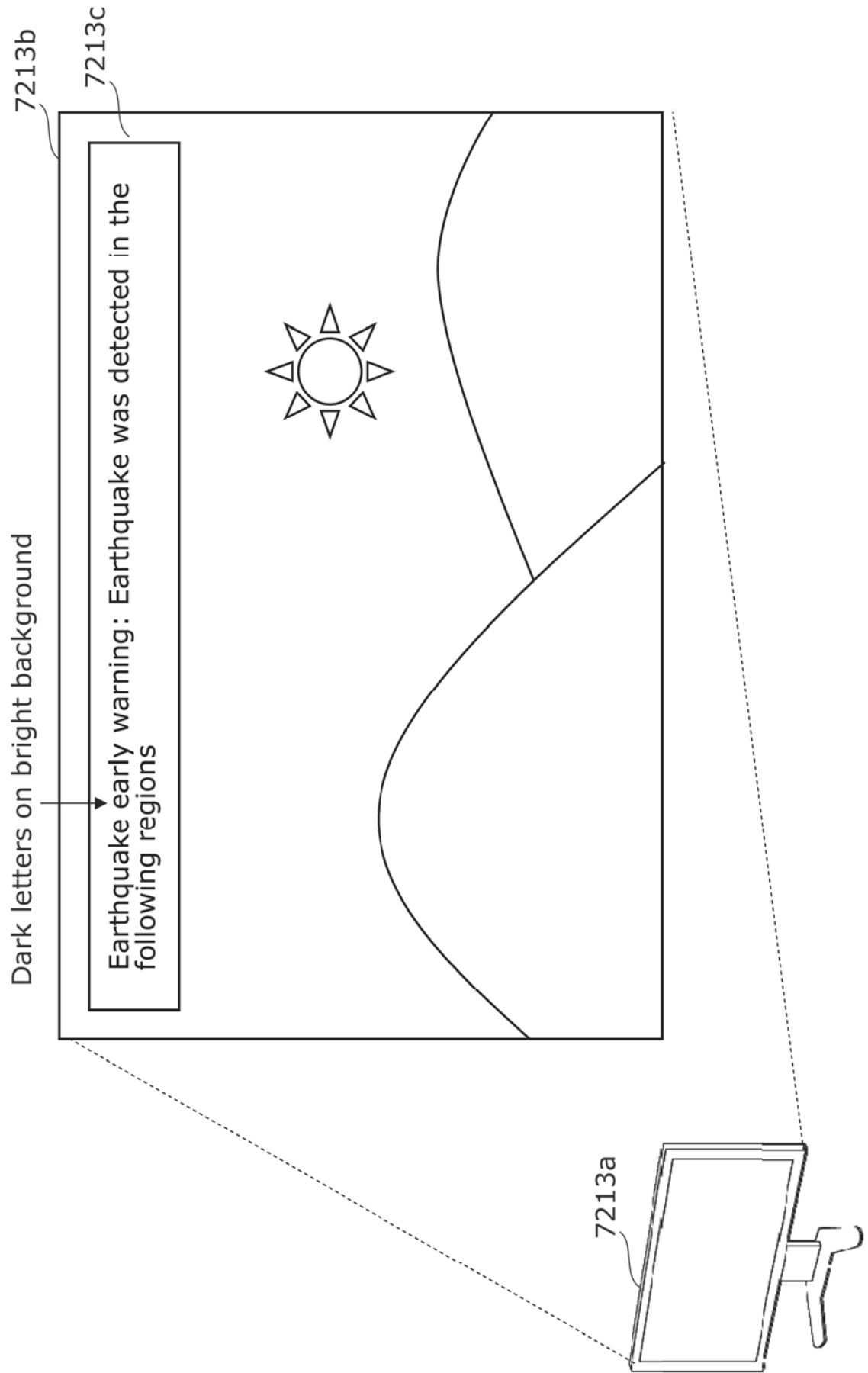


FIG. 297

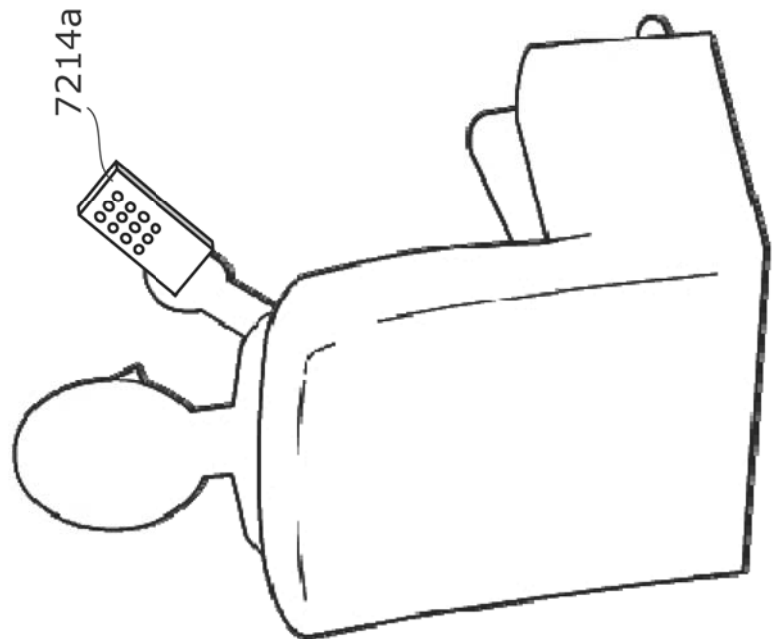
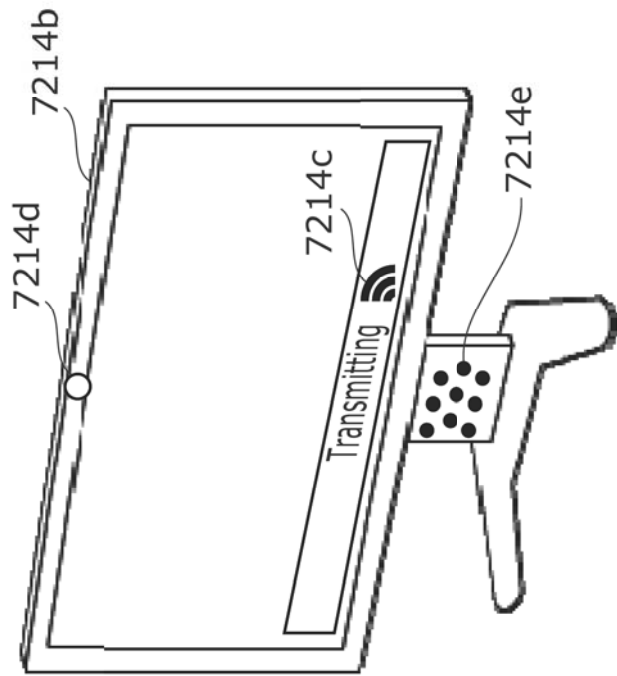


FIG. 298

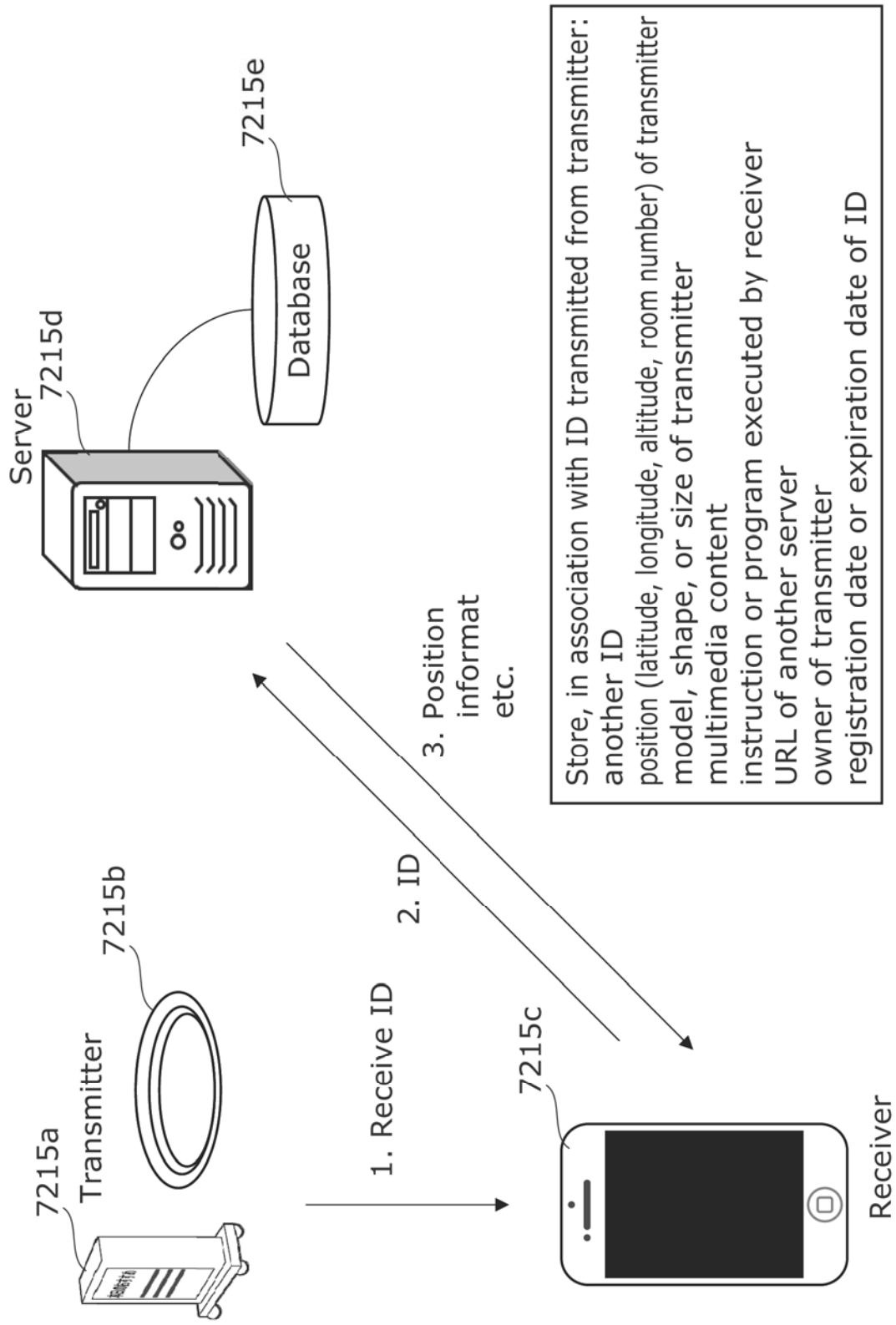


FIG. 299

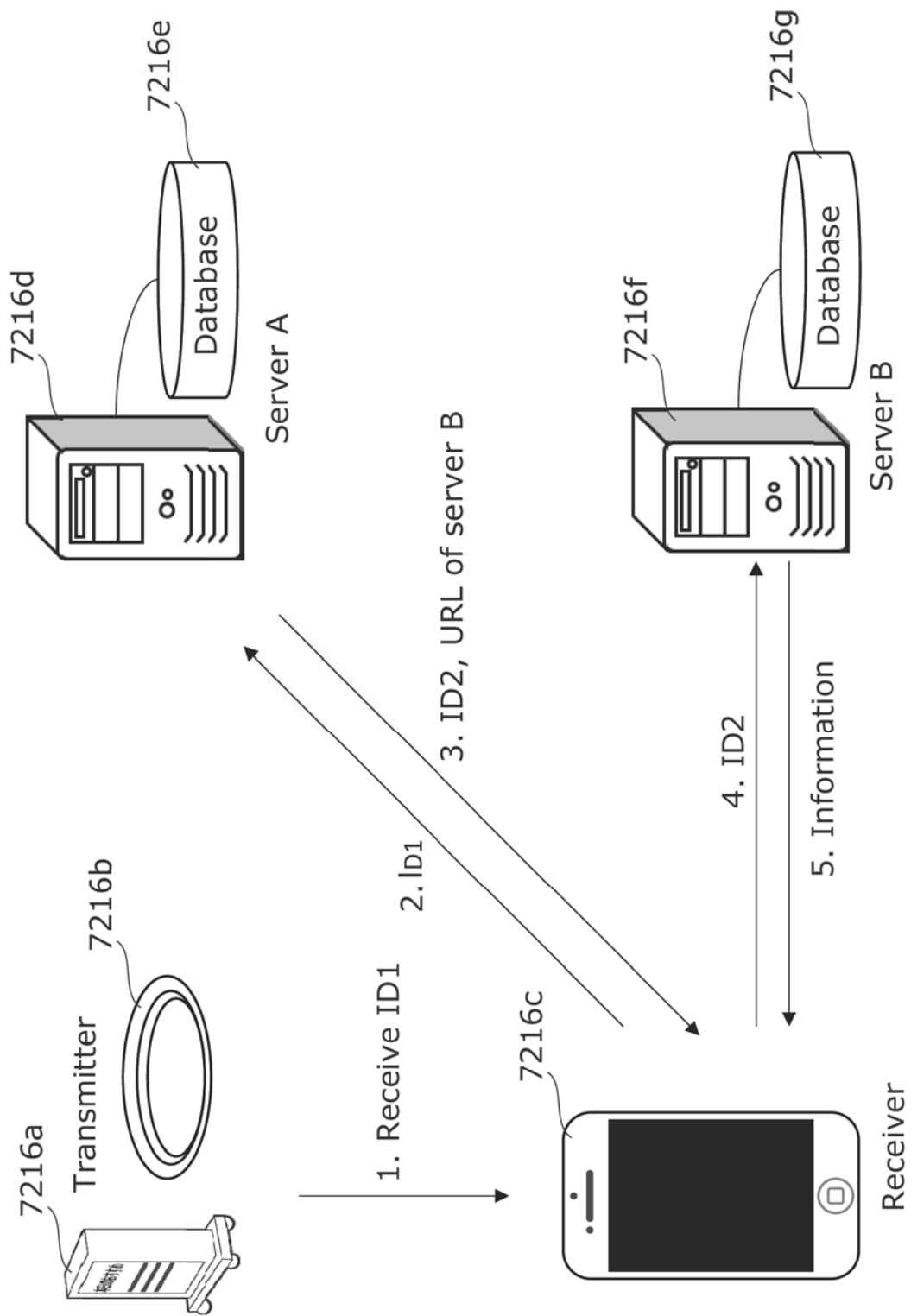


FIG. 300

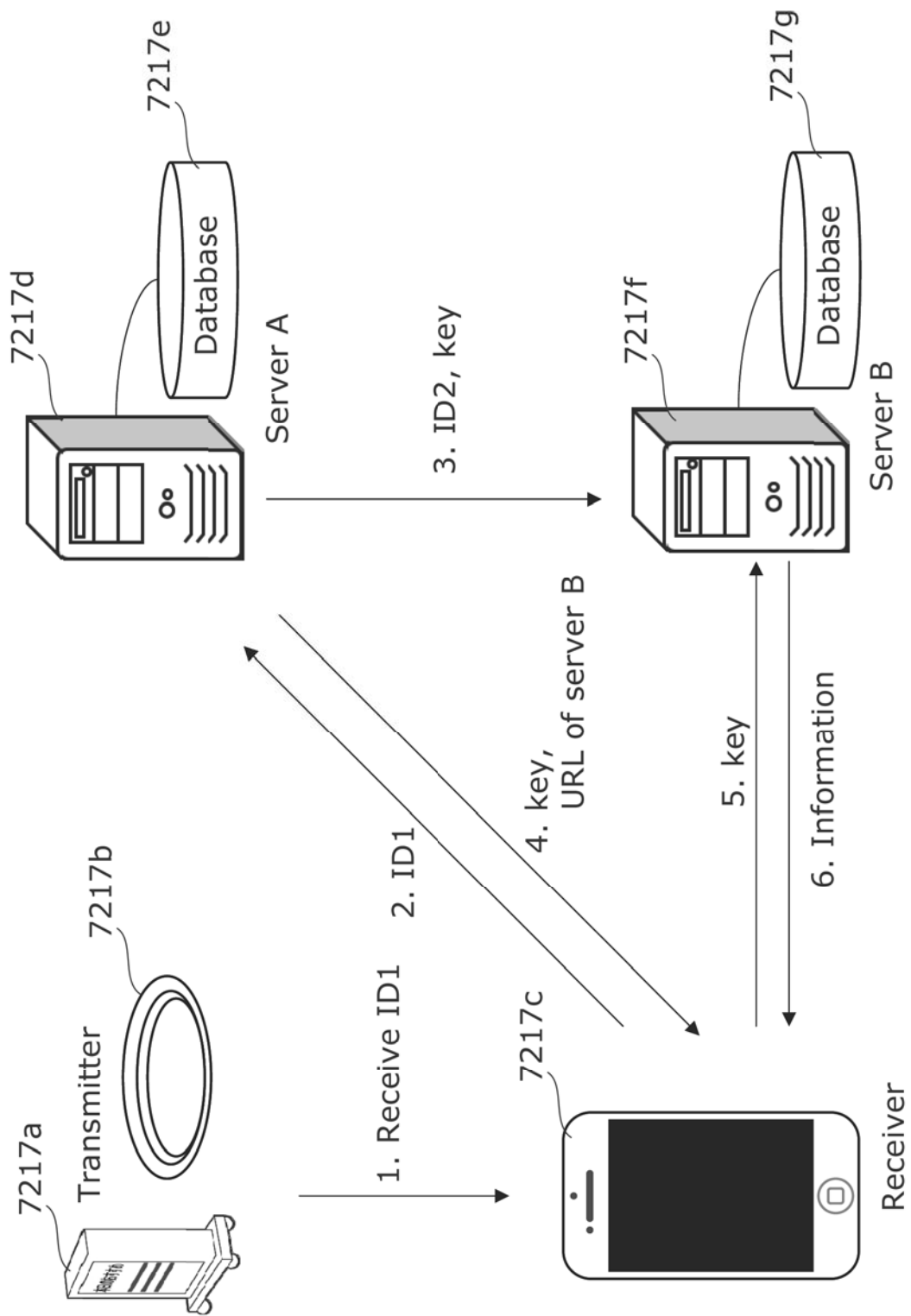


FIG. 301A

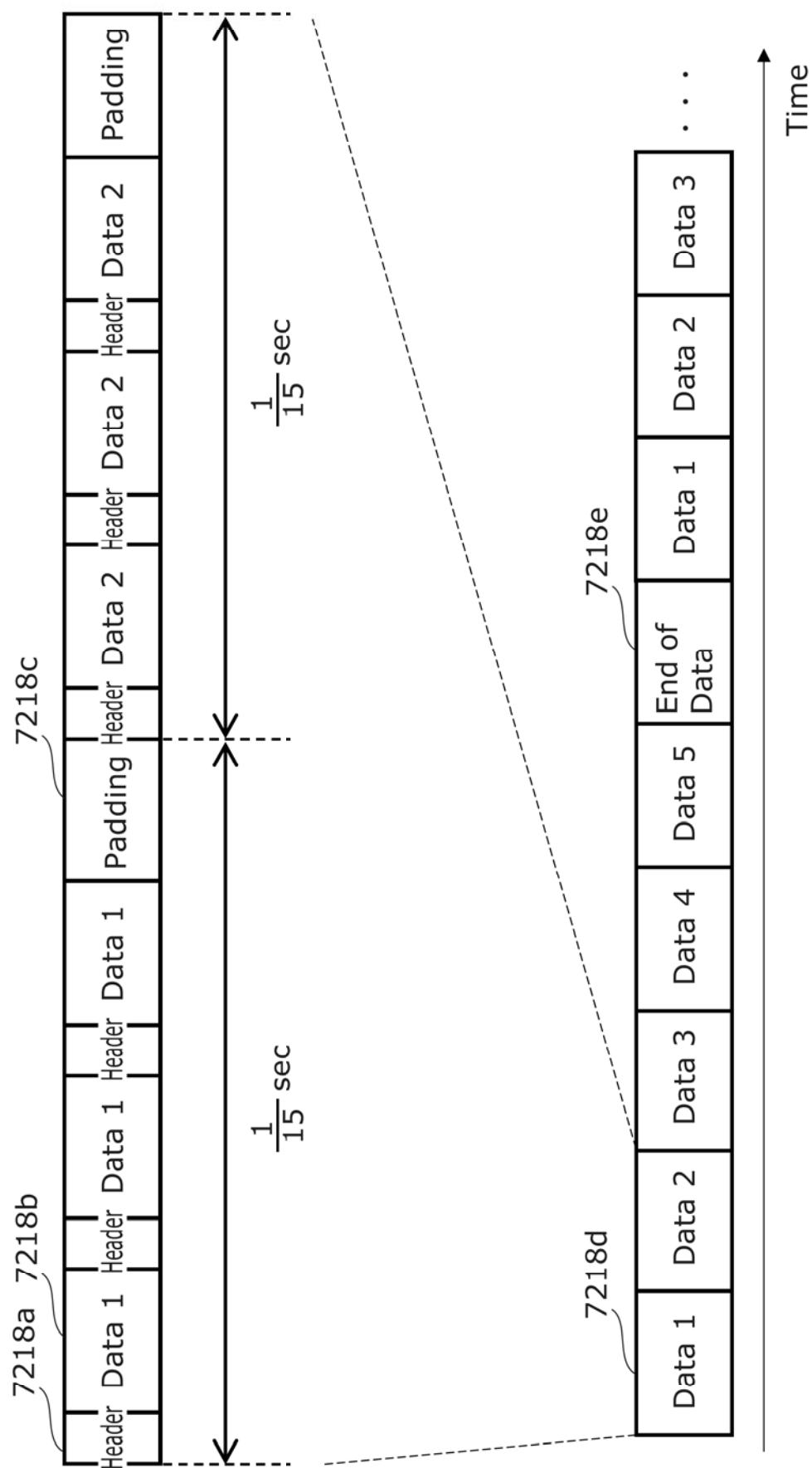


FIG. 301B

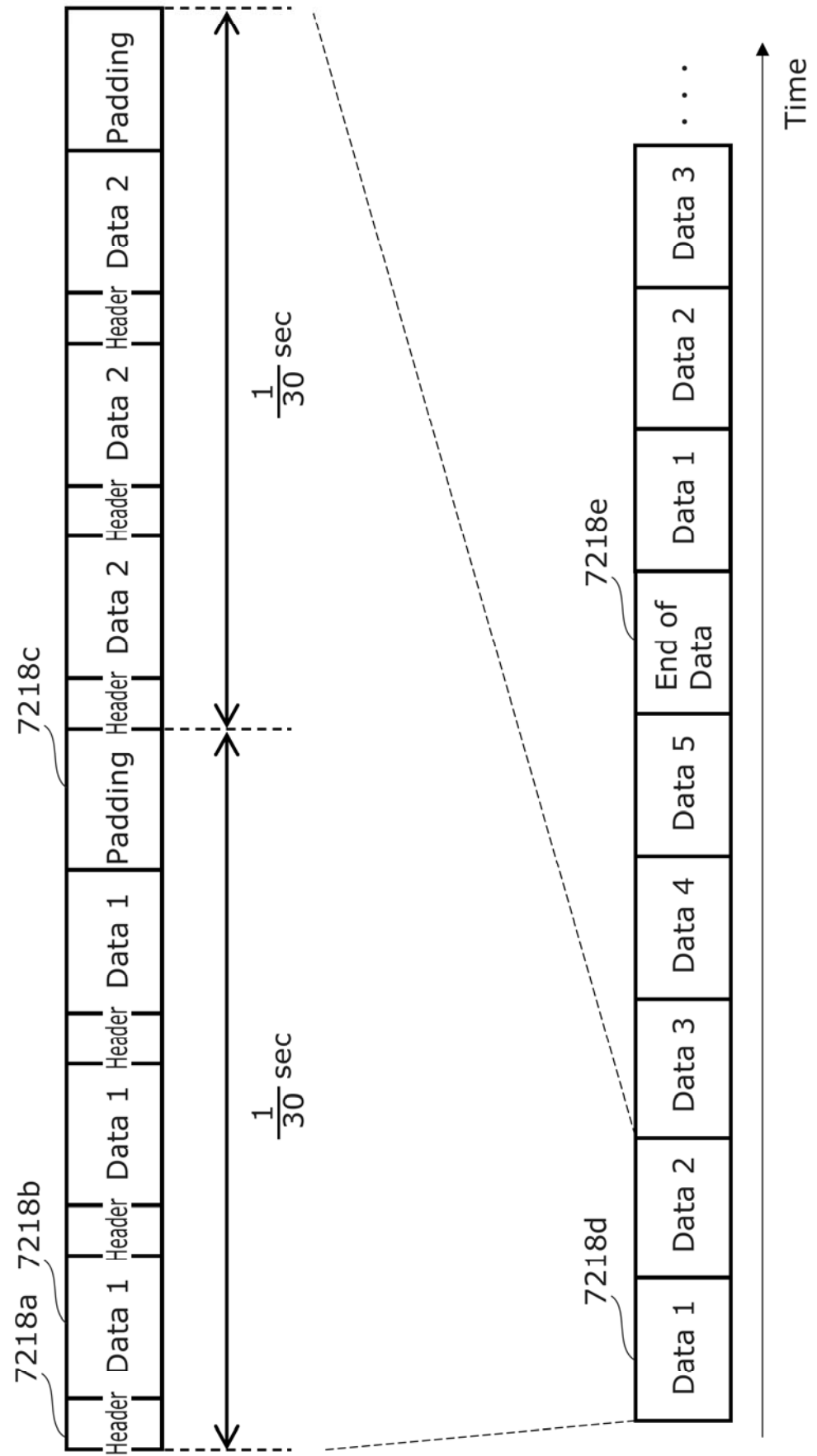


FIG. 302

Transmission signal	Modulated signal
00 (0)	01111
01 (1)	10111
10 (2)	11011
11 (3)	11101
Header	11110

7219a

FIG. 303A

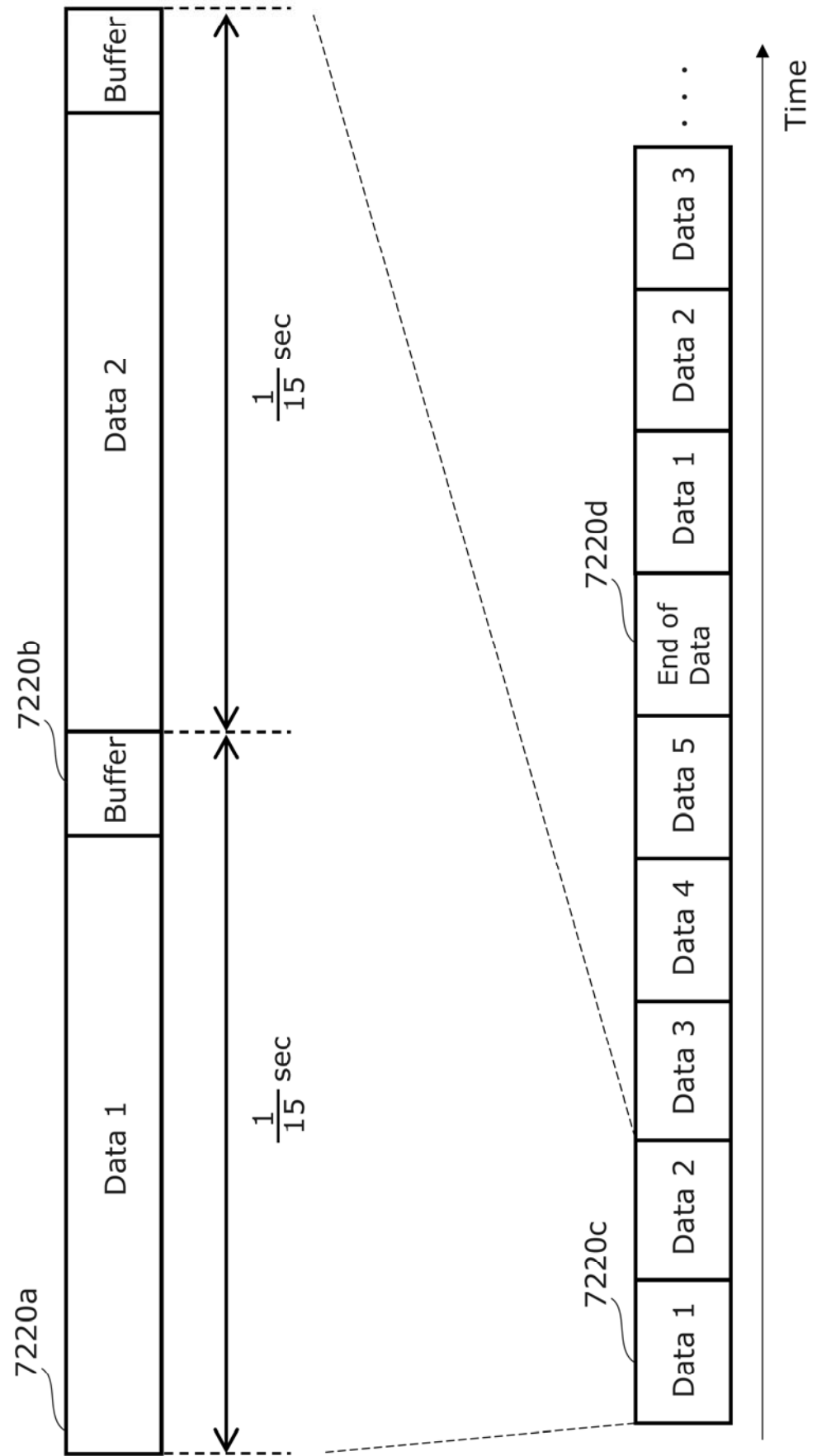


FIG. 303B

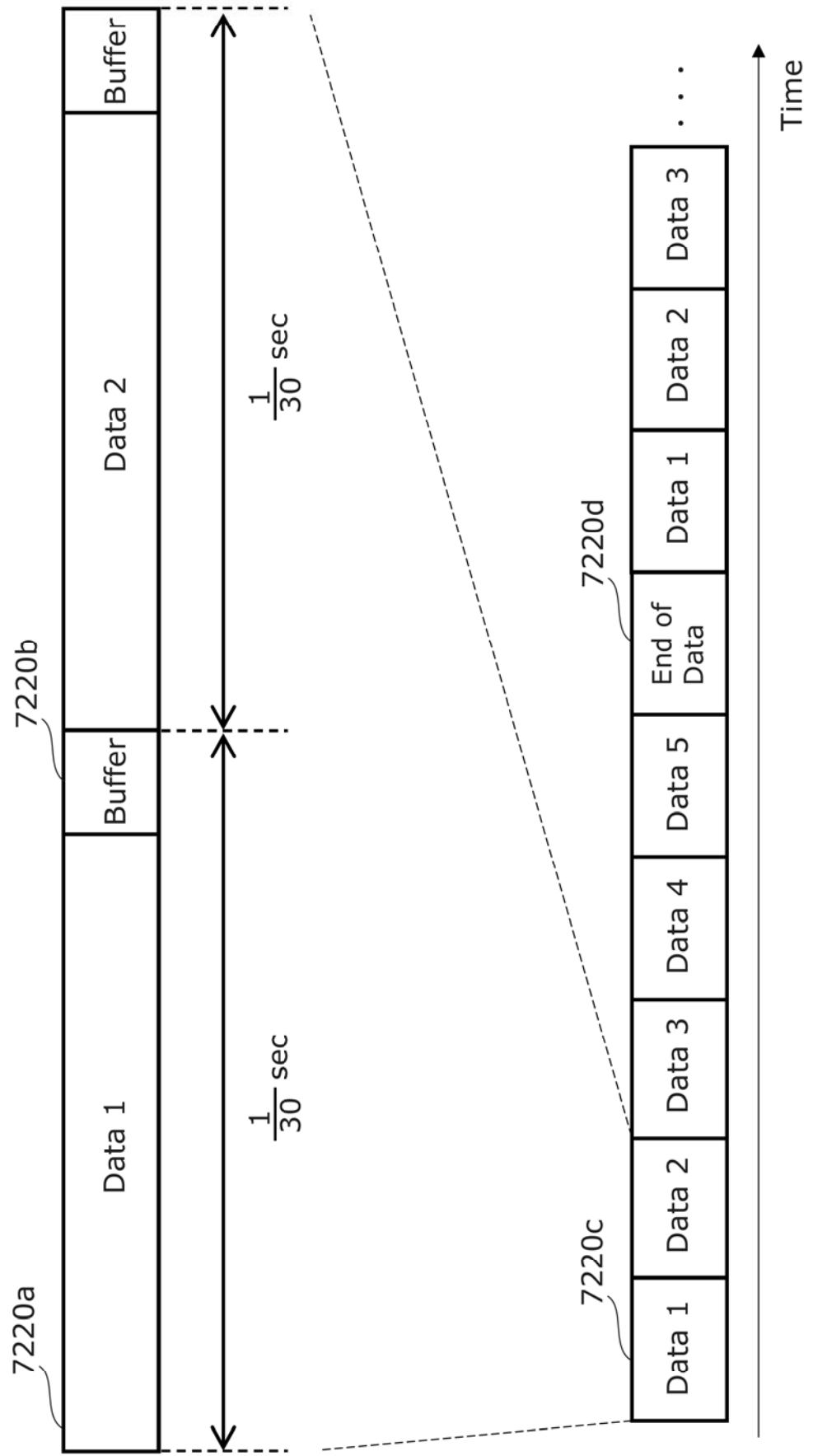


FIG. 304

7221a

Transmission signal	Modulation frequency
00 (0)	500Hz
01 (1)	1000Hz
10 (2)	2000Hz
11 (3)	5000Hz

FIG. 305A

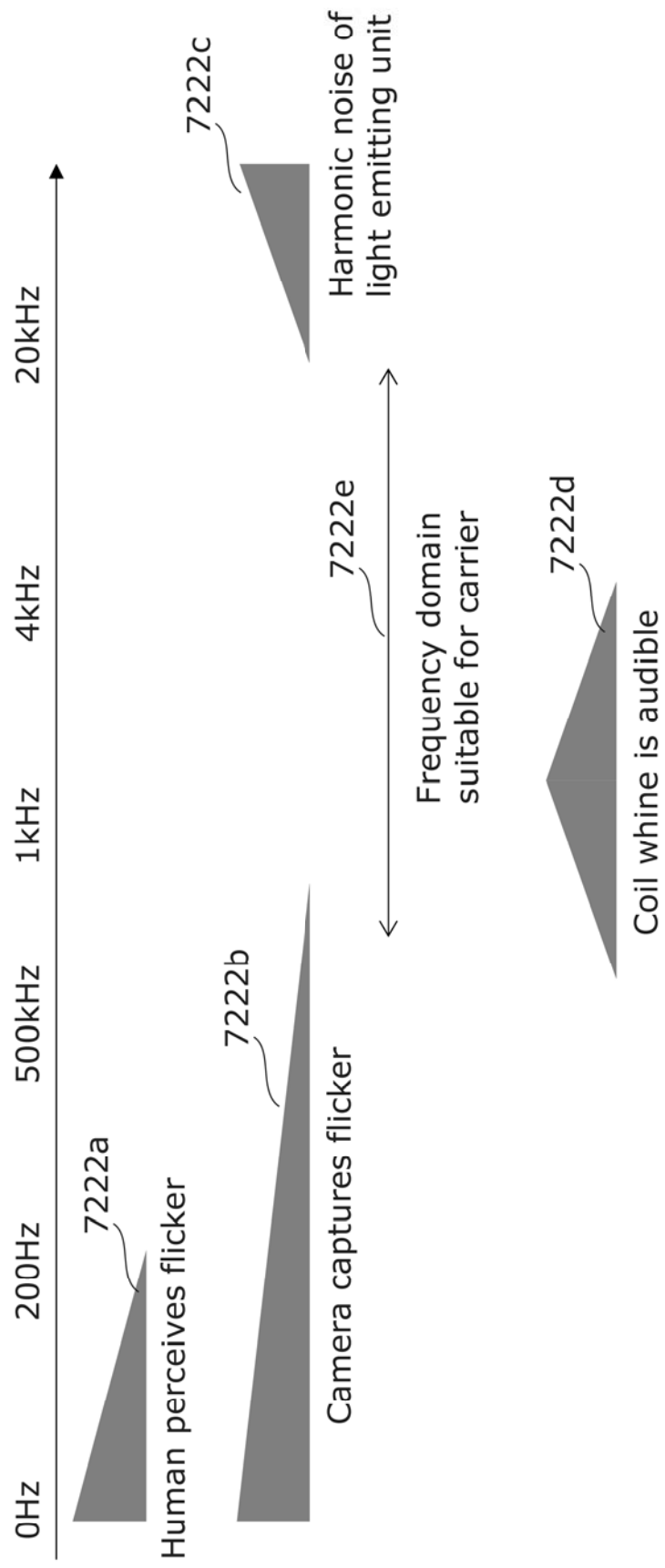


FIG. 305B

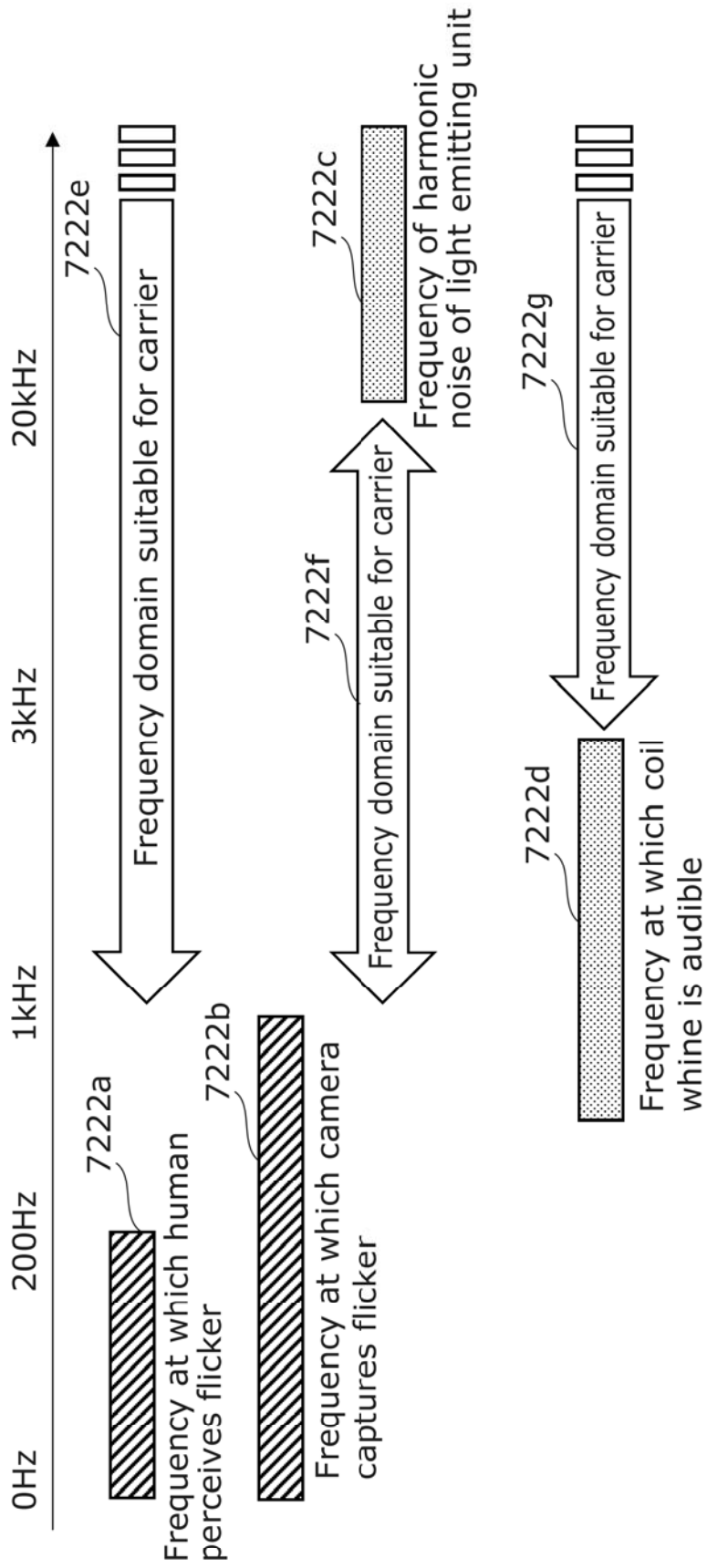


FIG. 306

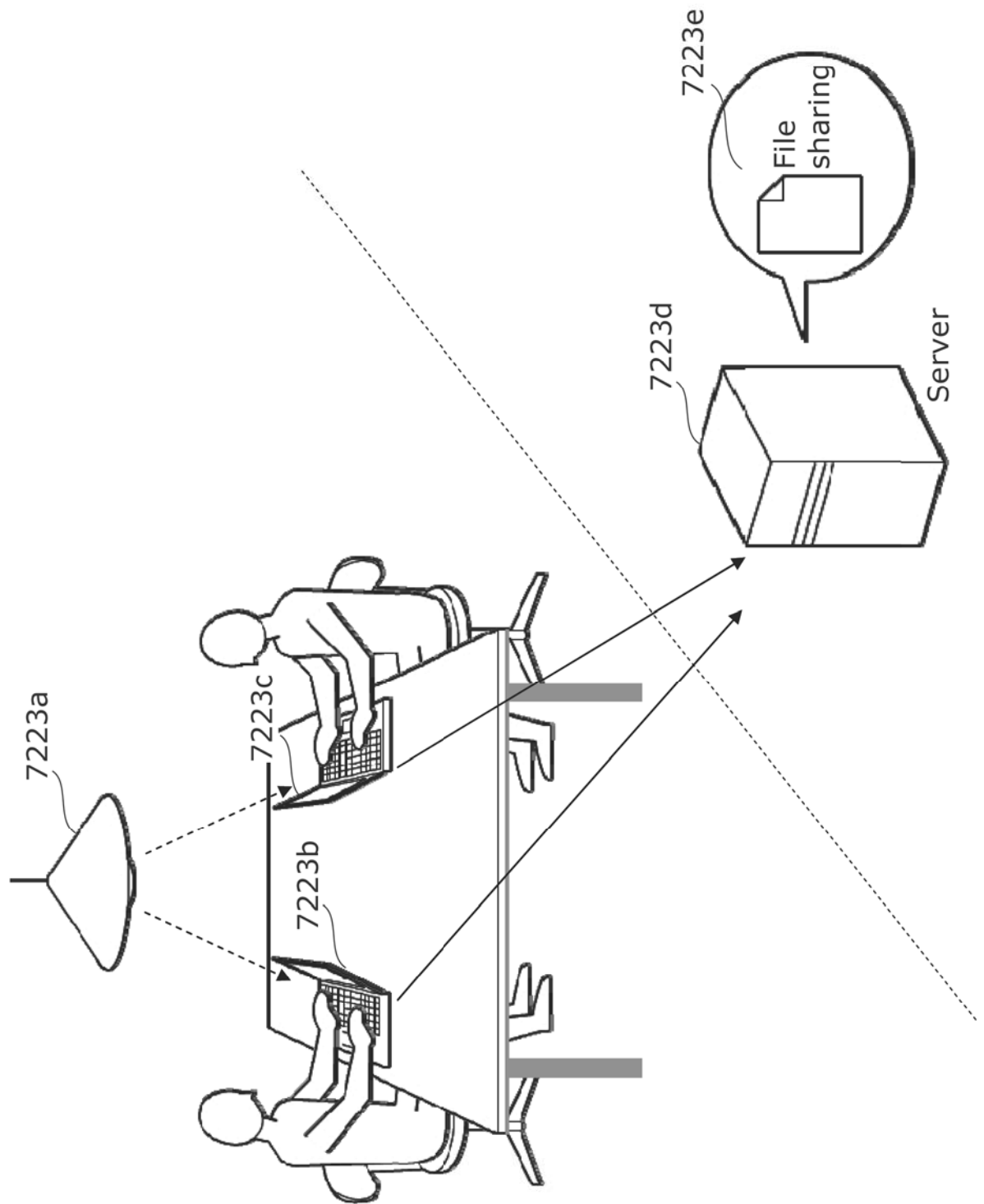


FIG. 307

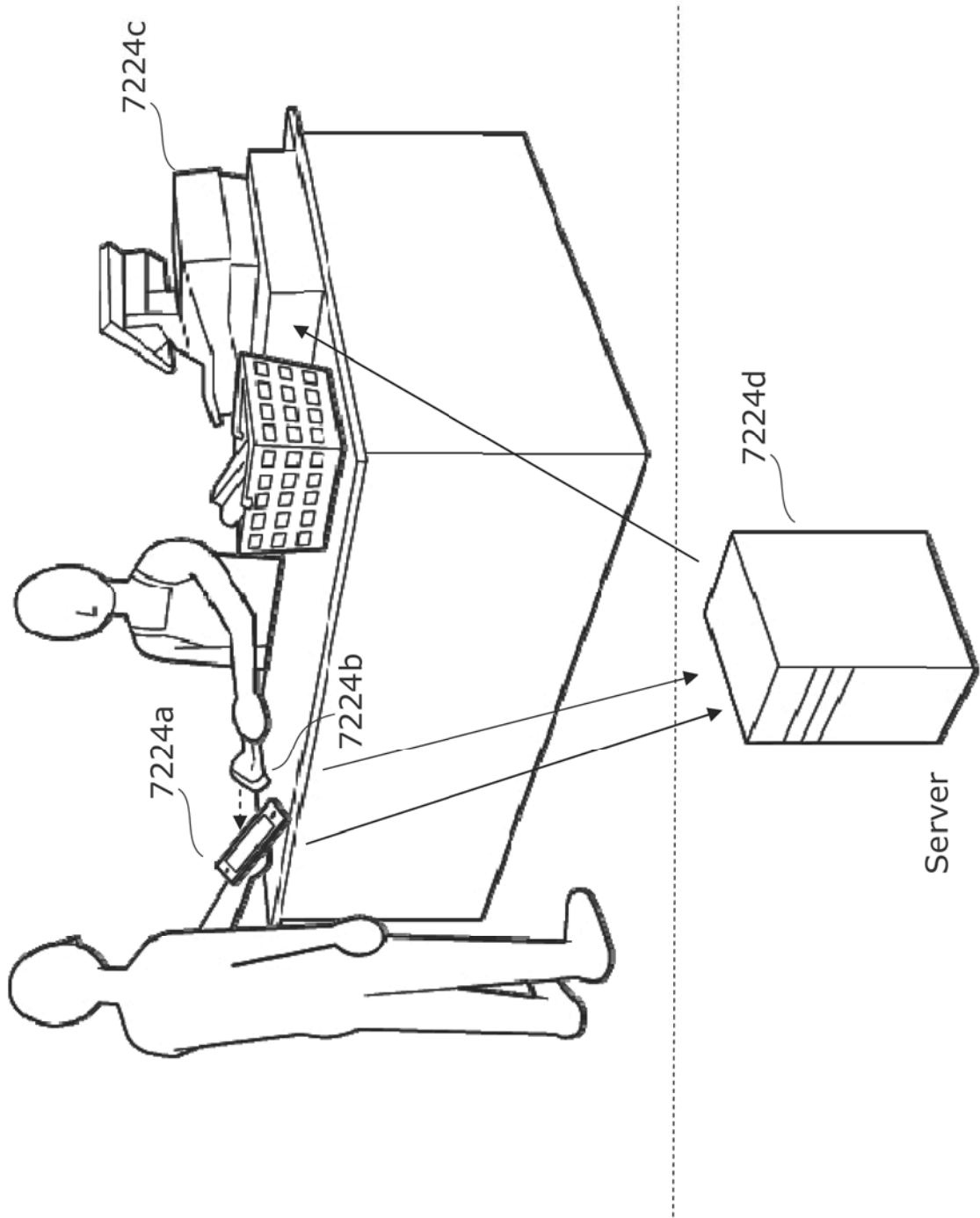


FIG. 308

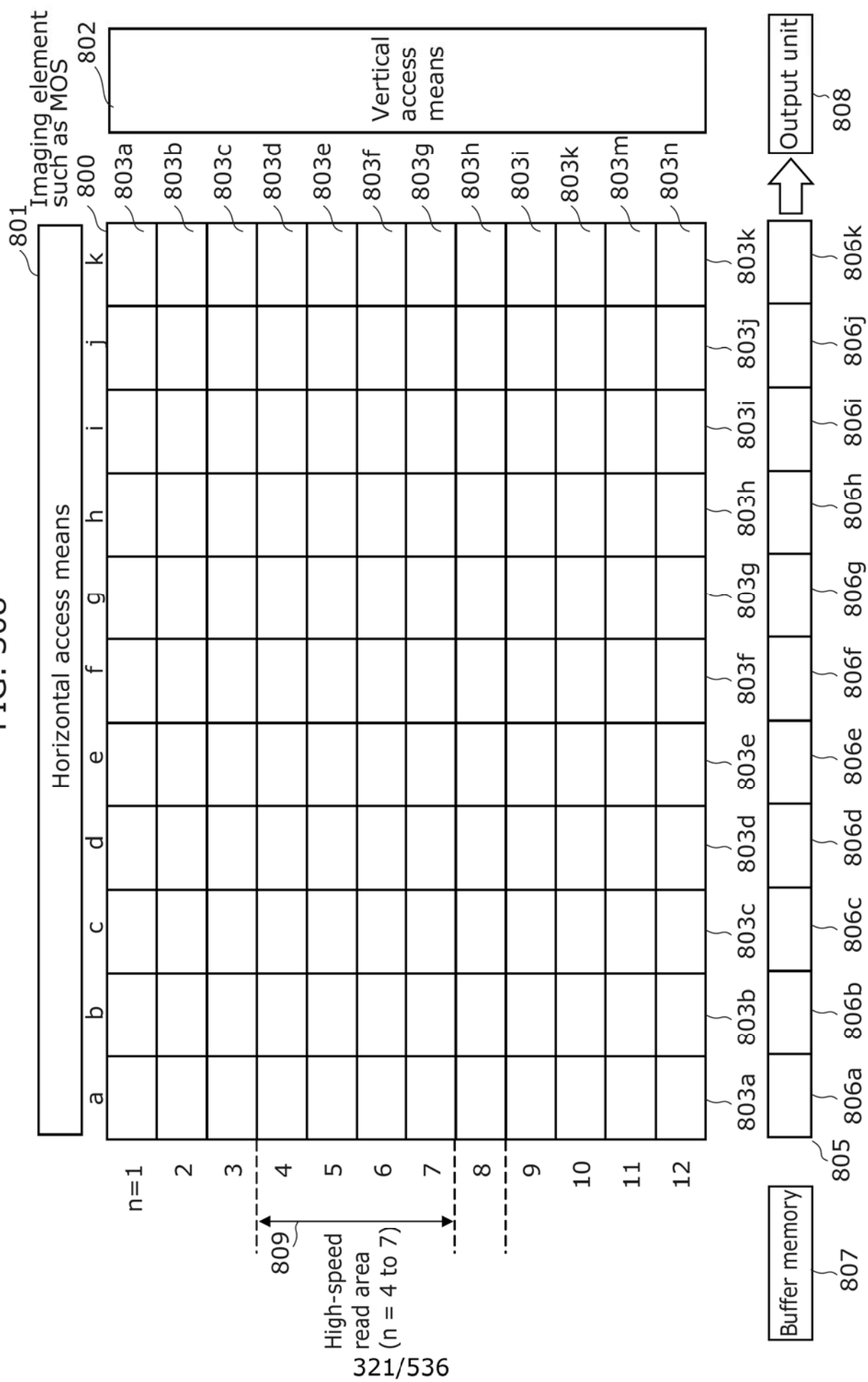


FIG. 309

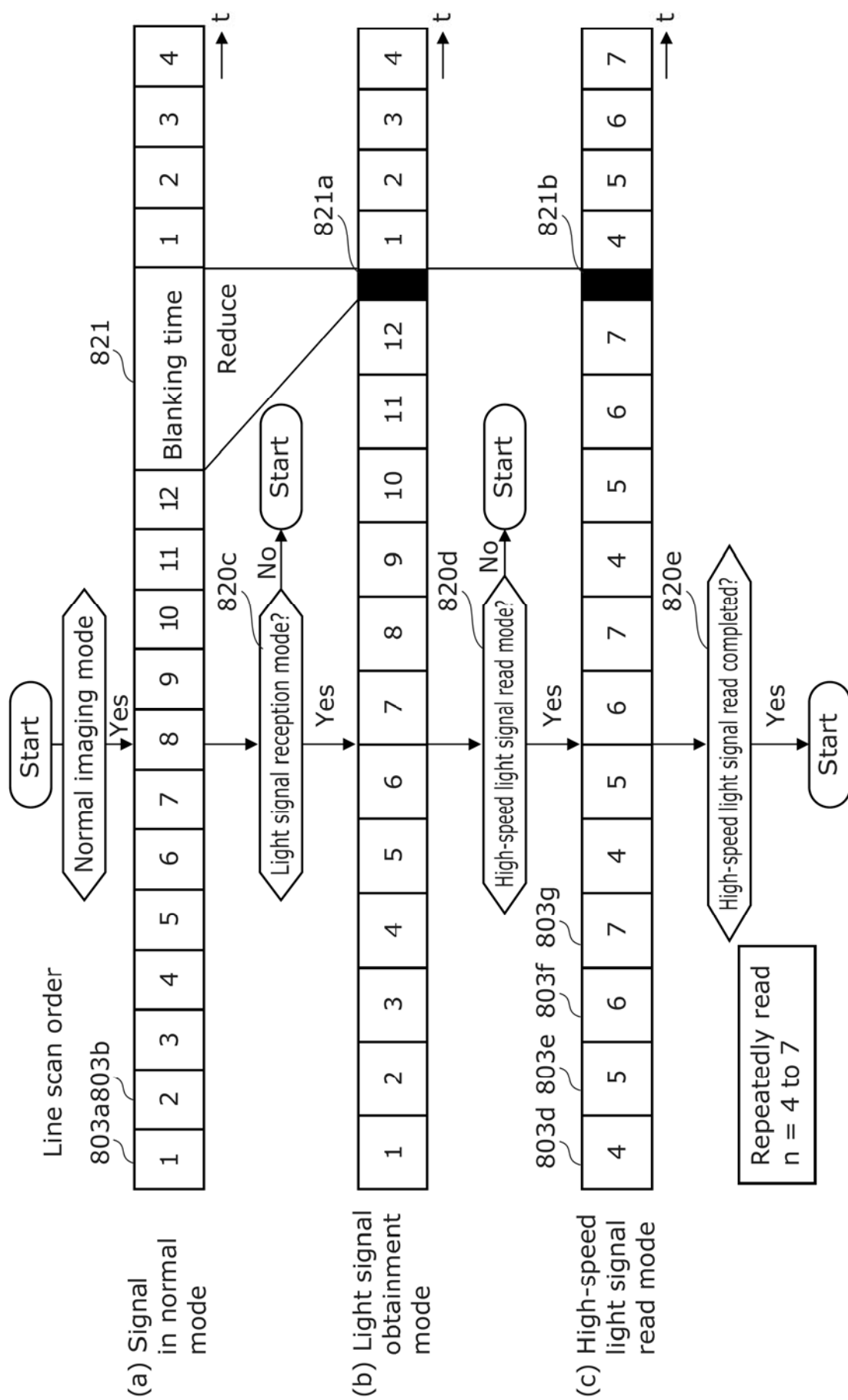


FIG. 310

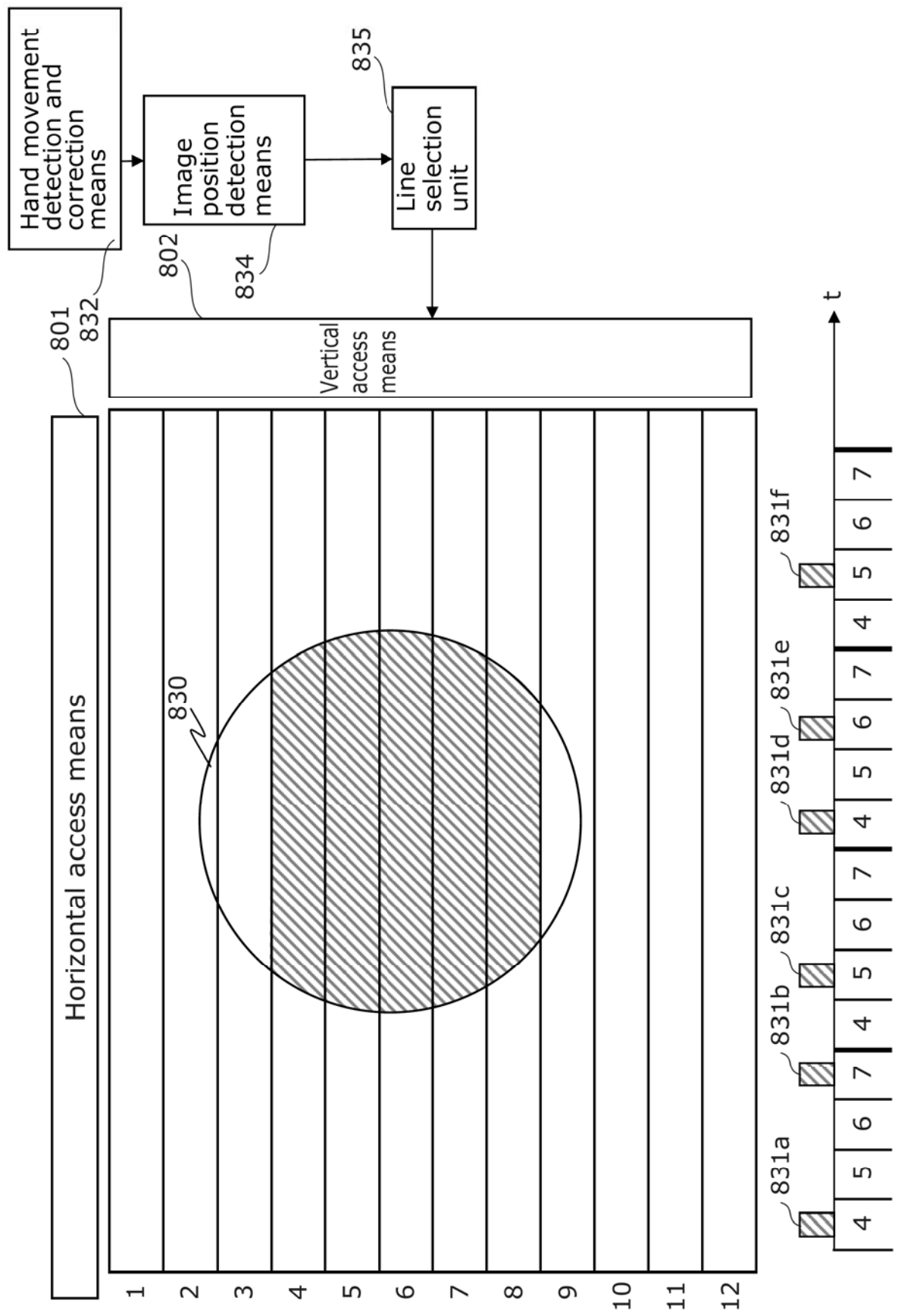


FIG. 311A

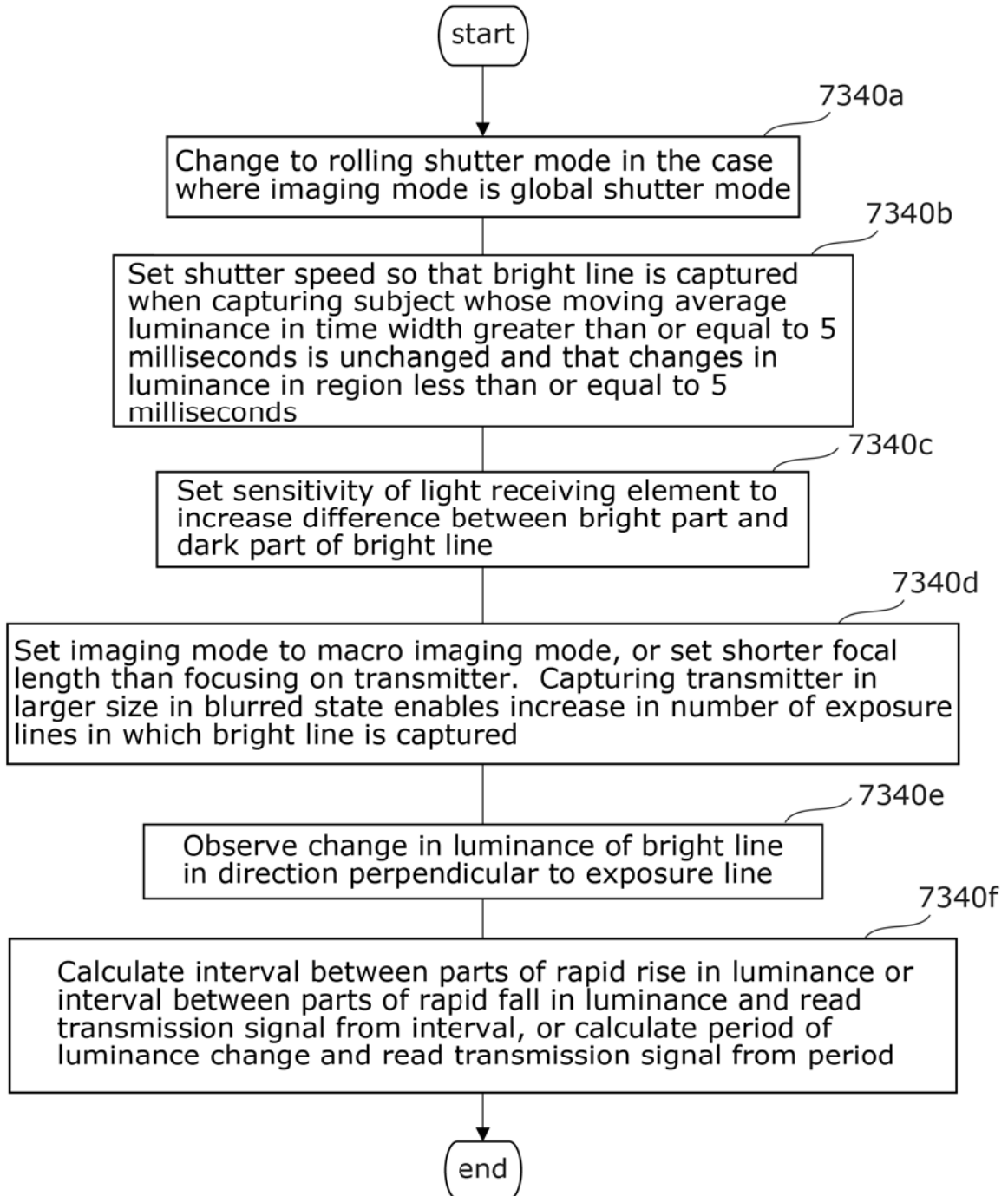


FIG. 311B

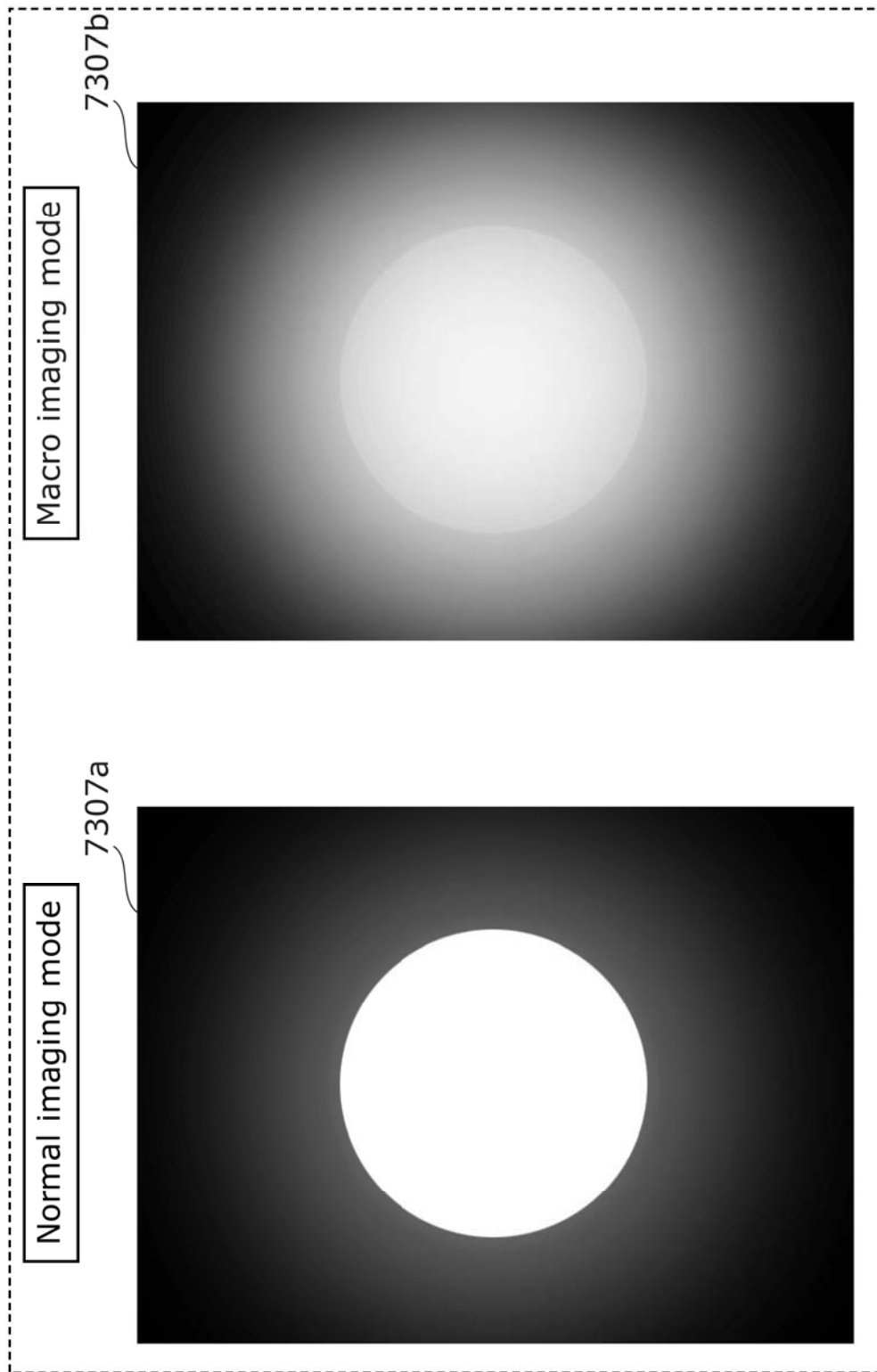


FIG. 312

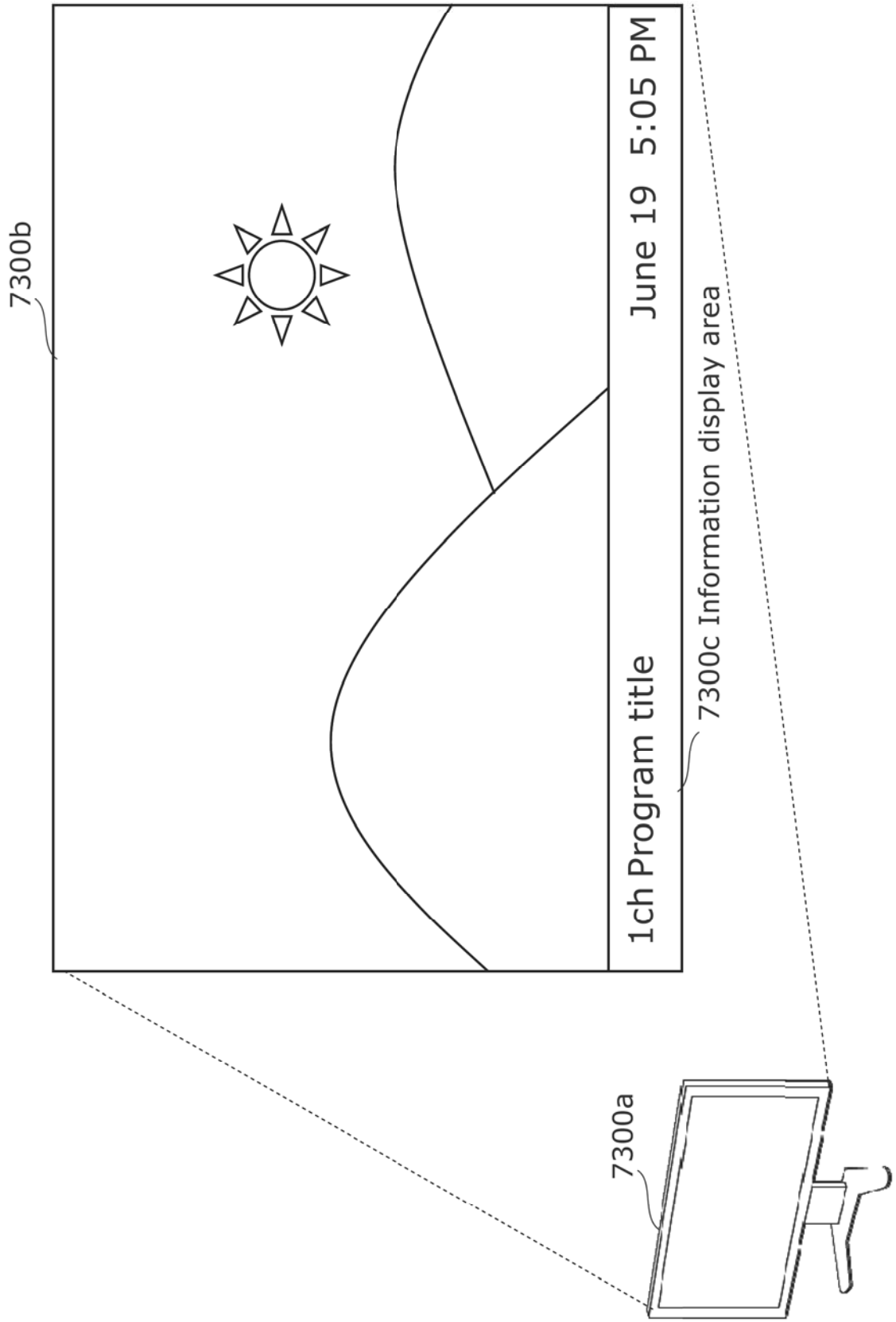


FIG. 313

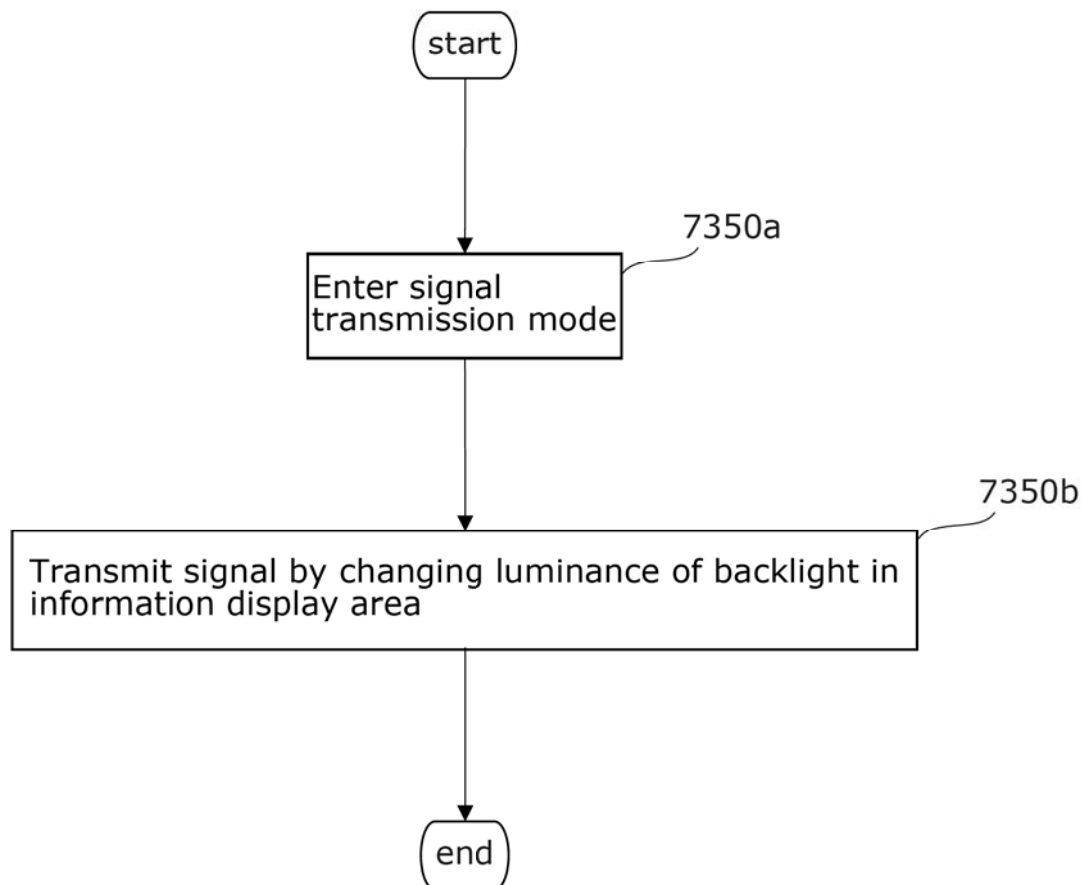


FIG. 314

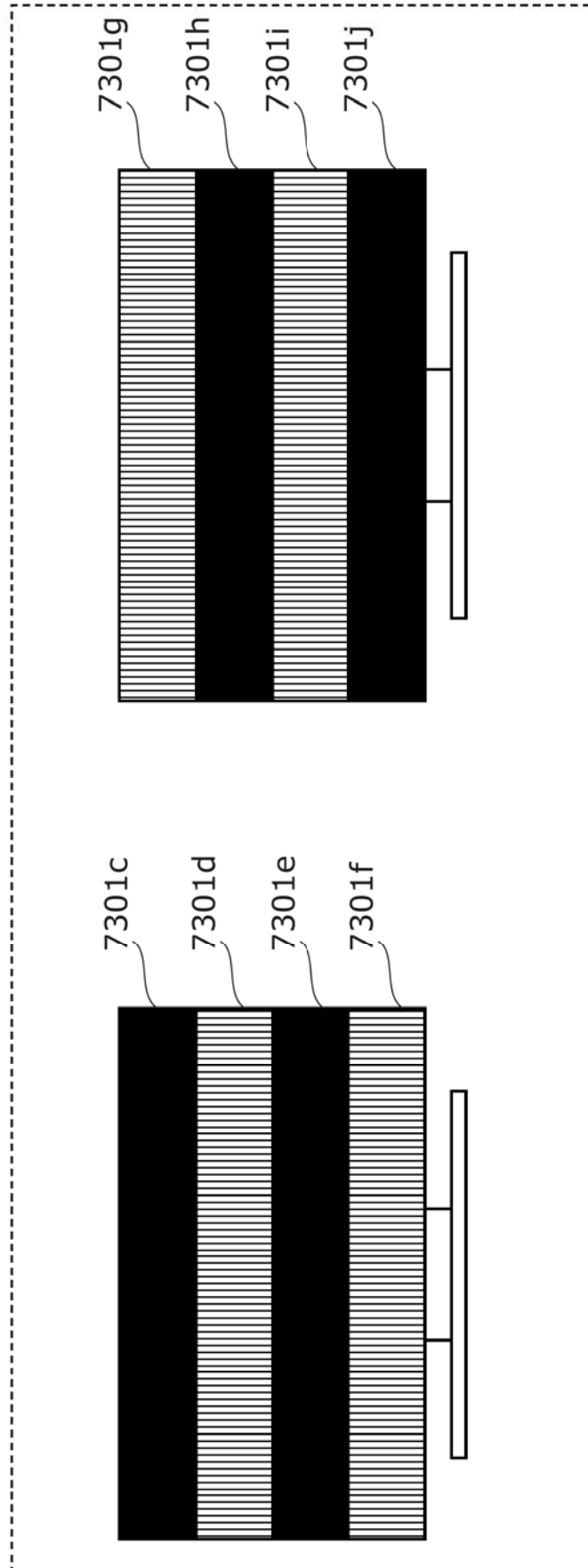


FIG. 315

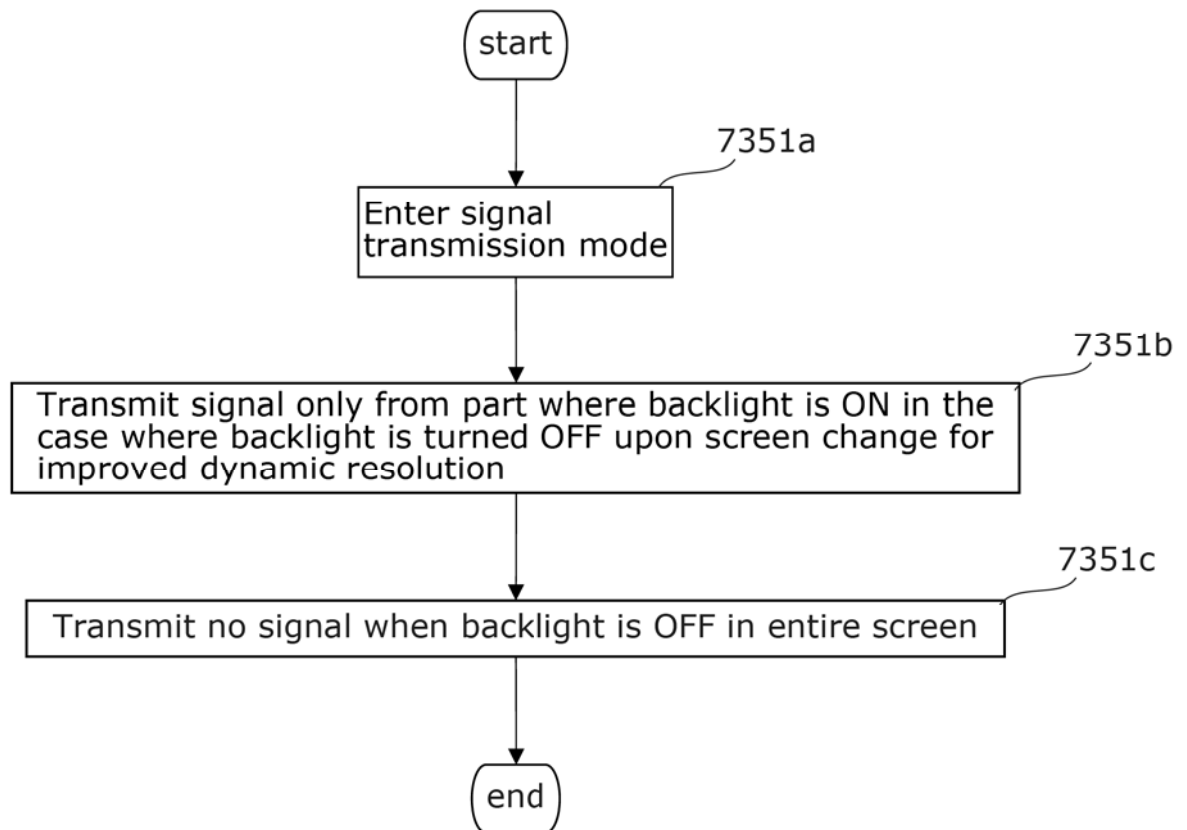


FIG. 316

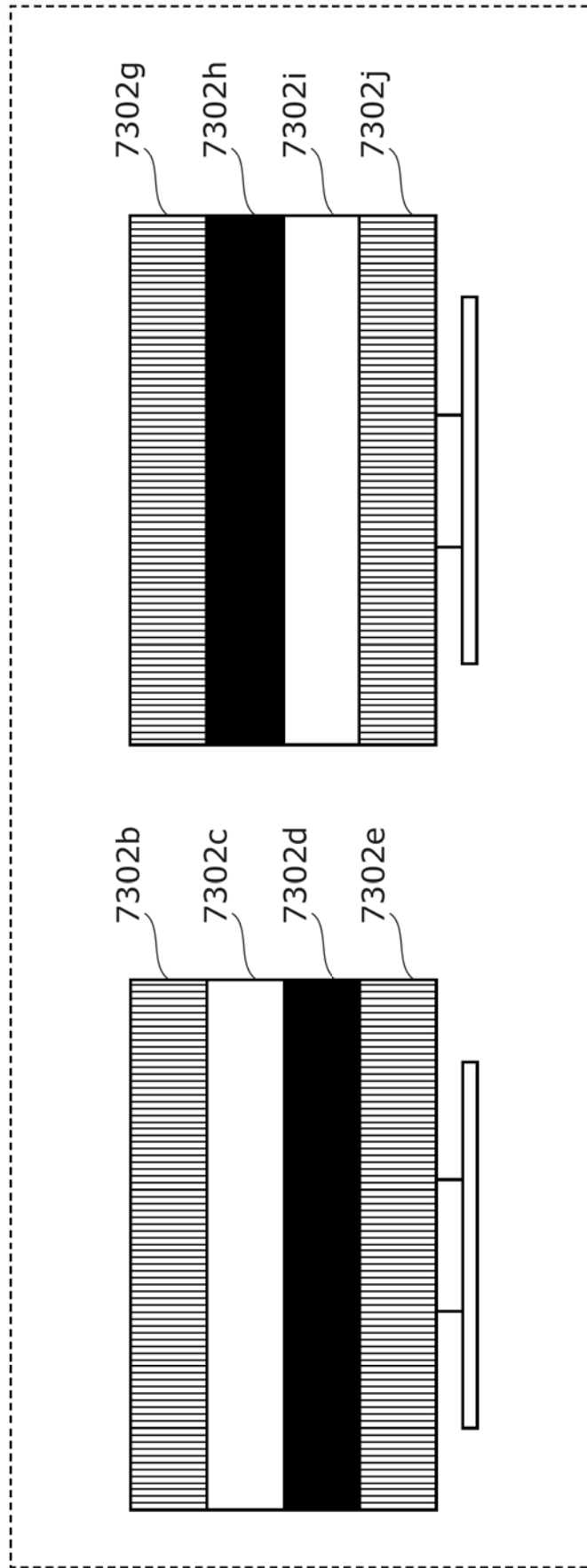


FIG. 317

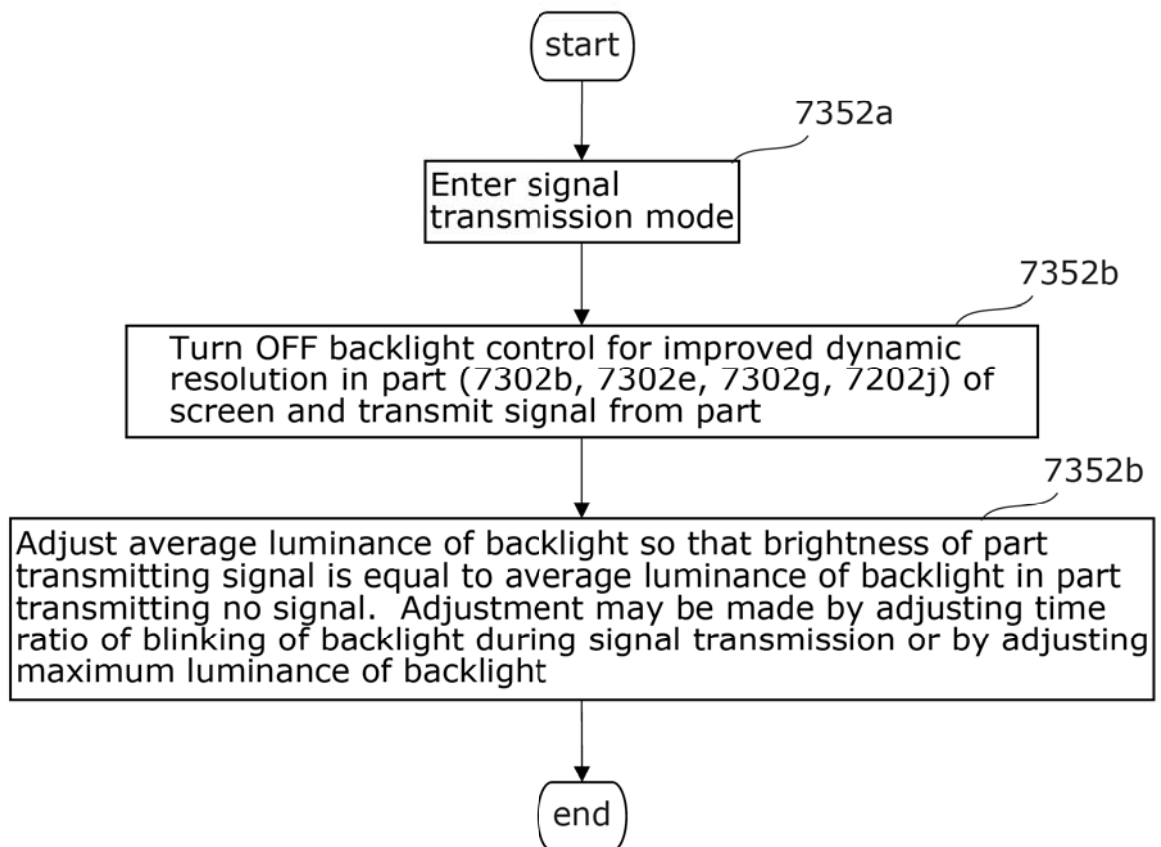


FIG. 318

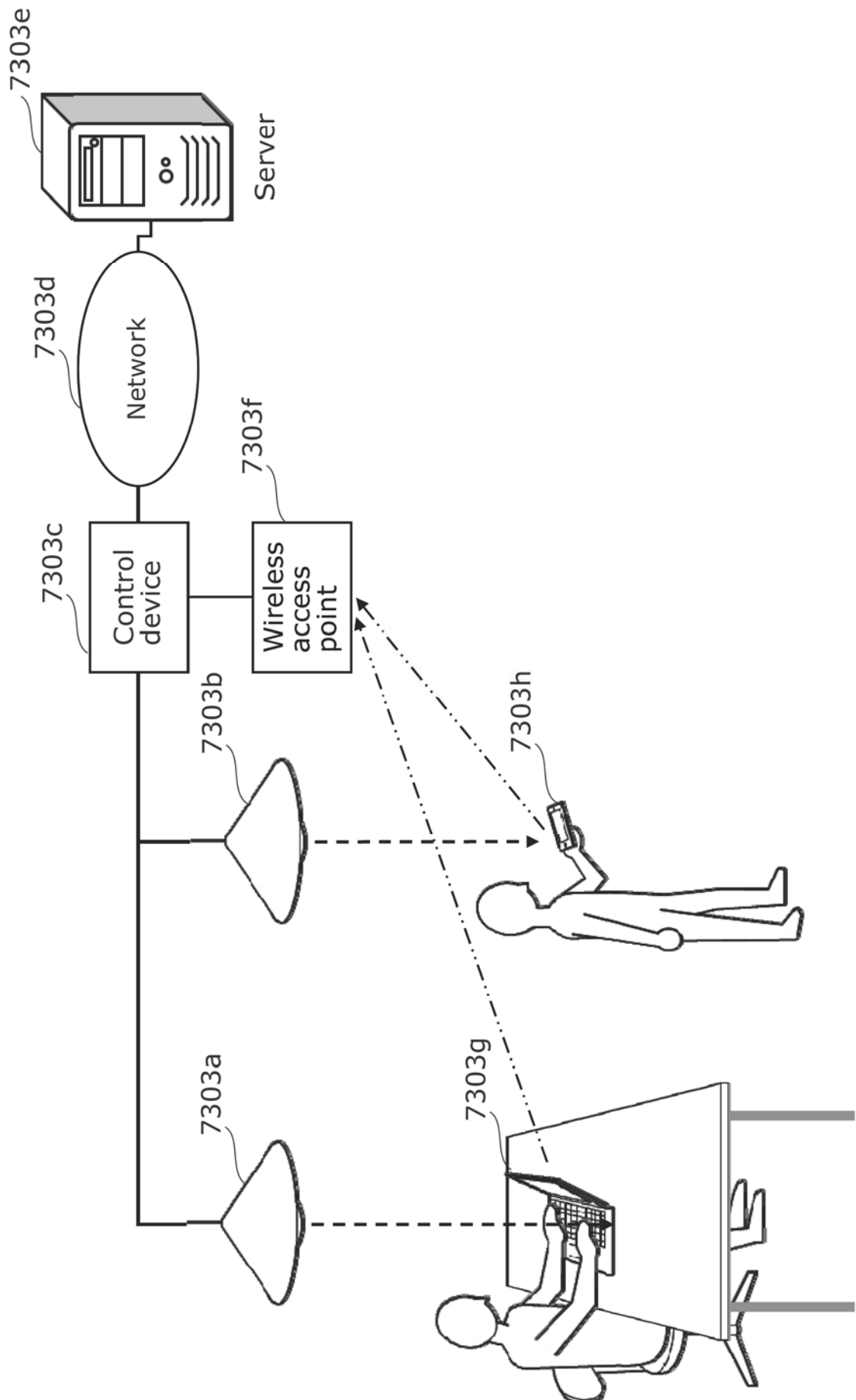


FIG. 319

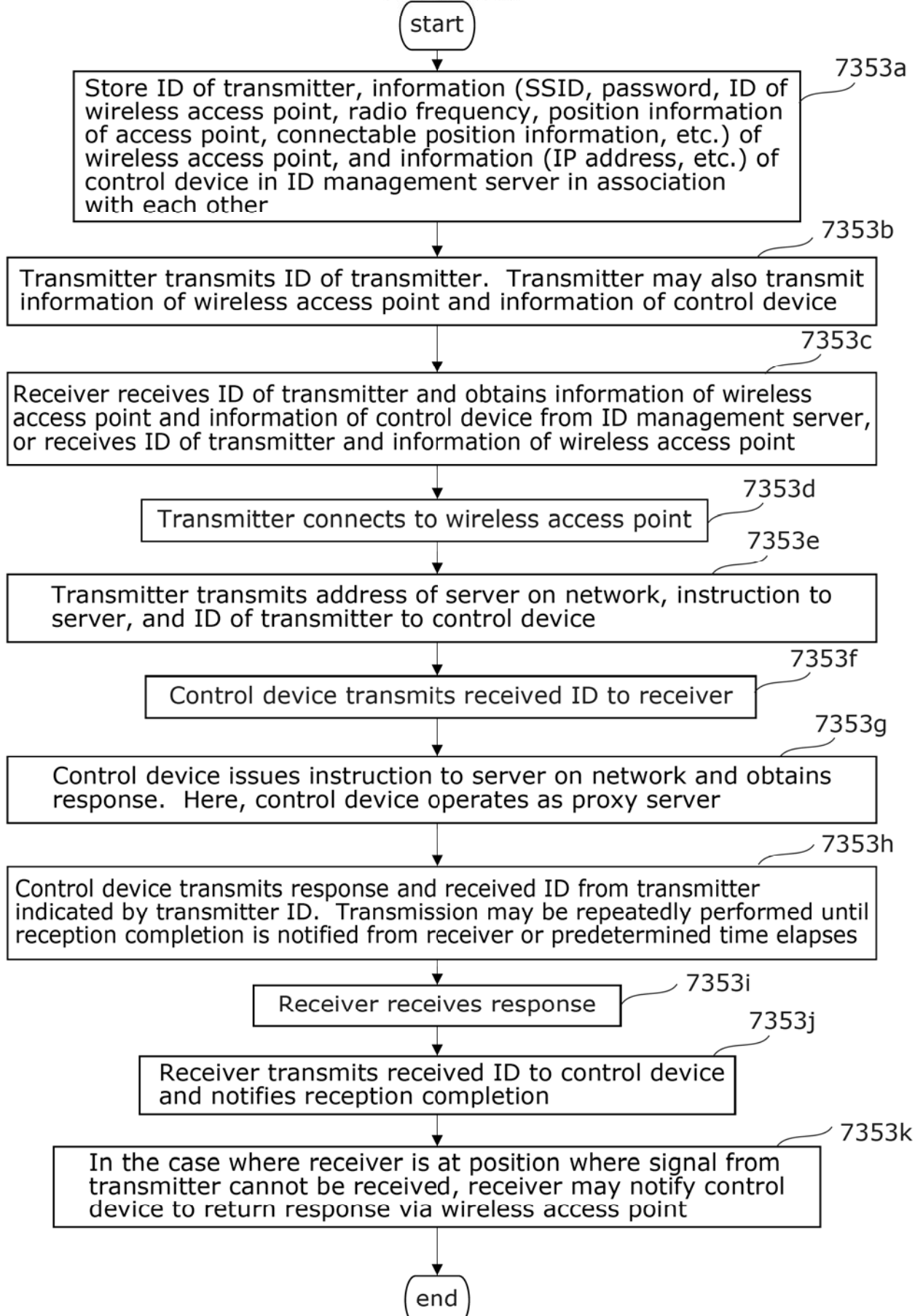


FIG. 320

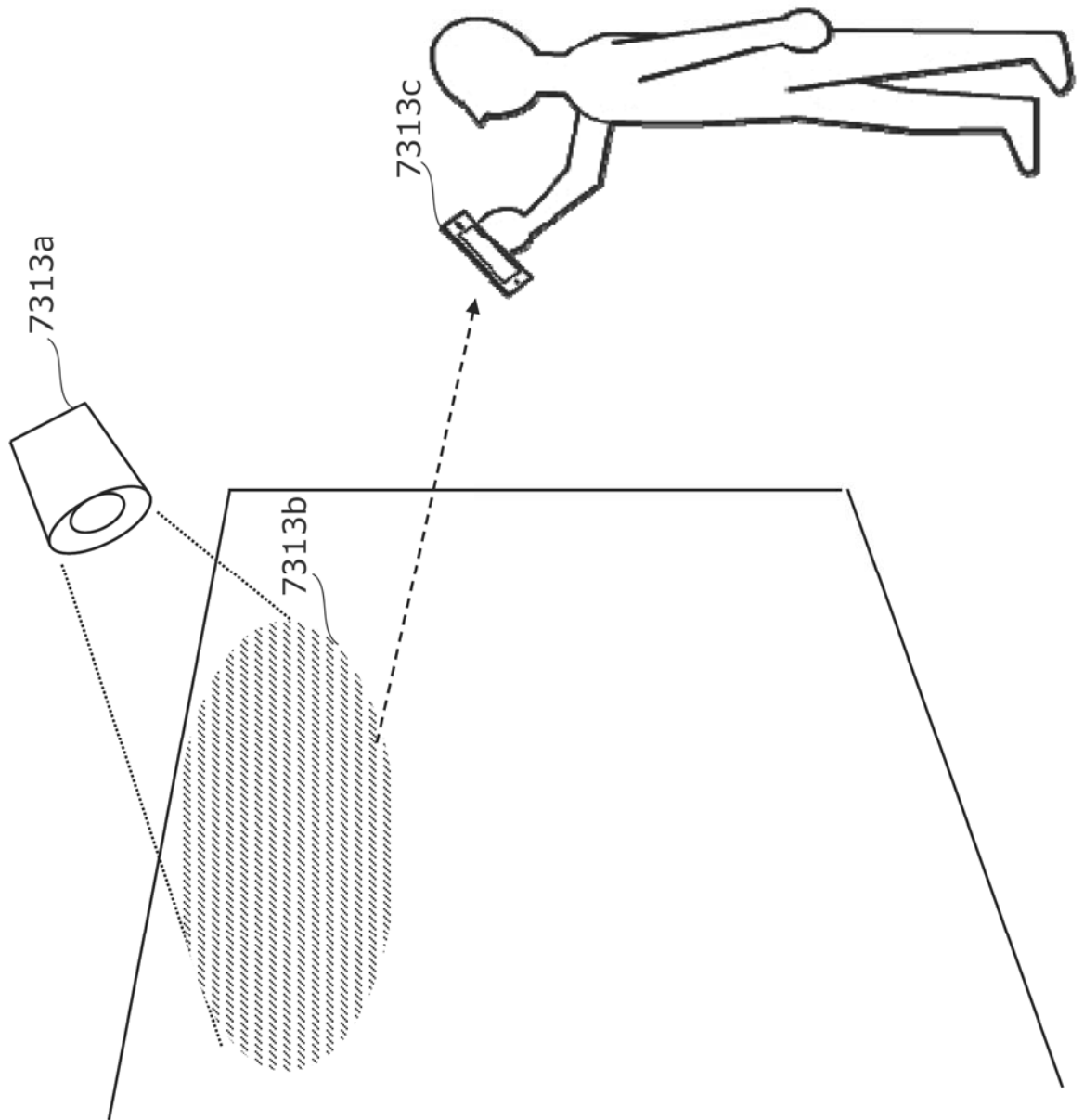


FIG. 321

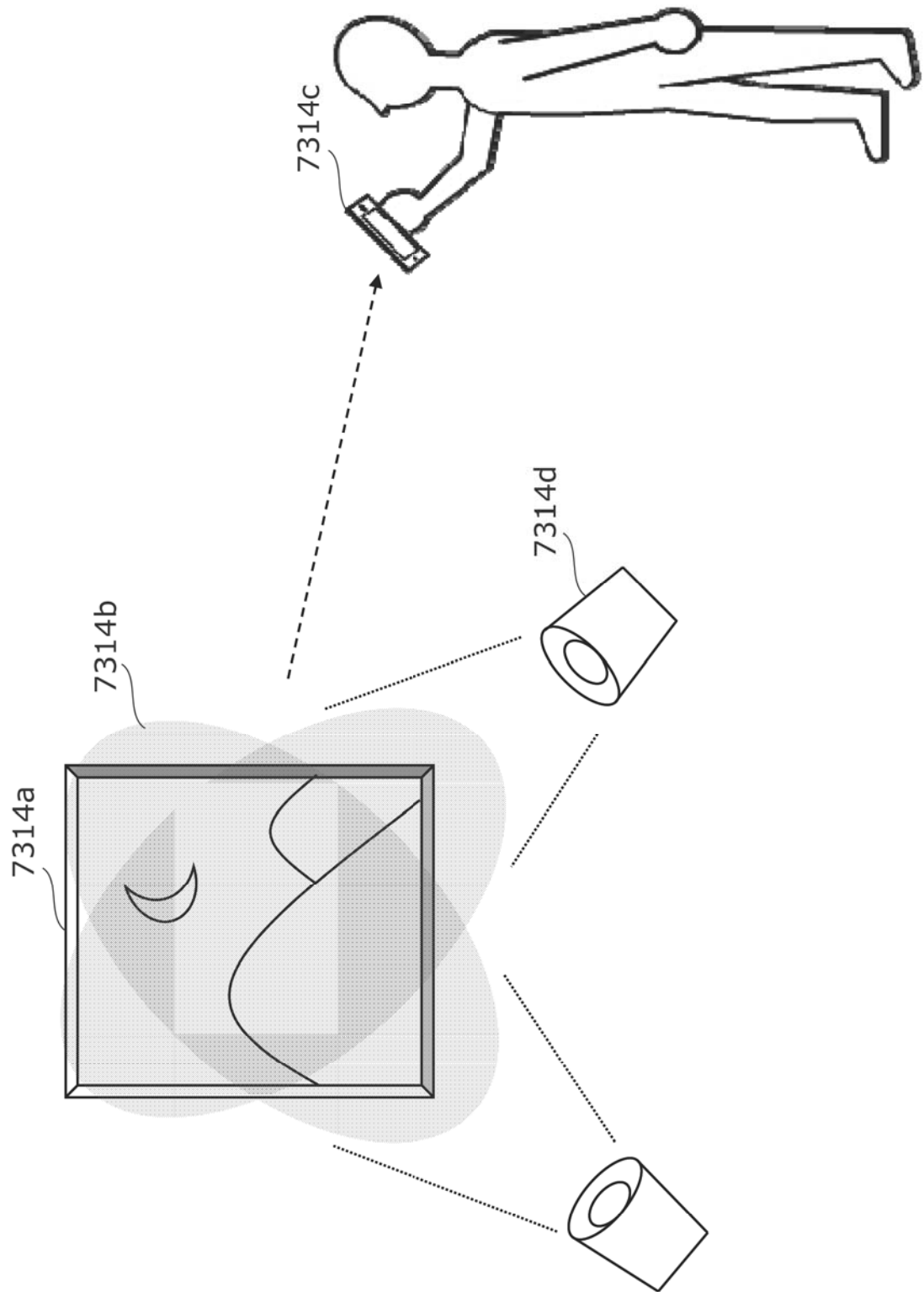


FIG. 322

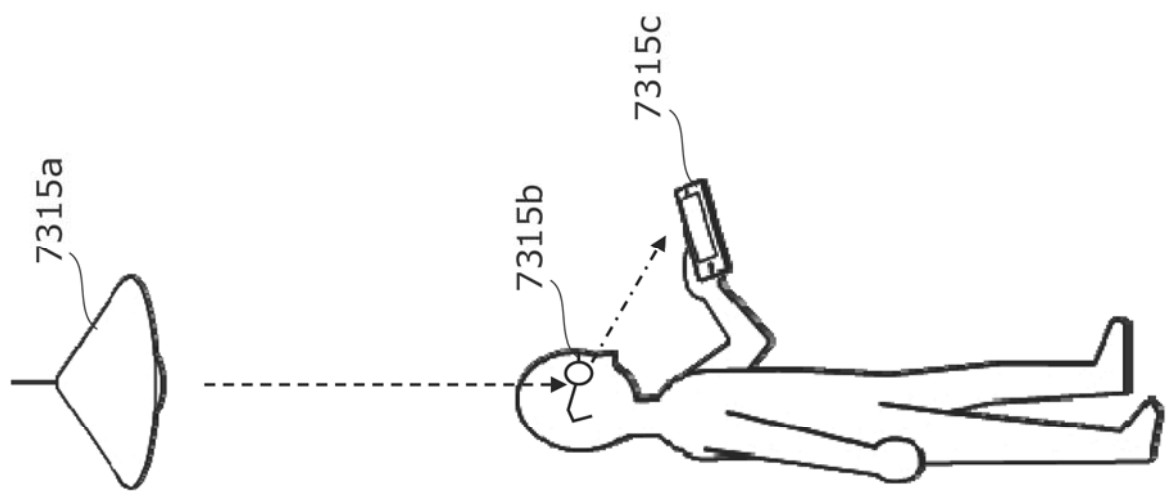


FIG. 323A

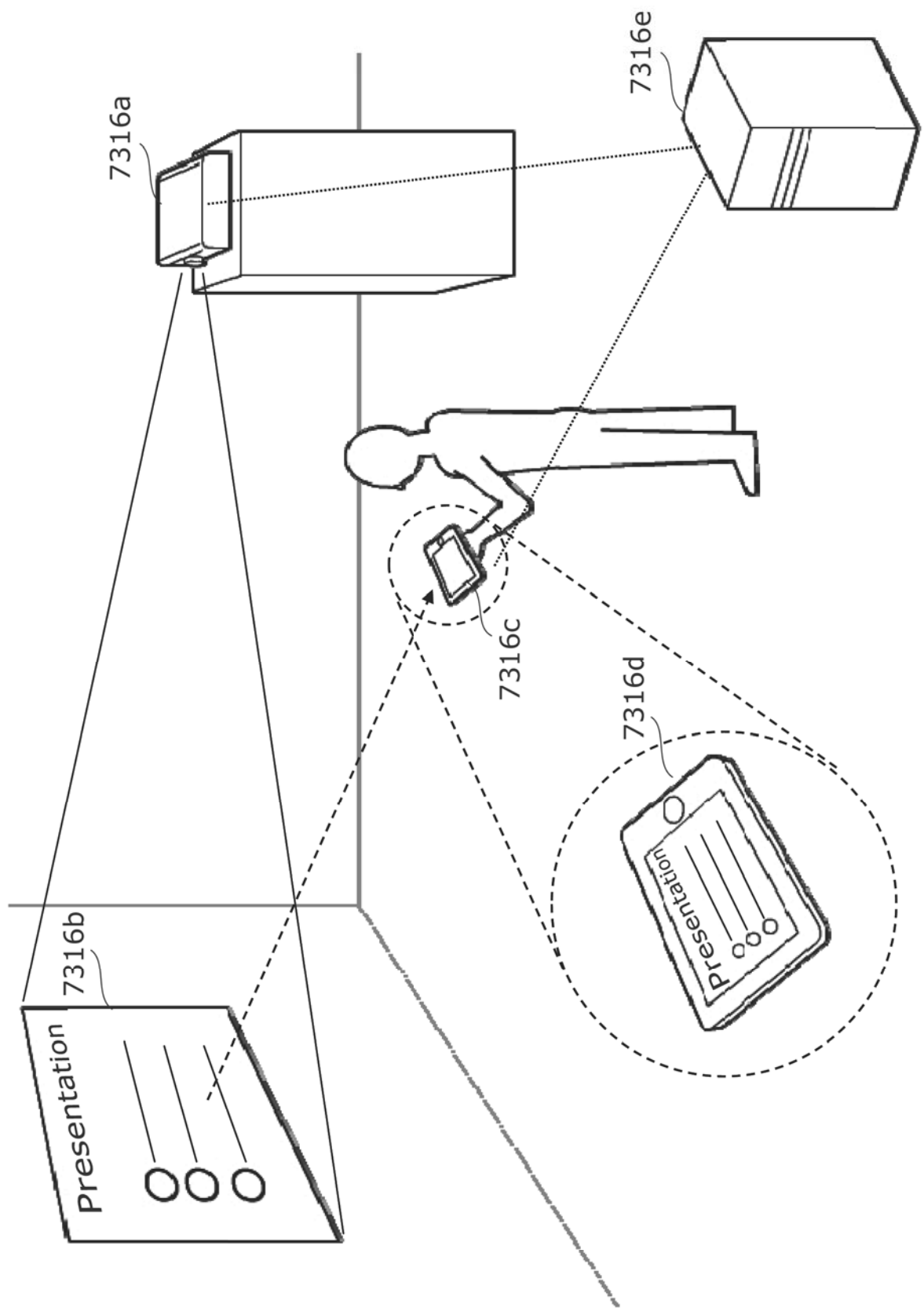


FIG. 323B

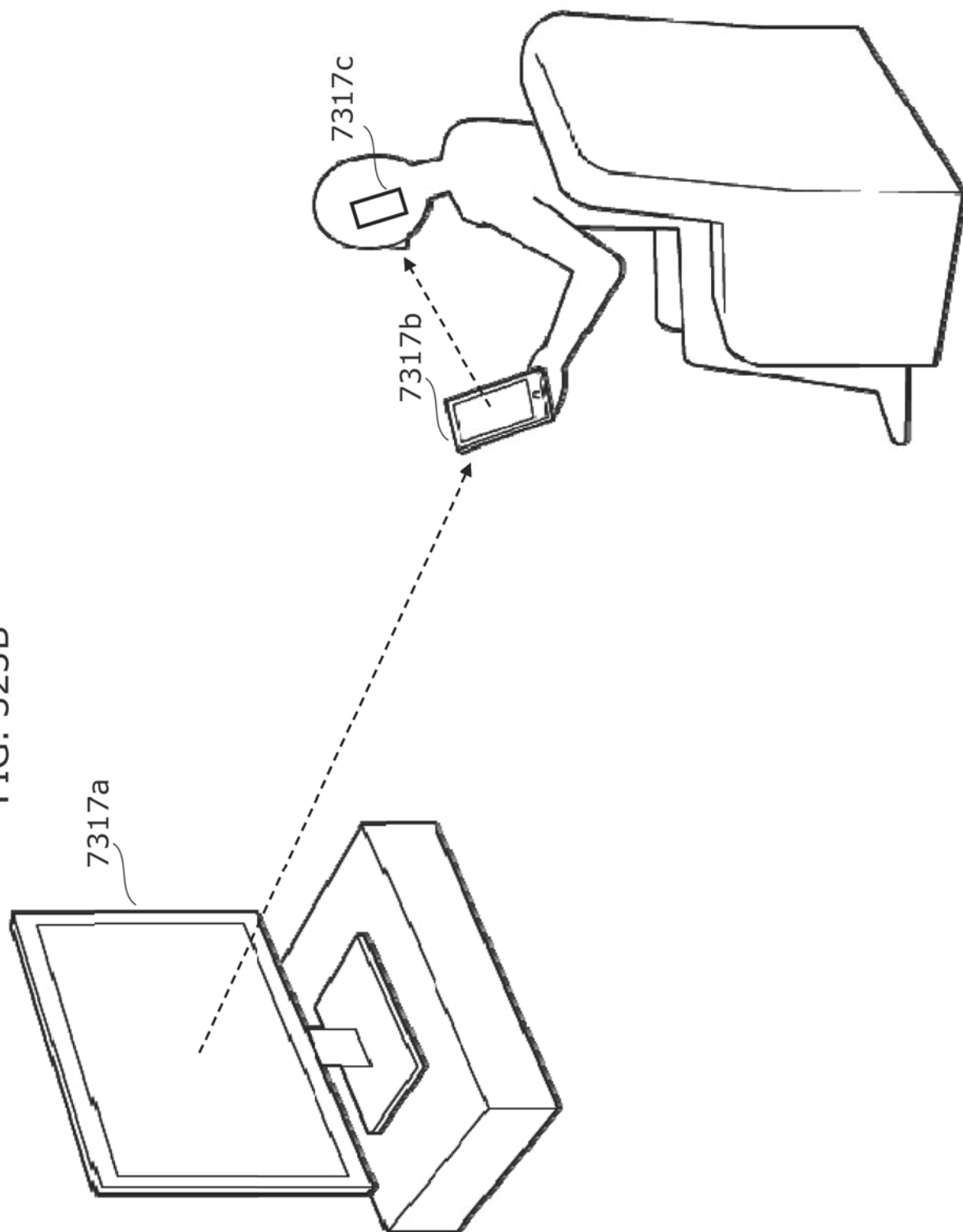


FIG. 323C

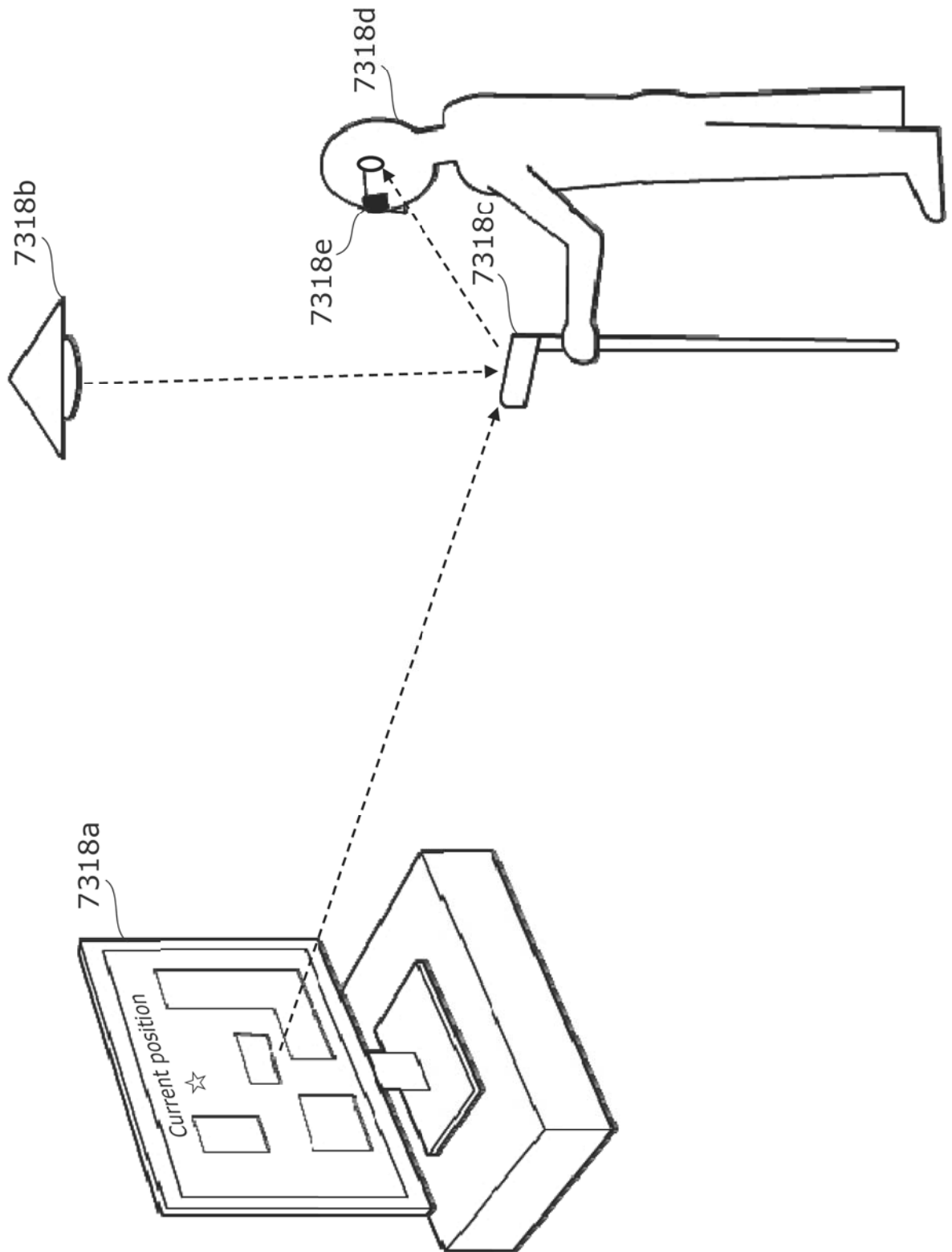


FIG. 323D

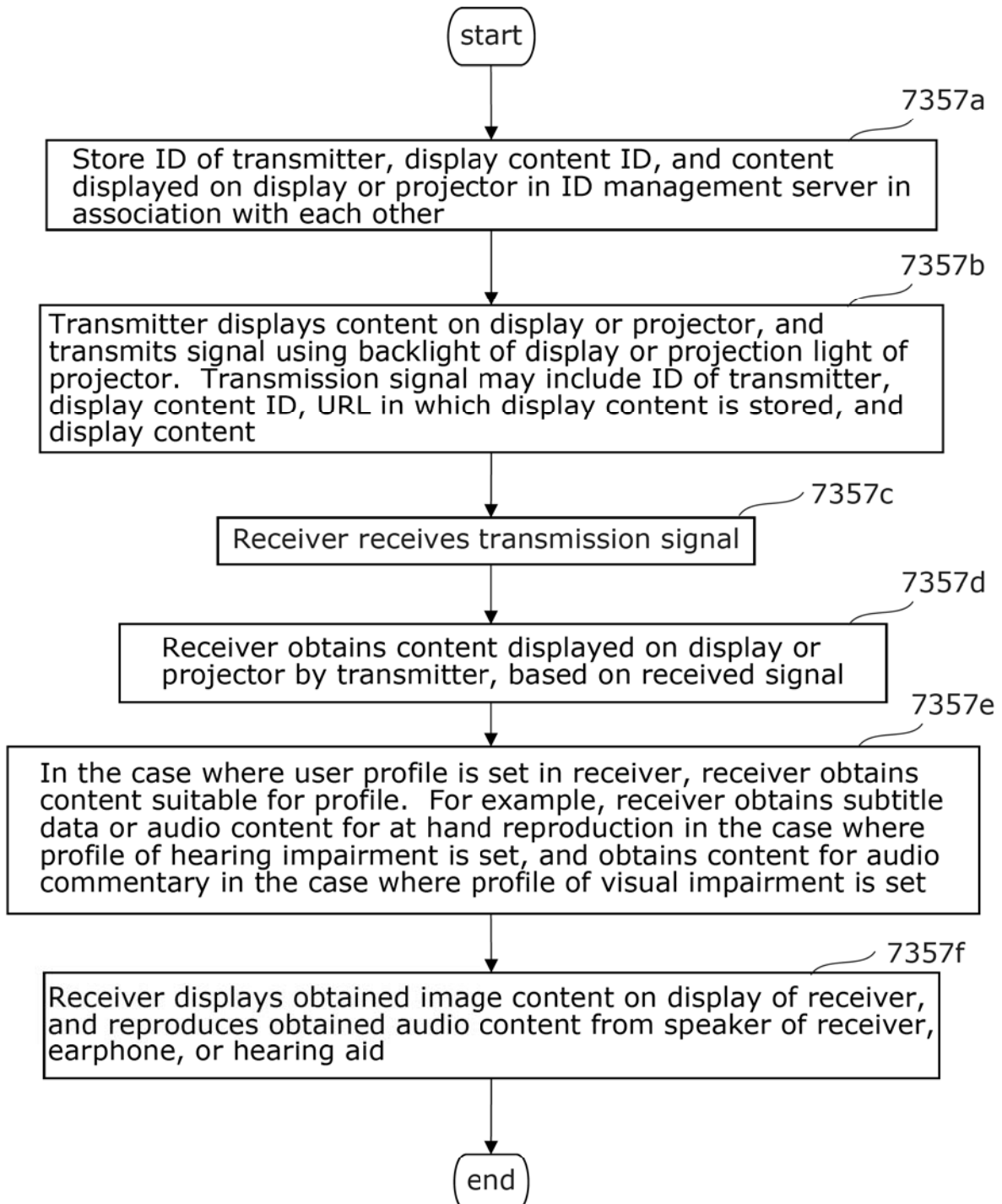


FIG. 324

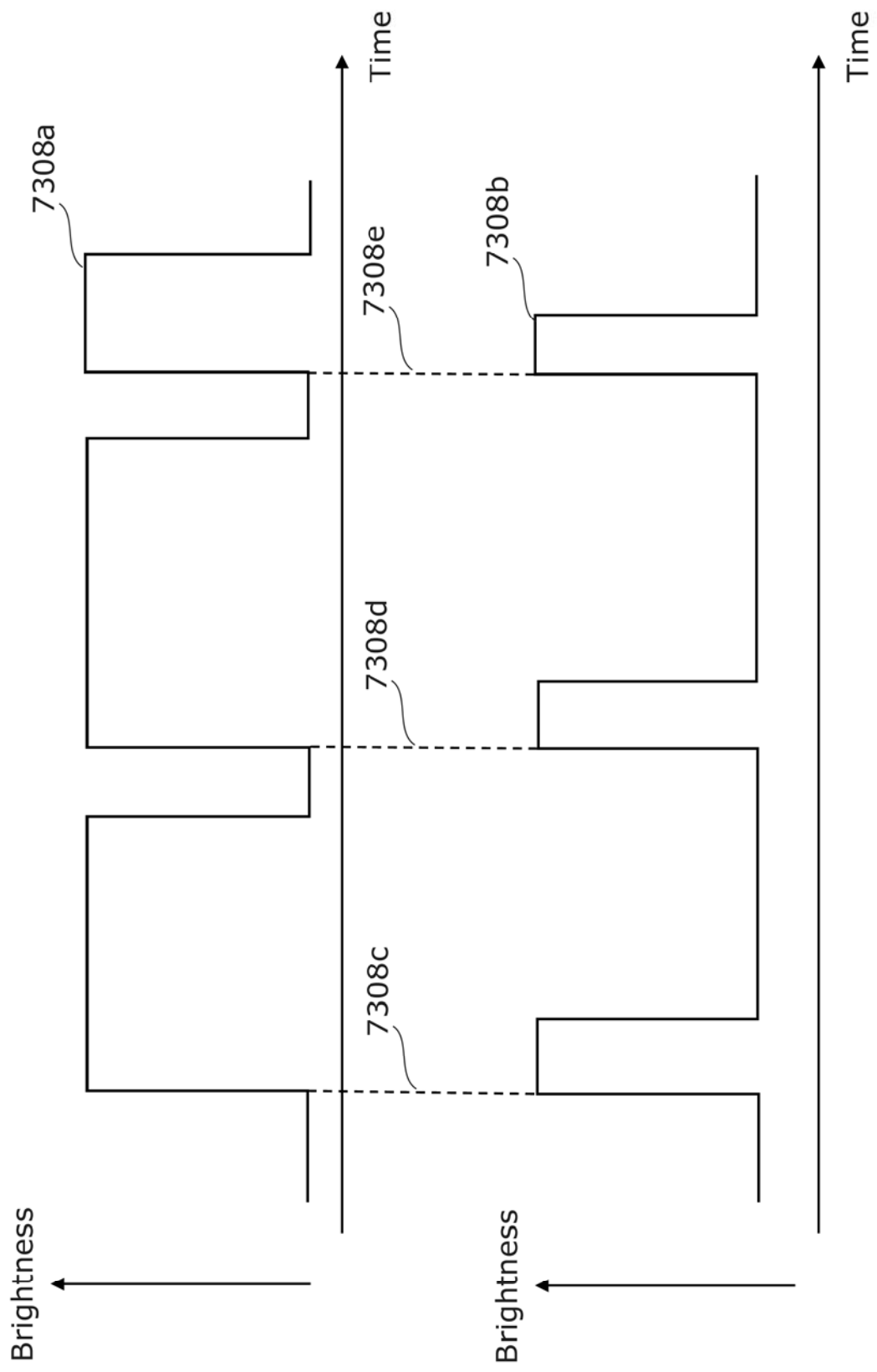


FIG. 325

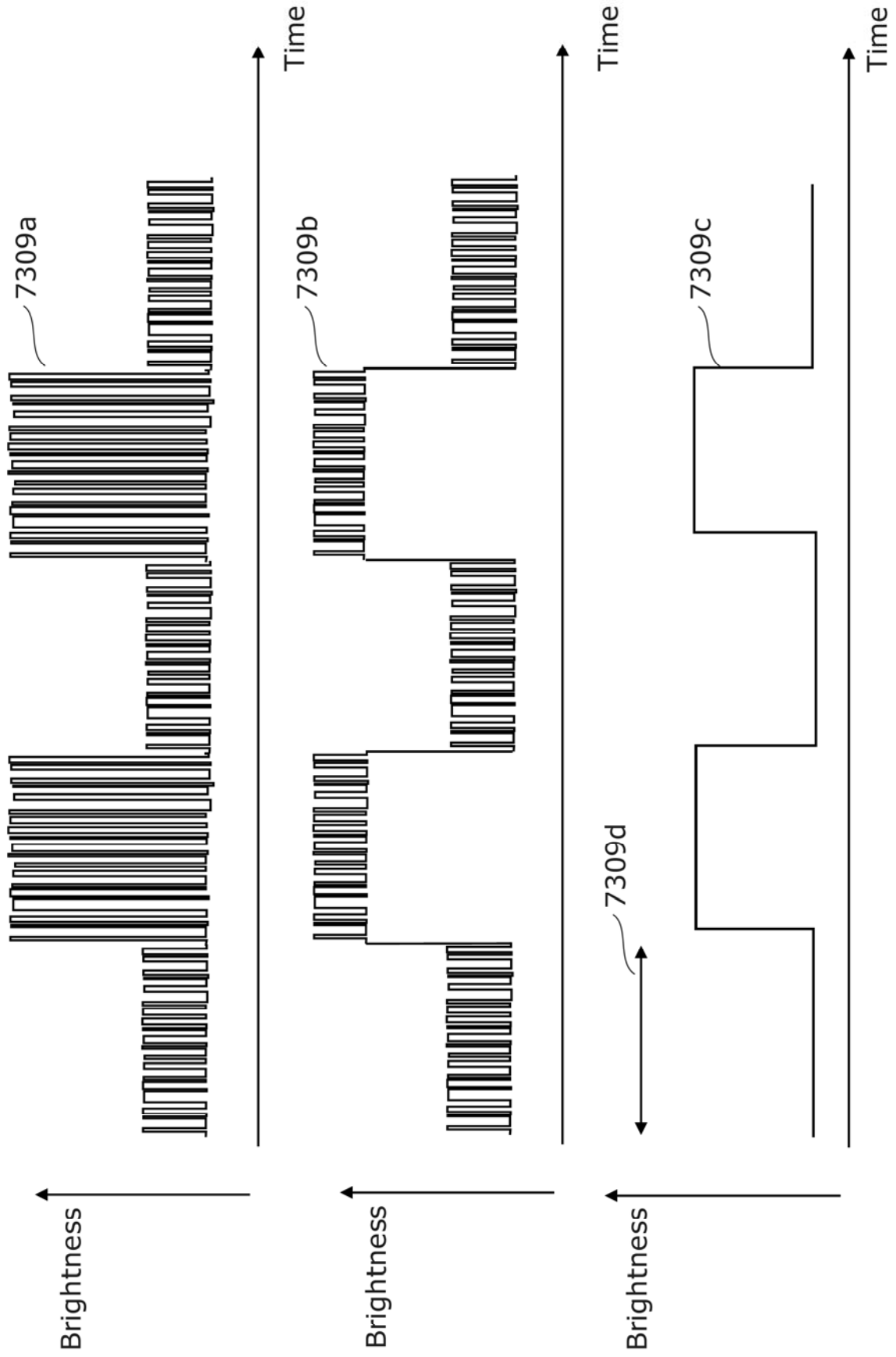


FIG. 326

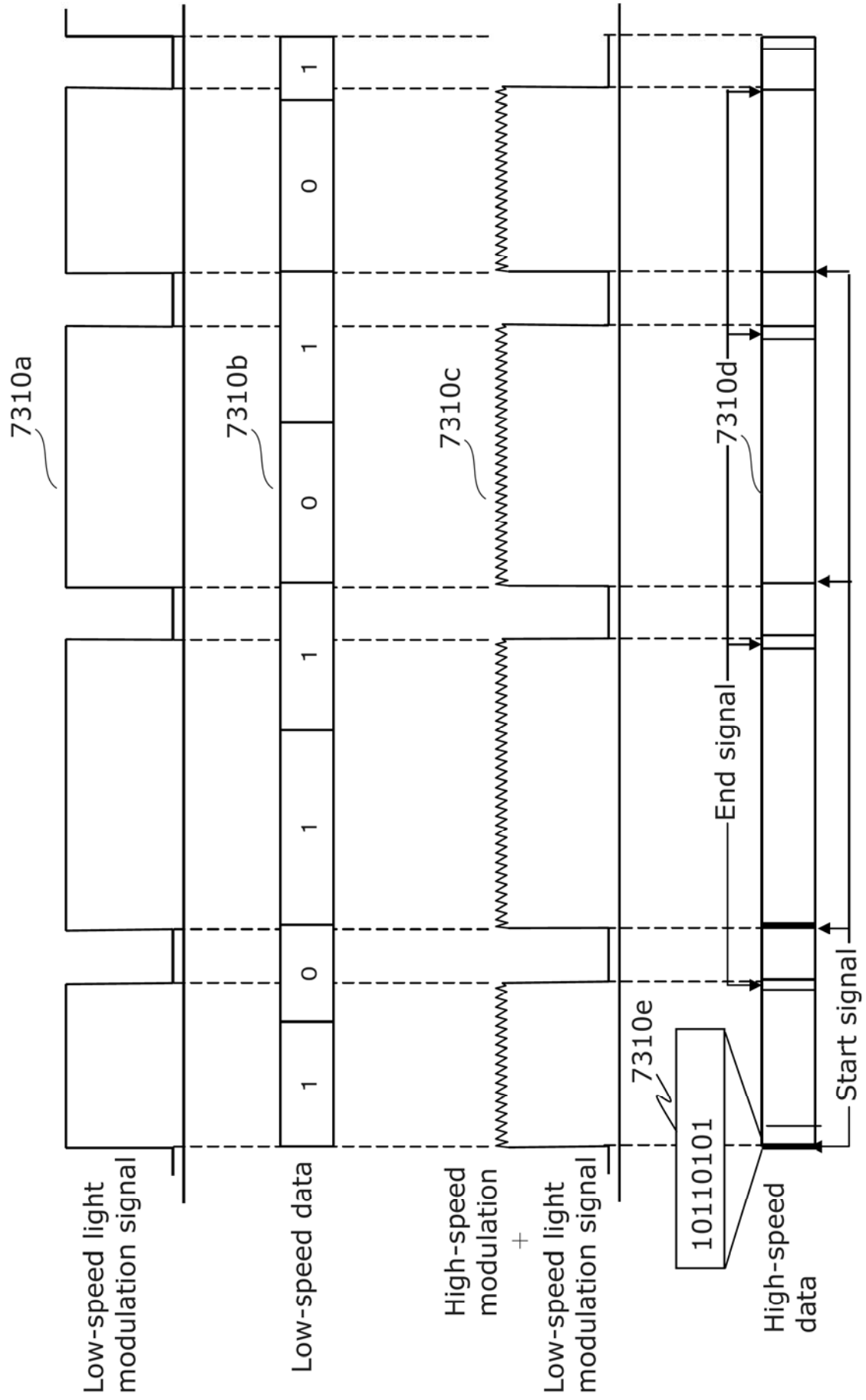


FIG. 327A

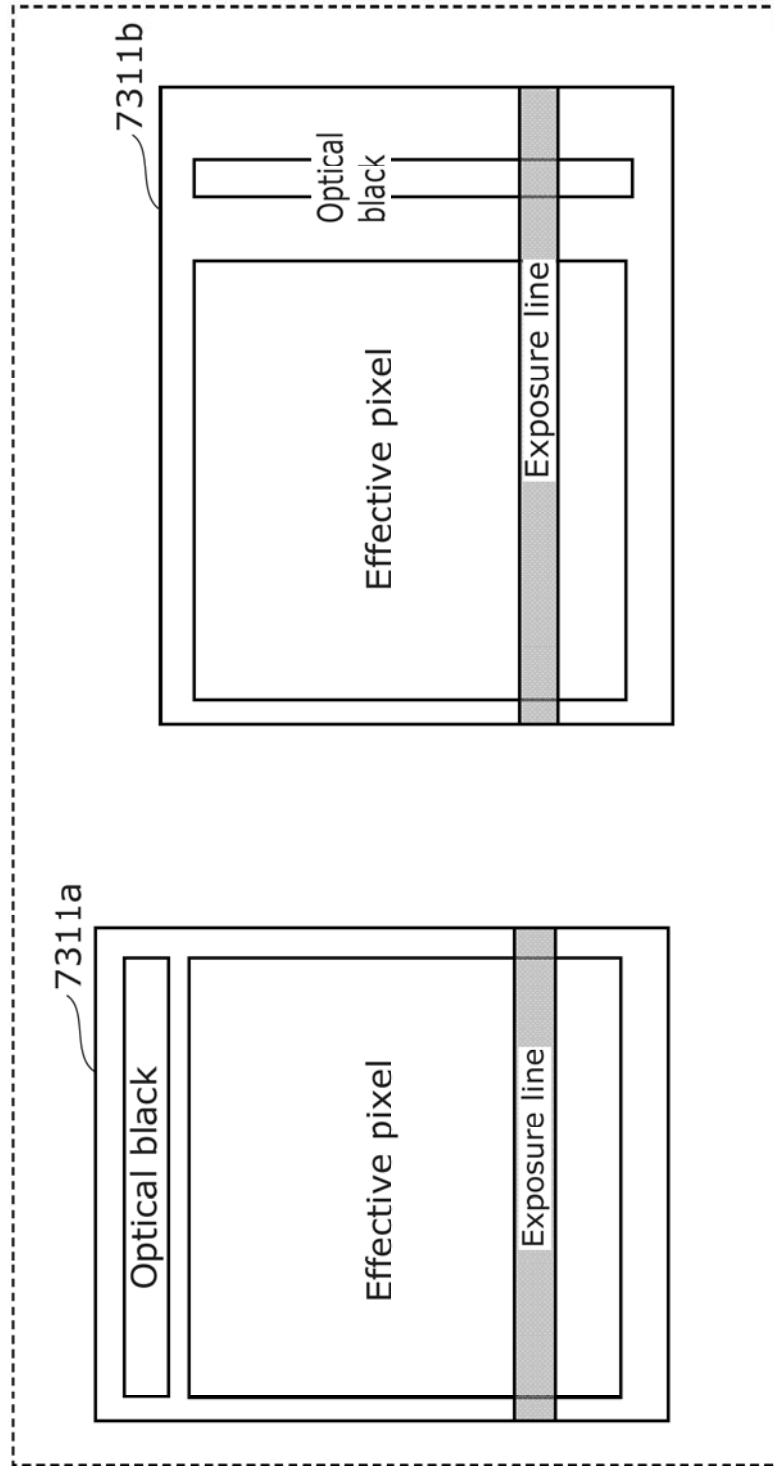


FIG. 327B

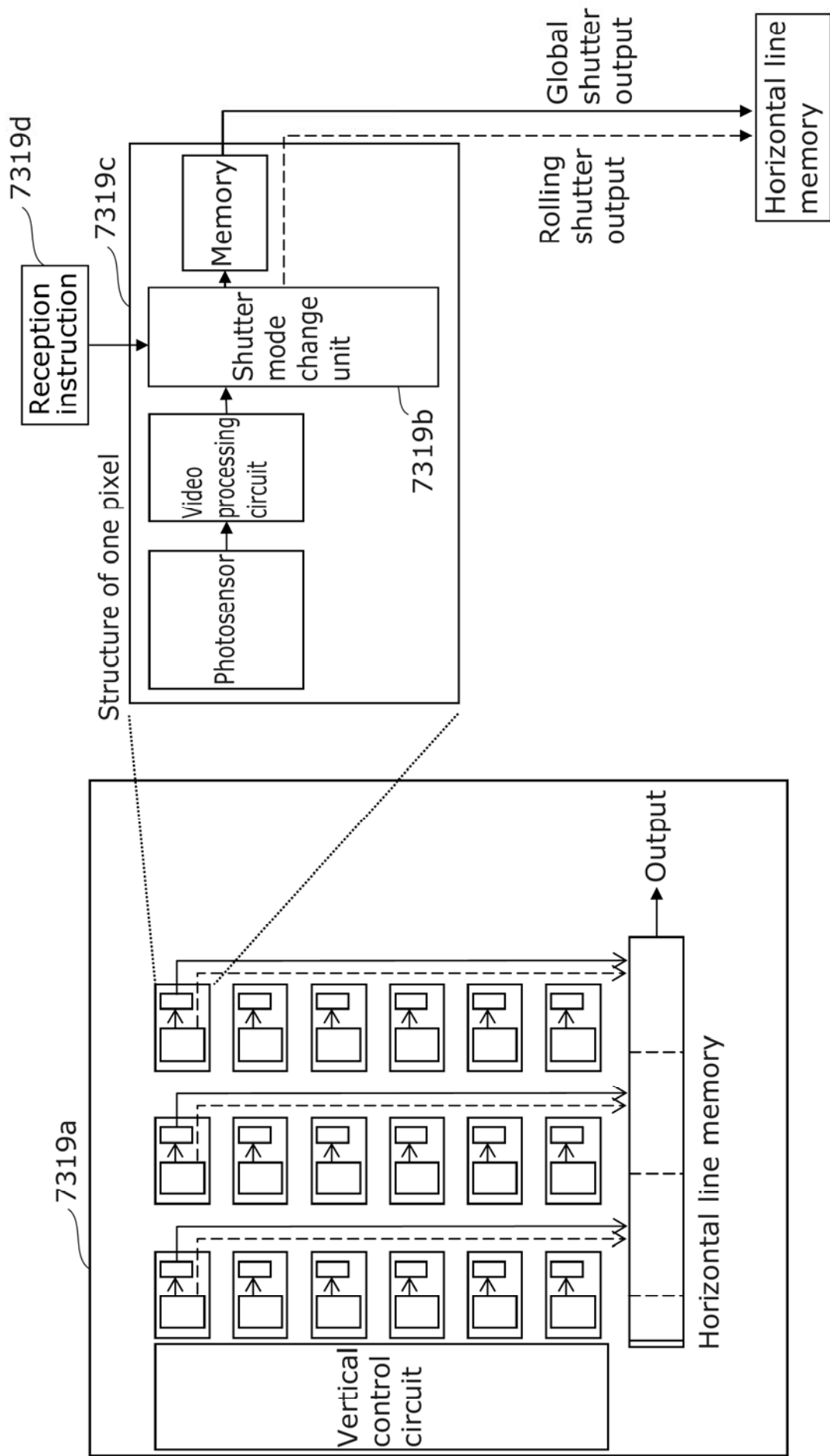


FIG. 327C

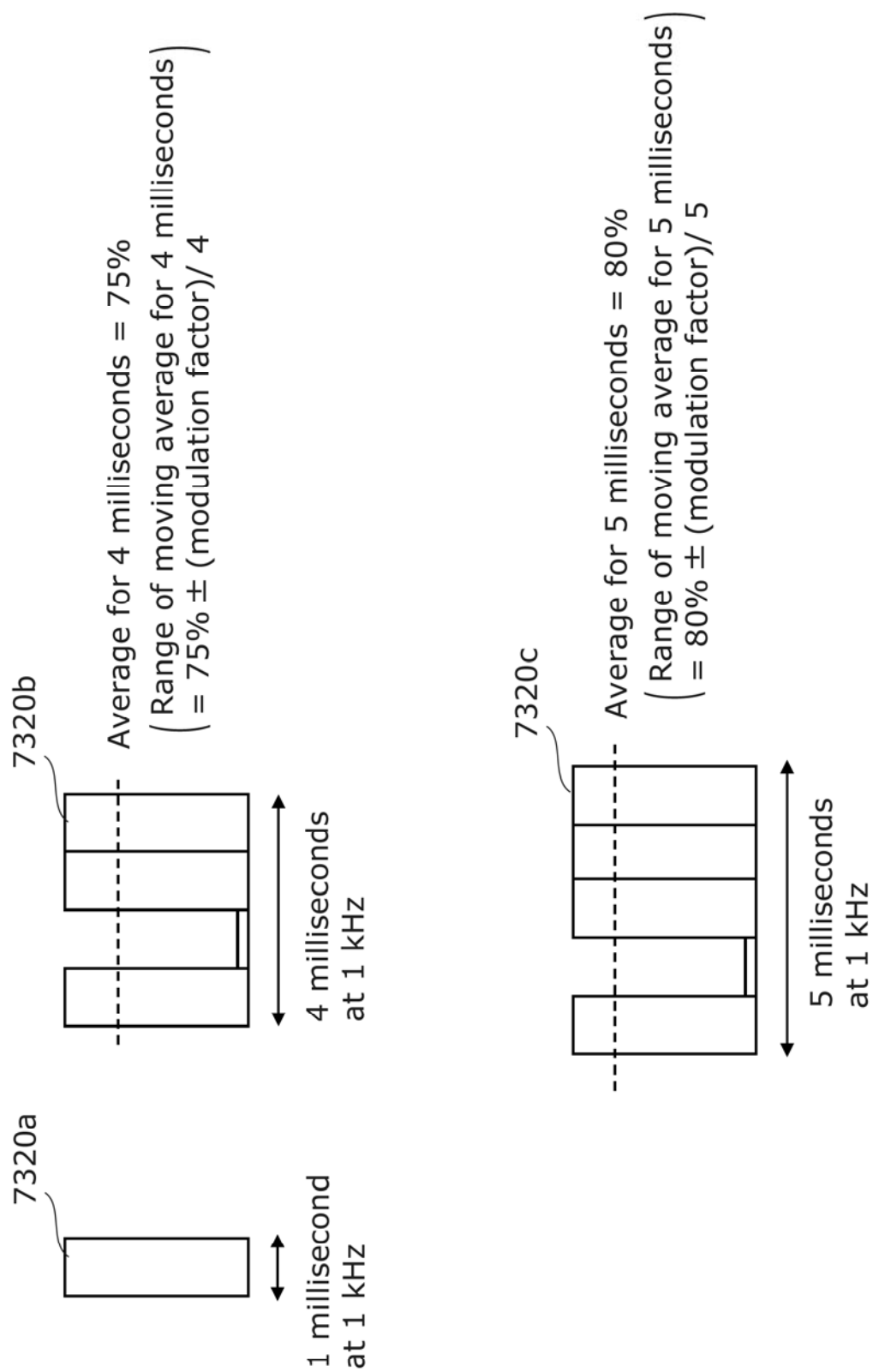


FIG. 327D

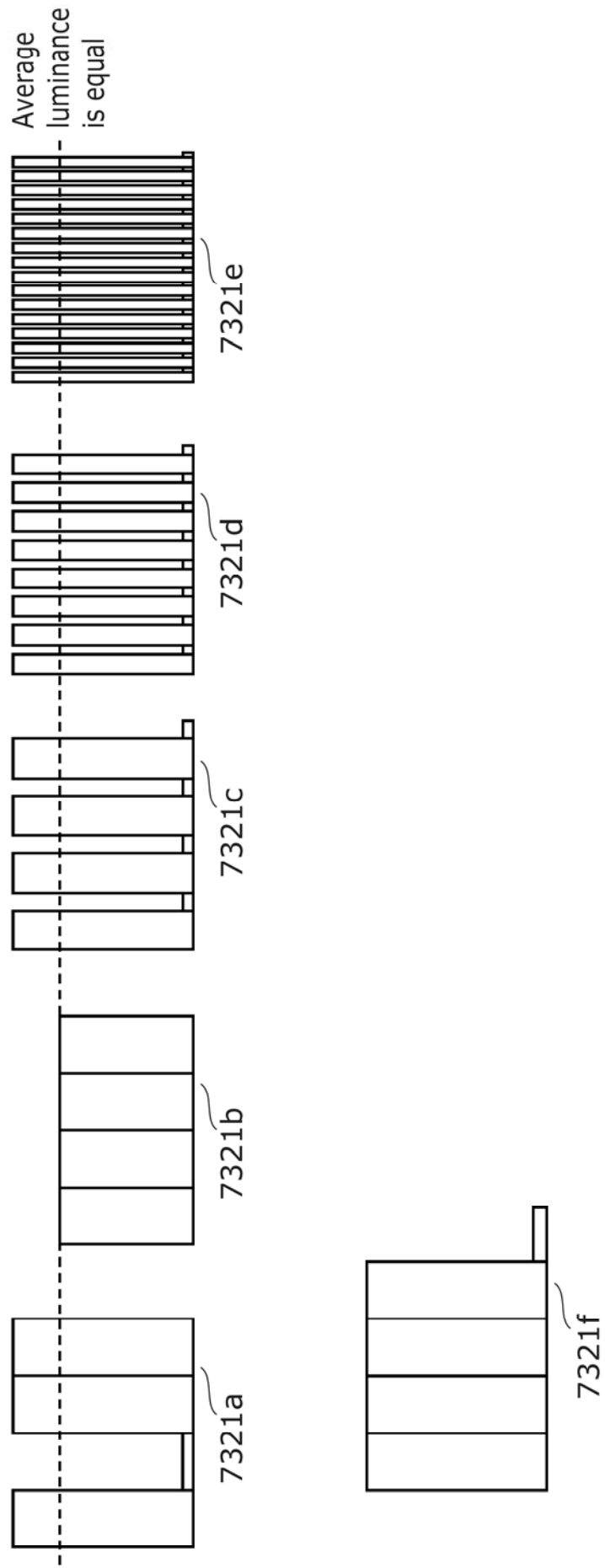


FIG. 328A

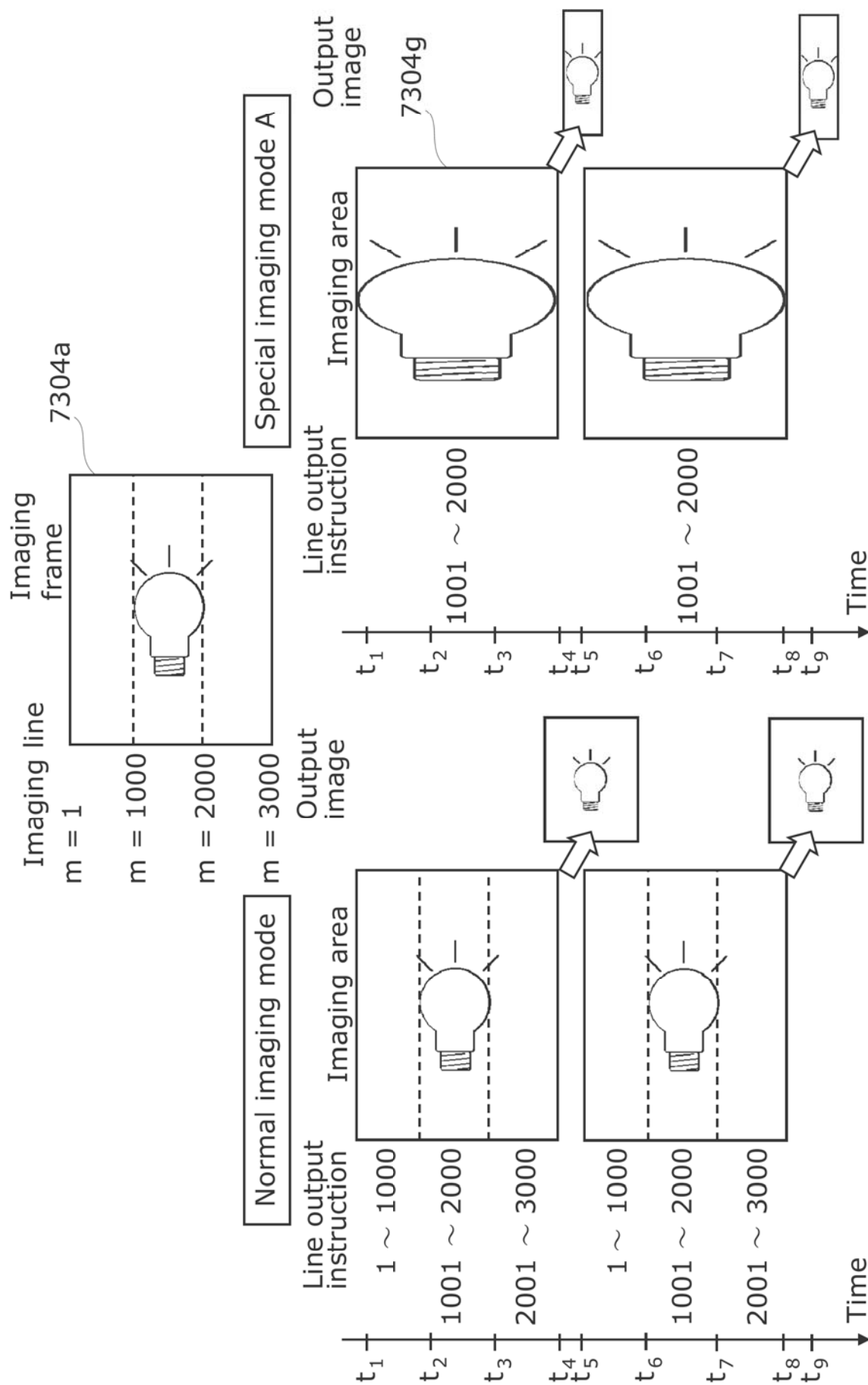


FIG. 328B

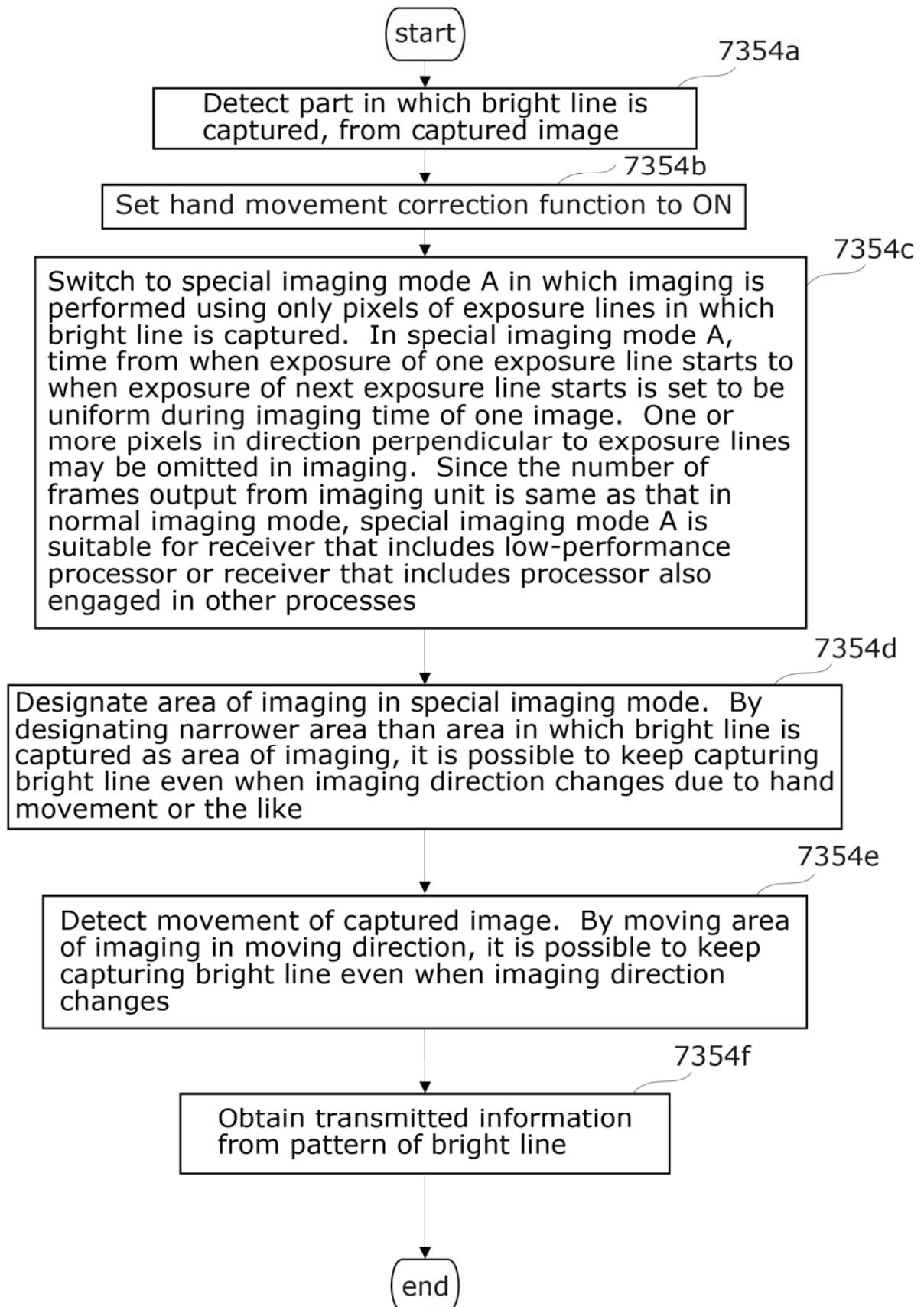


FIG. 329A

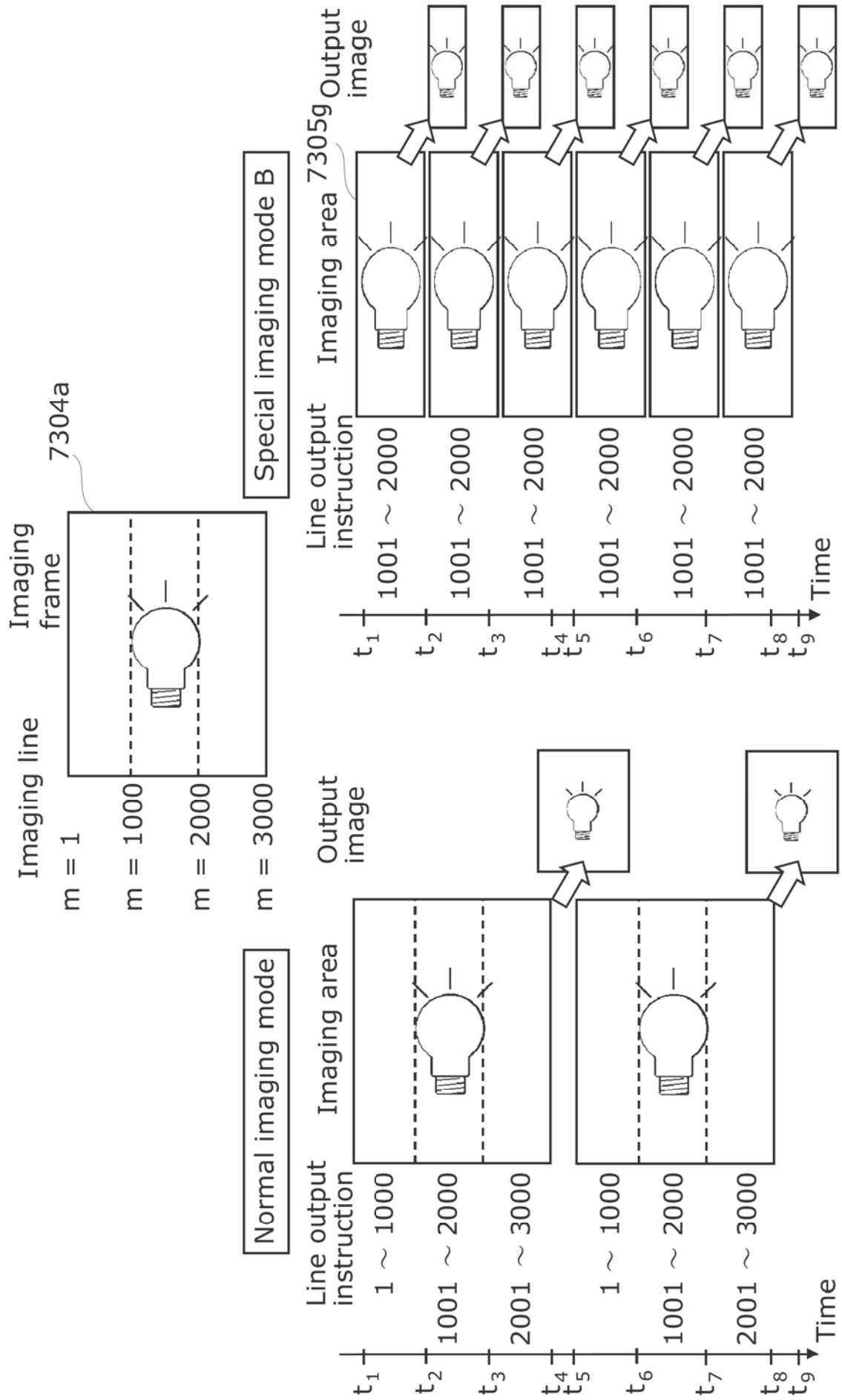


FIG. 329B

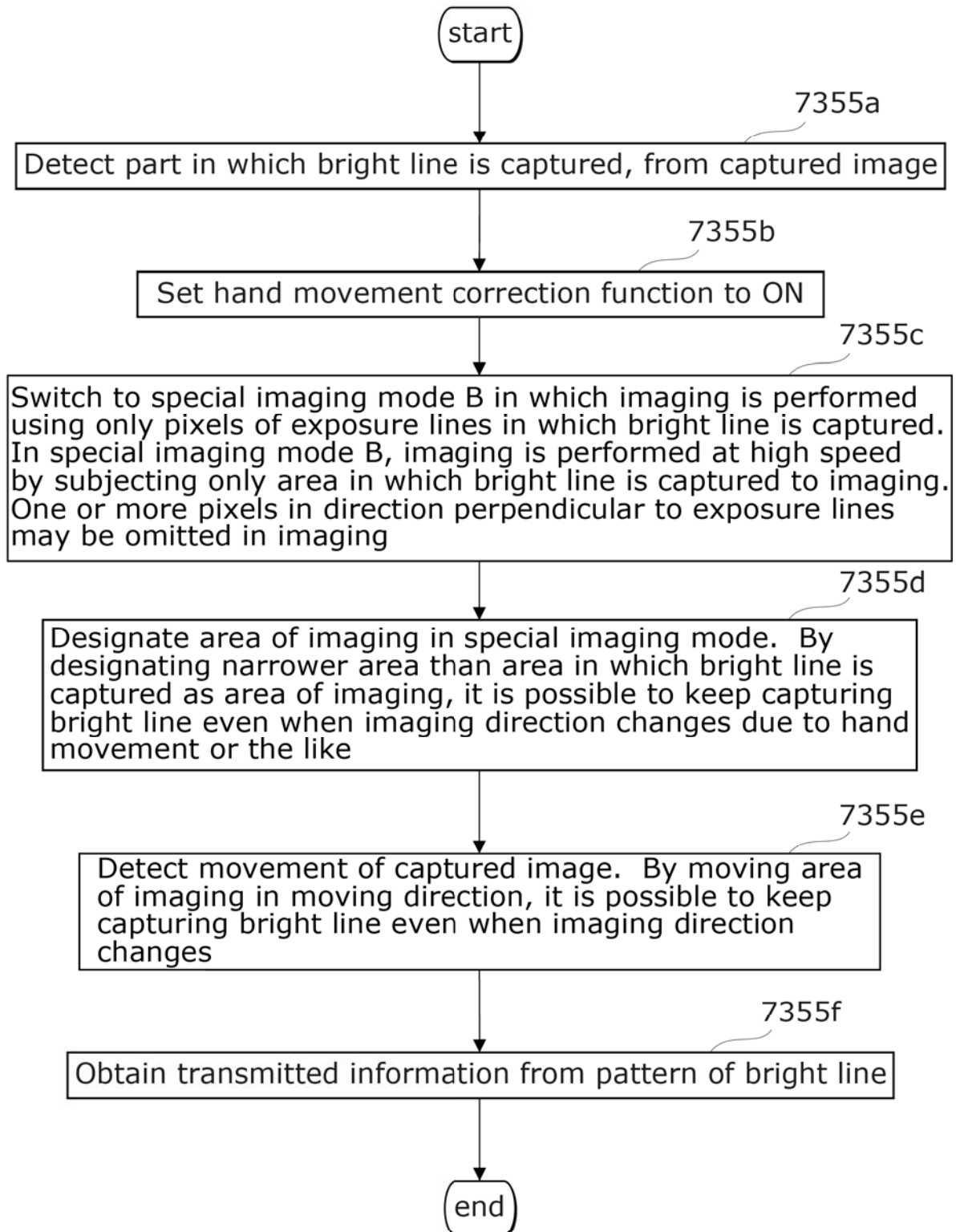


FIG. 330A

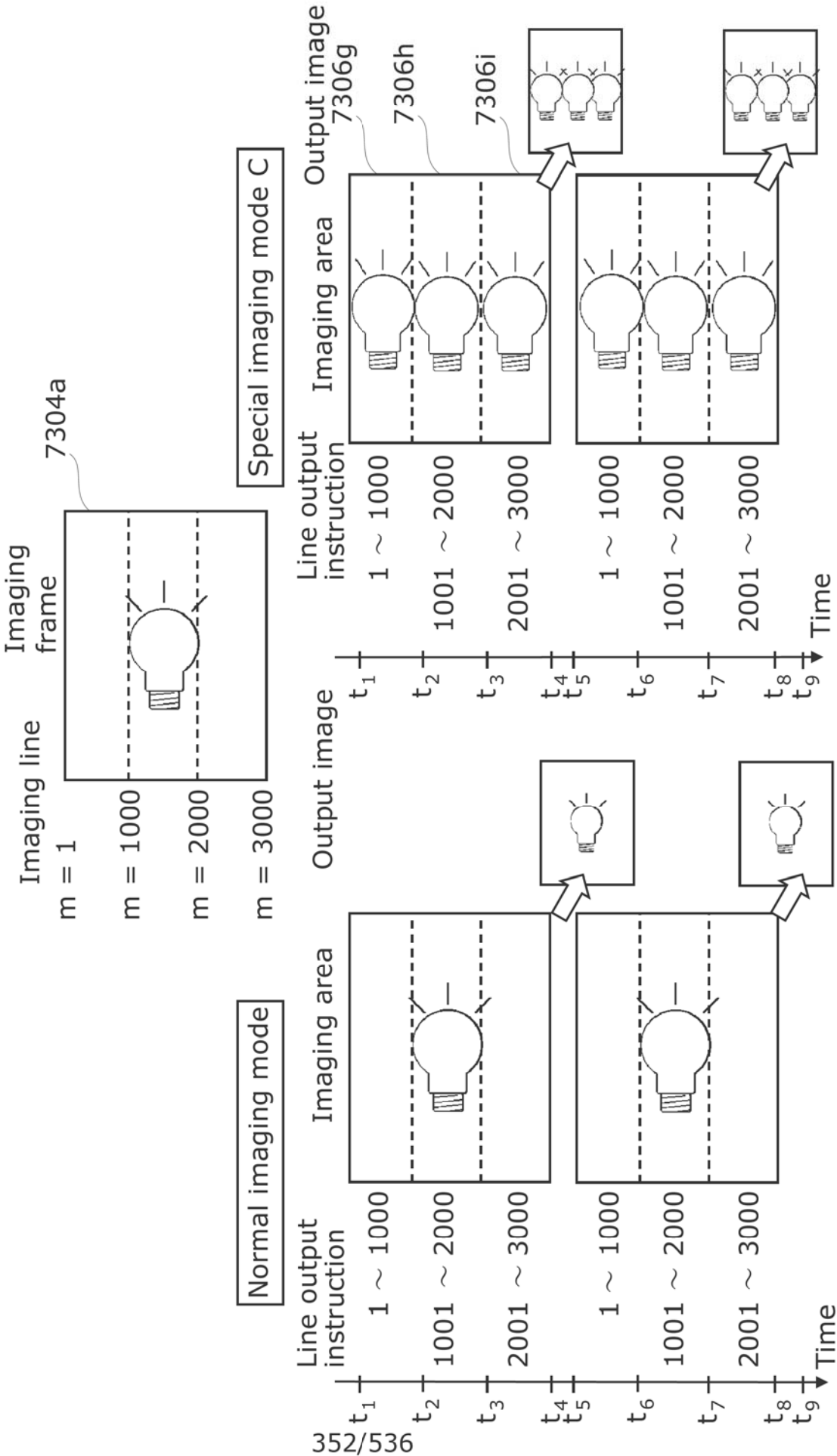


FIG. 330B

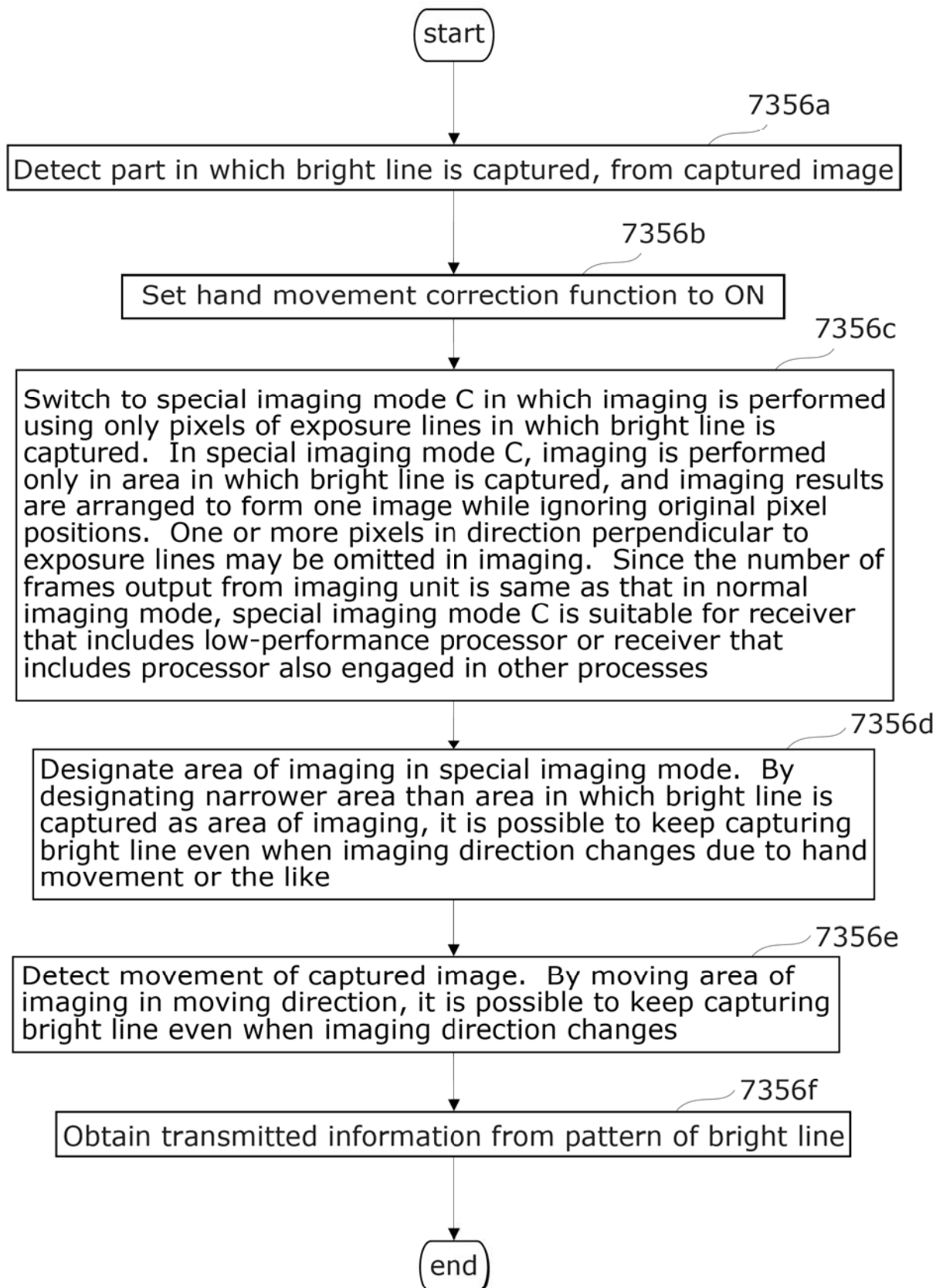


FIG. 331A

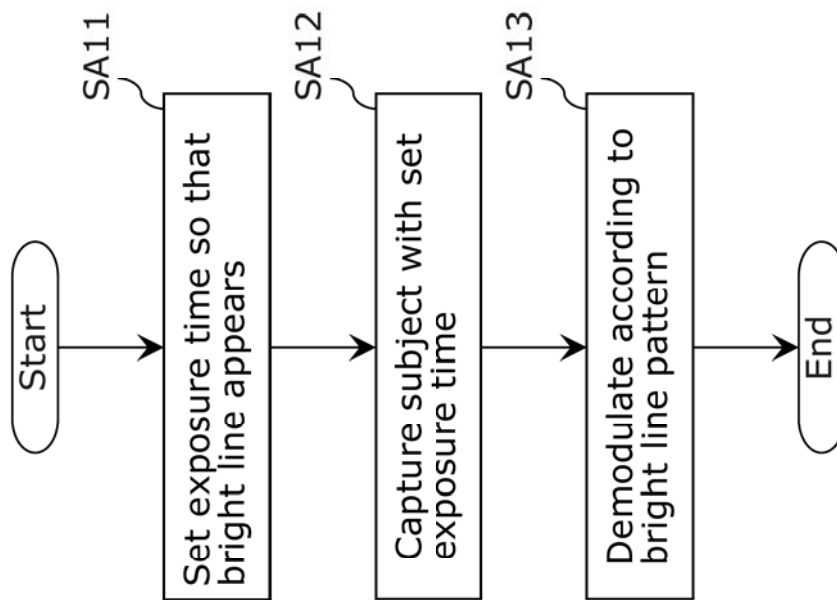


FIG. 331B

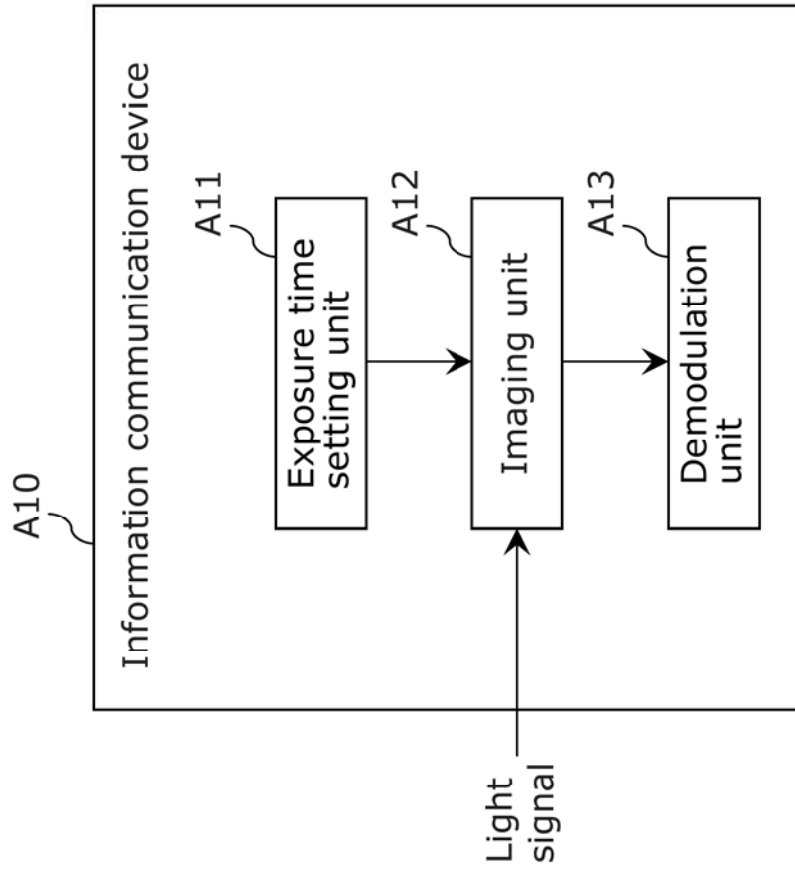


FIG. 331C

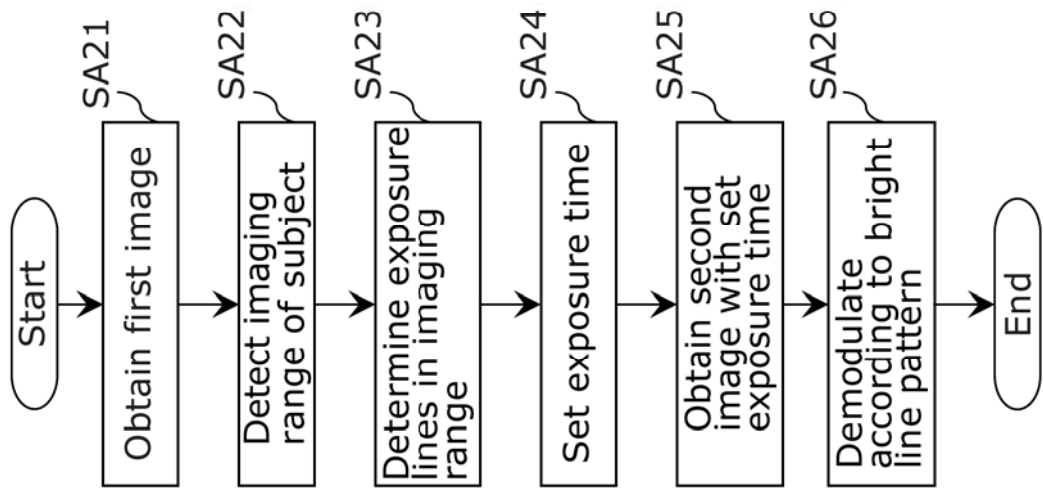


FIG. 331D

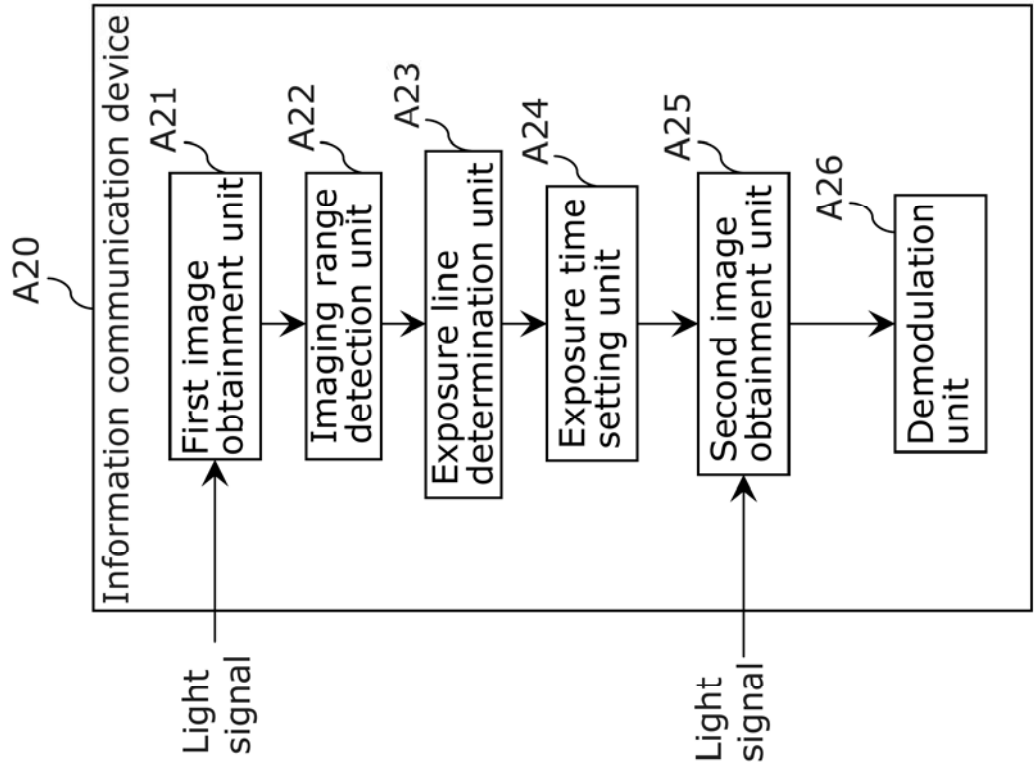


FIG. 332

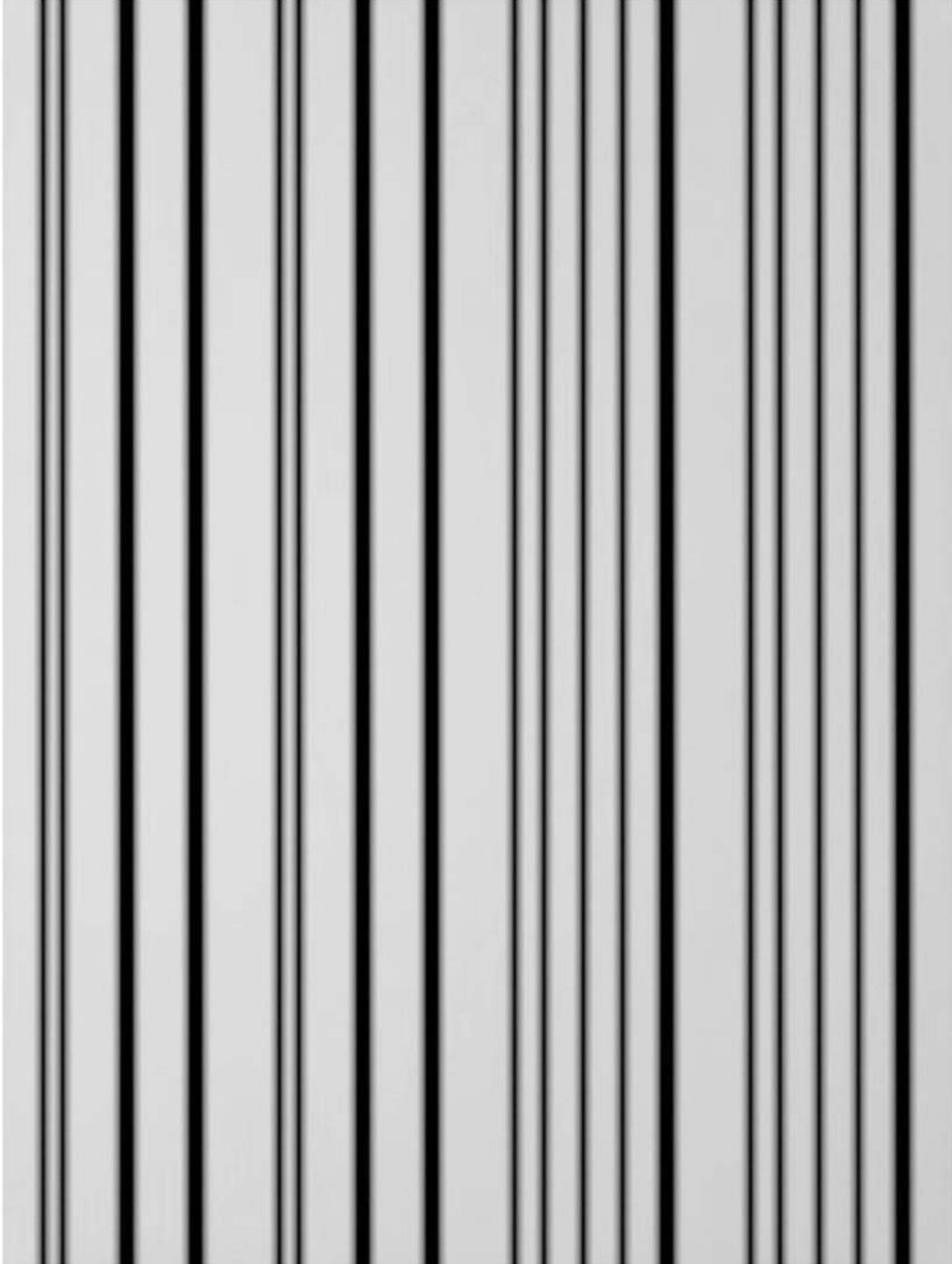


FIG. 333A

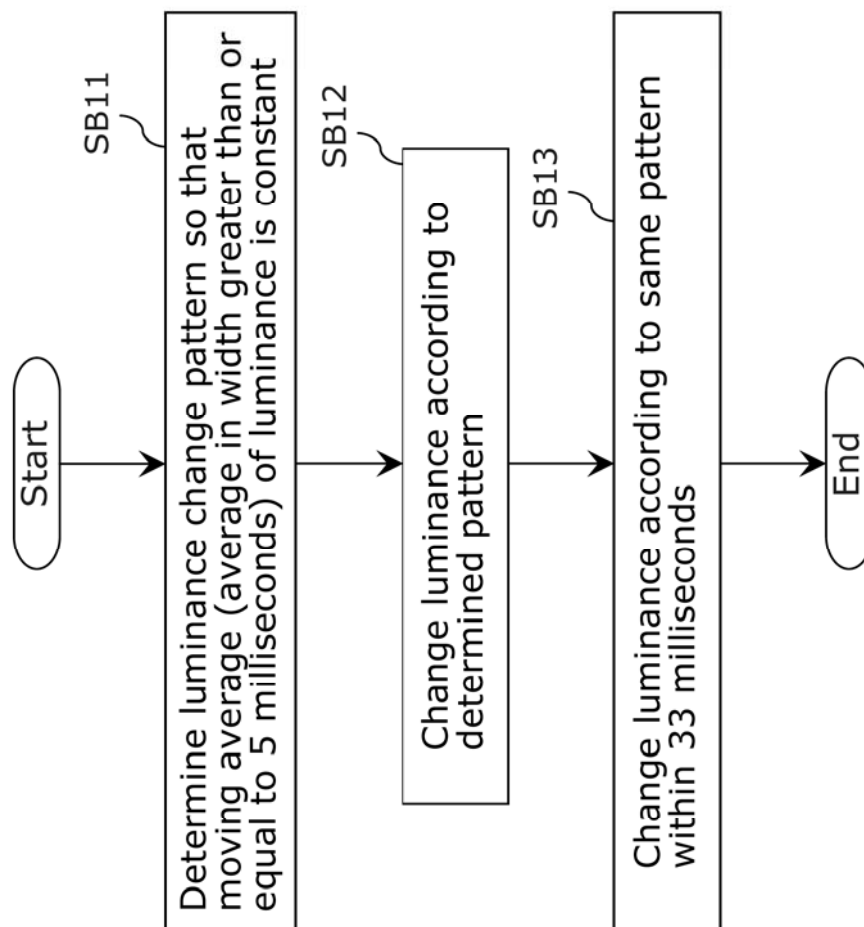


FIG. 333B

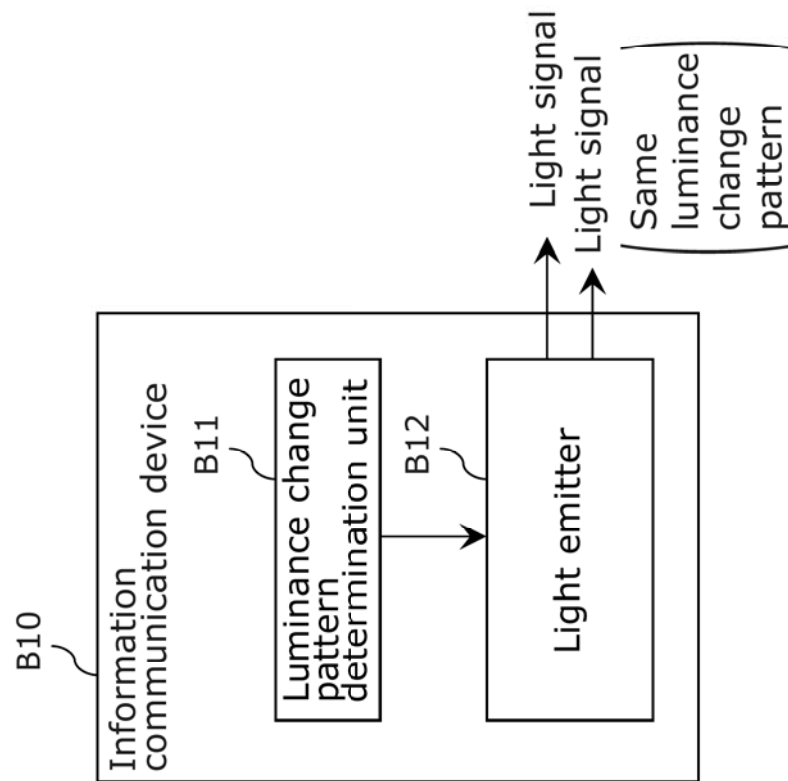


FIG. 334A

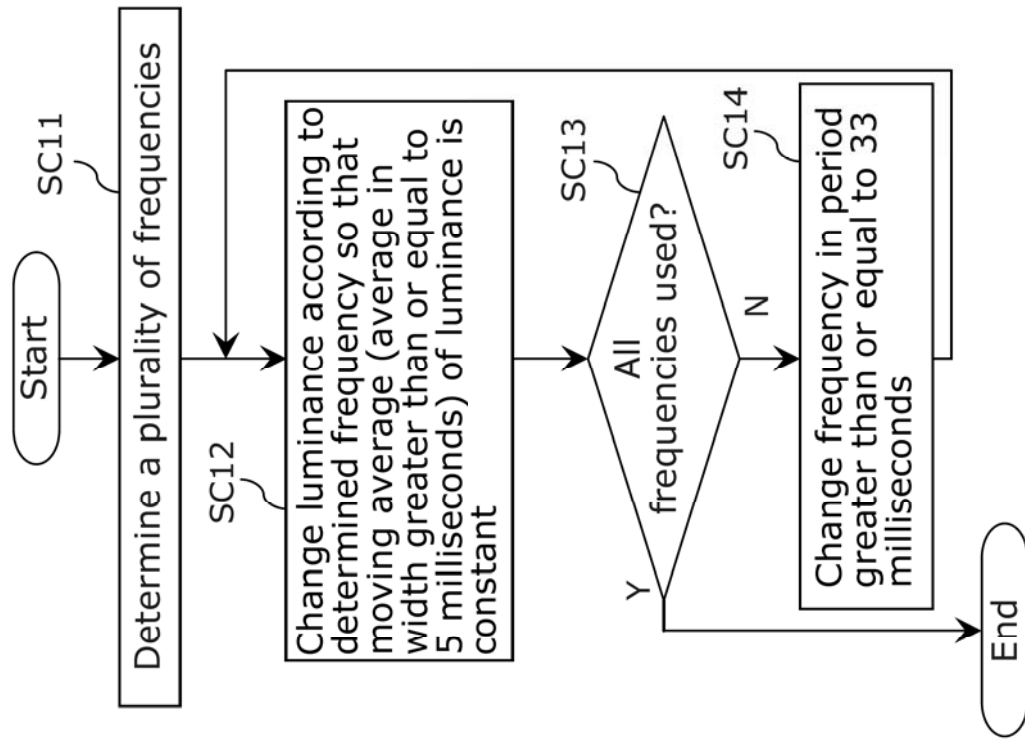


FIG. 334B

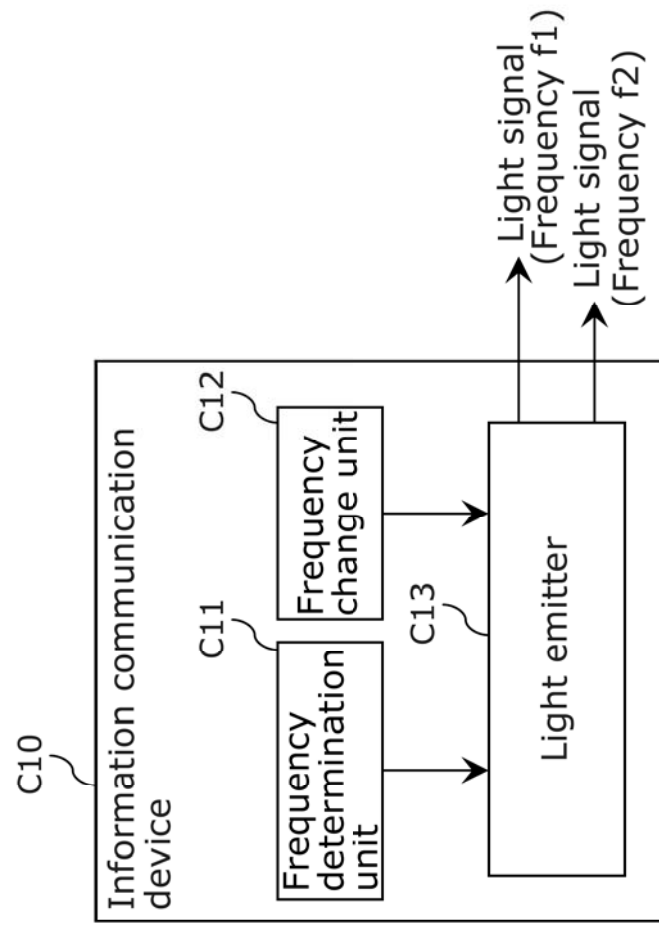


FIG. 335

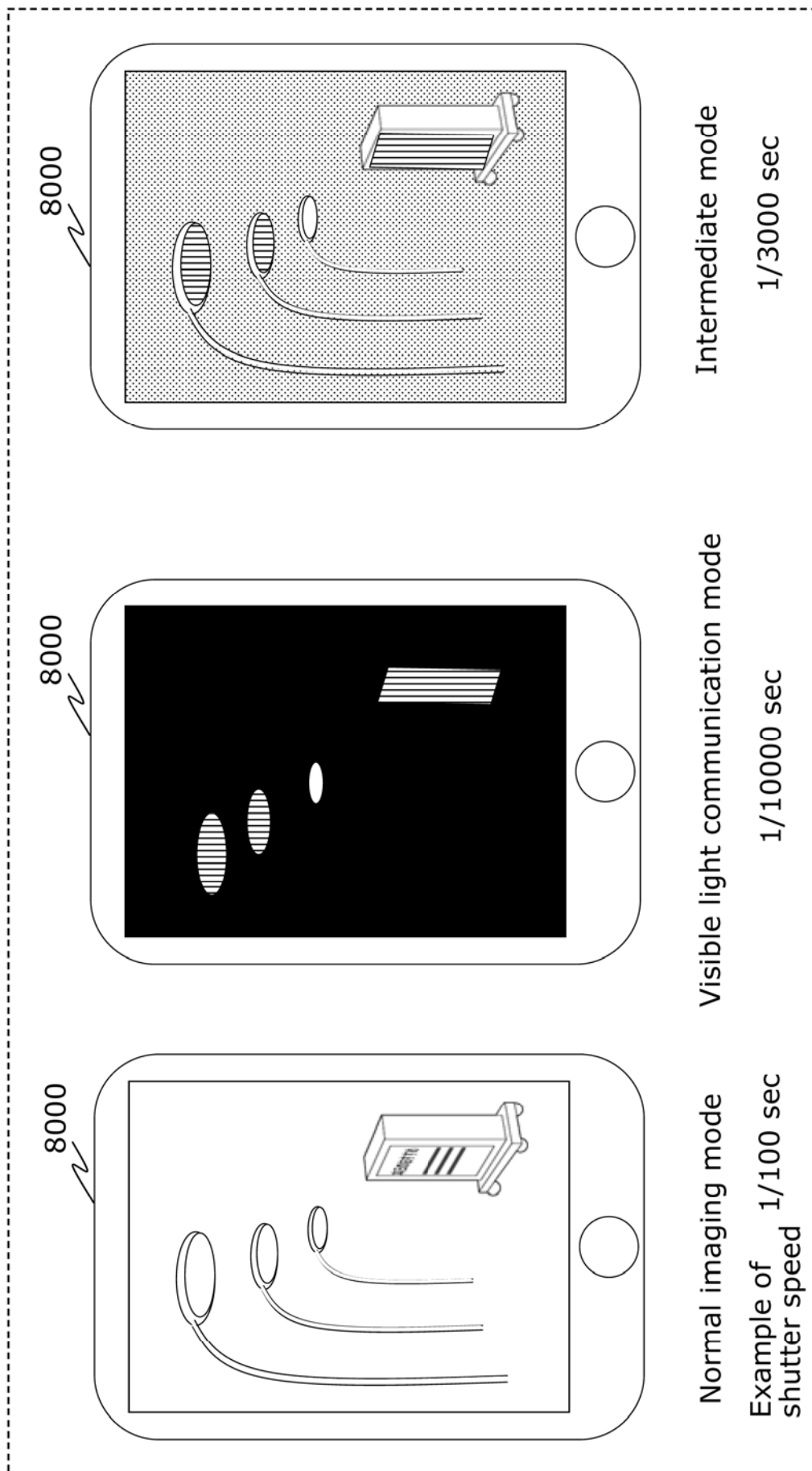


FIG. 336

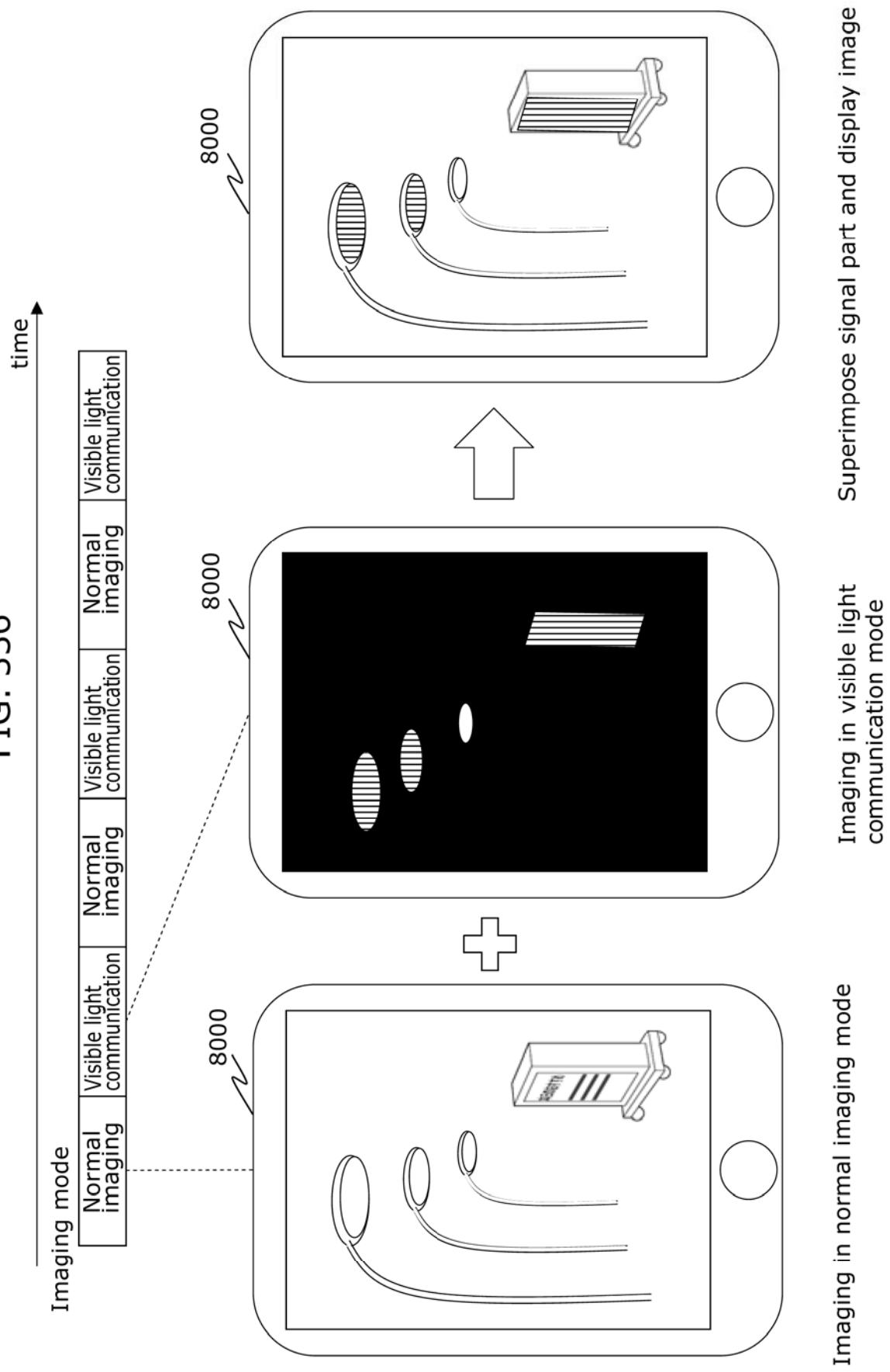


FIG. 337

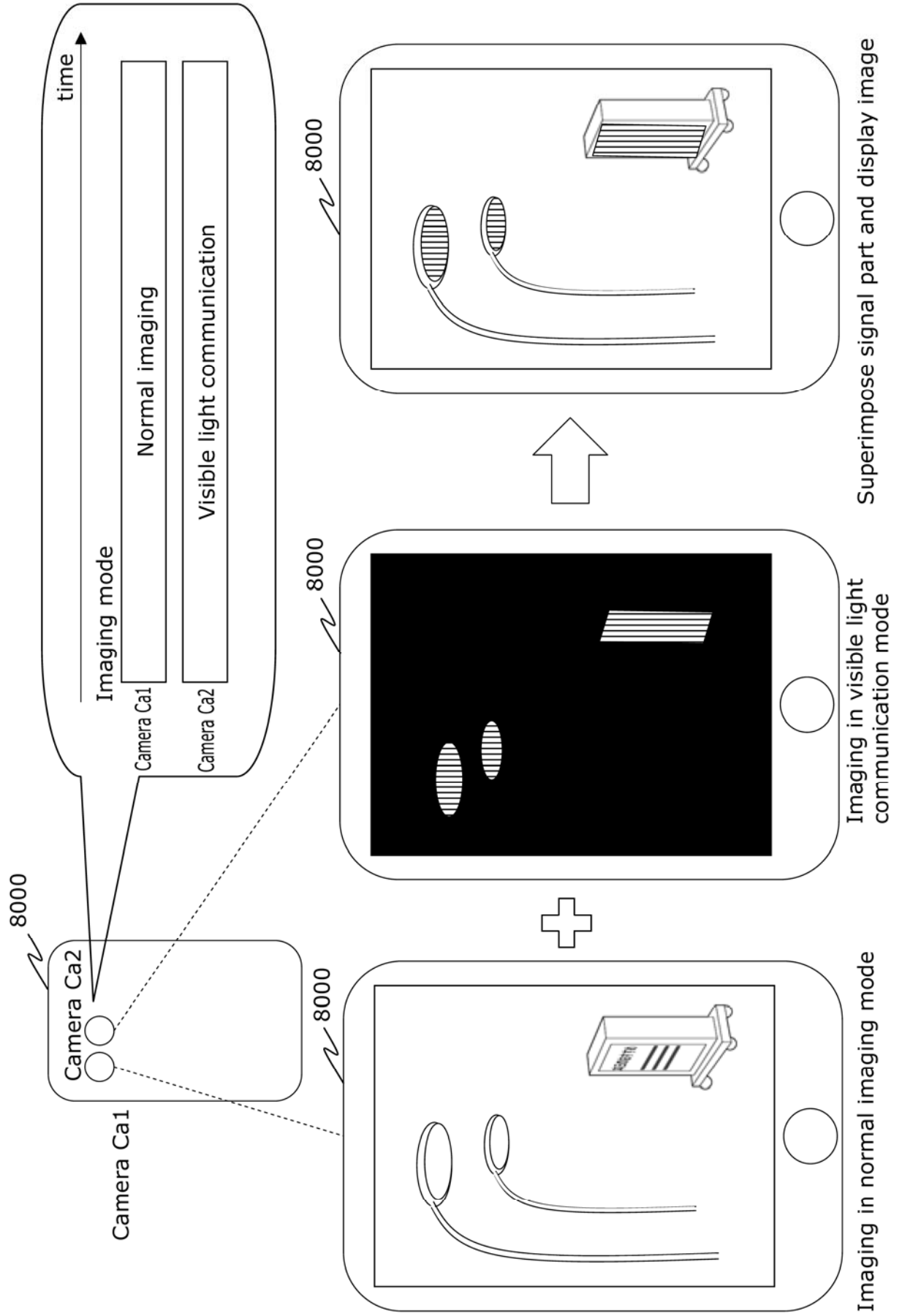


FIG. 338A

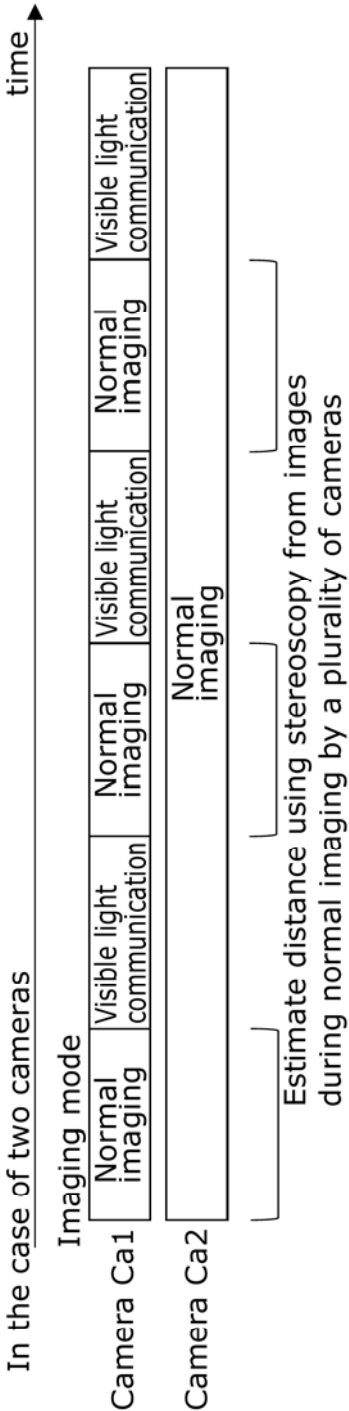


FIG. 338B

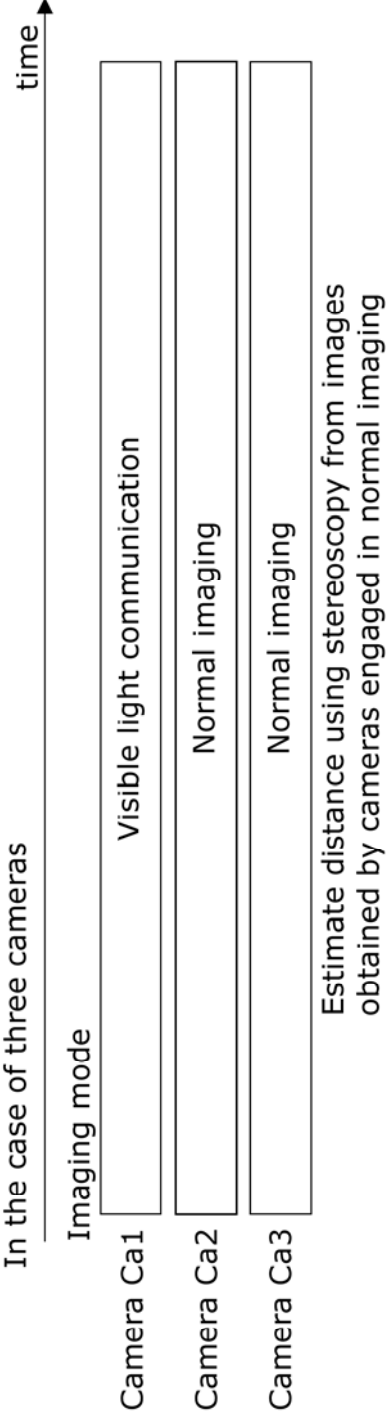


FIG. 338C

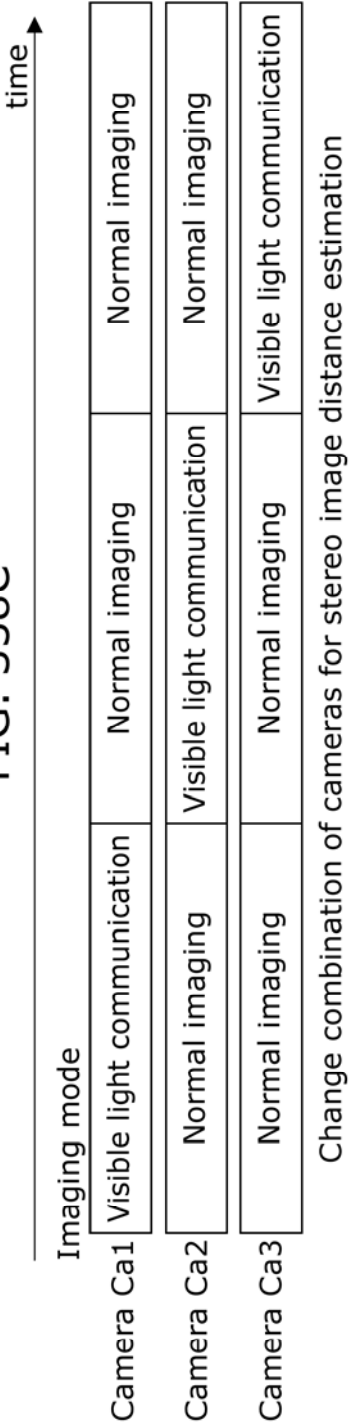
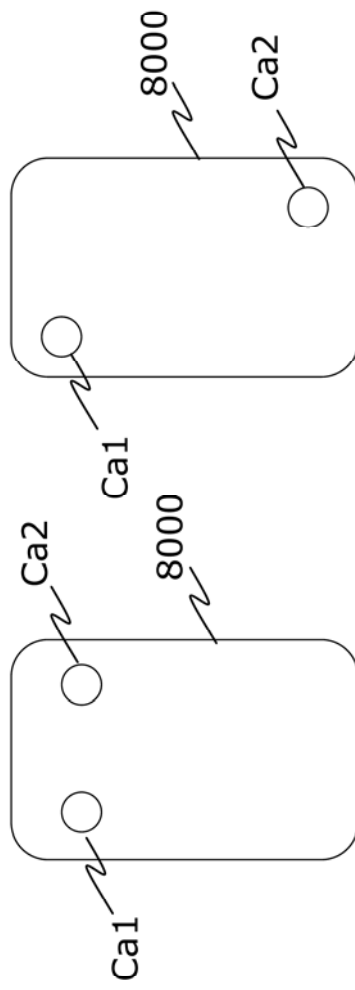


FIG. 339A

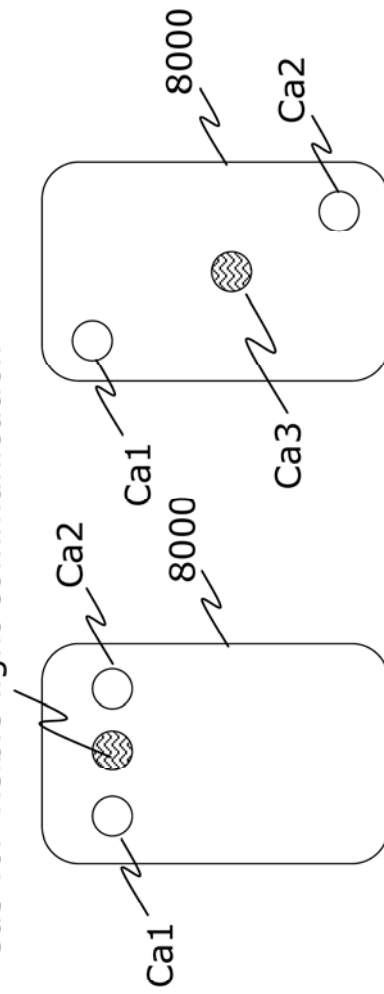
In the case of
two cameras



Cameras are preferably away from each other in the case of performing
stereo image distance estimation

FIG. 339B

In the case of
three cameras



Perform stereo image distance estimation using cameras farthest away from
each other, and perform visible light communication using other camera

FIG. 340

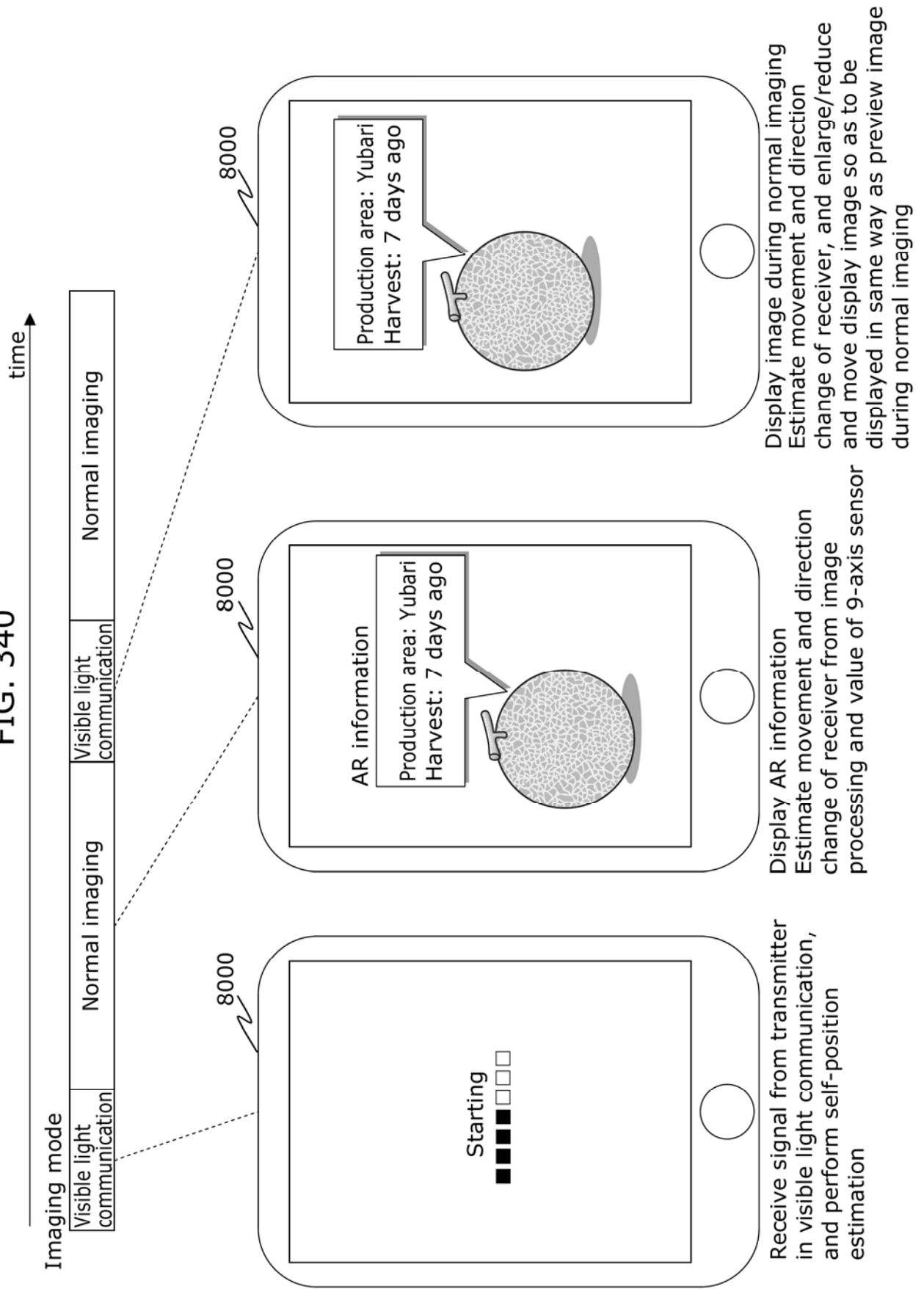


FIG. 341

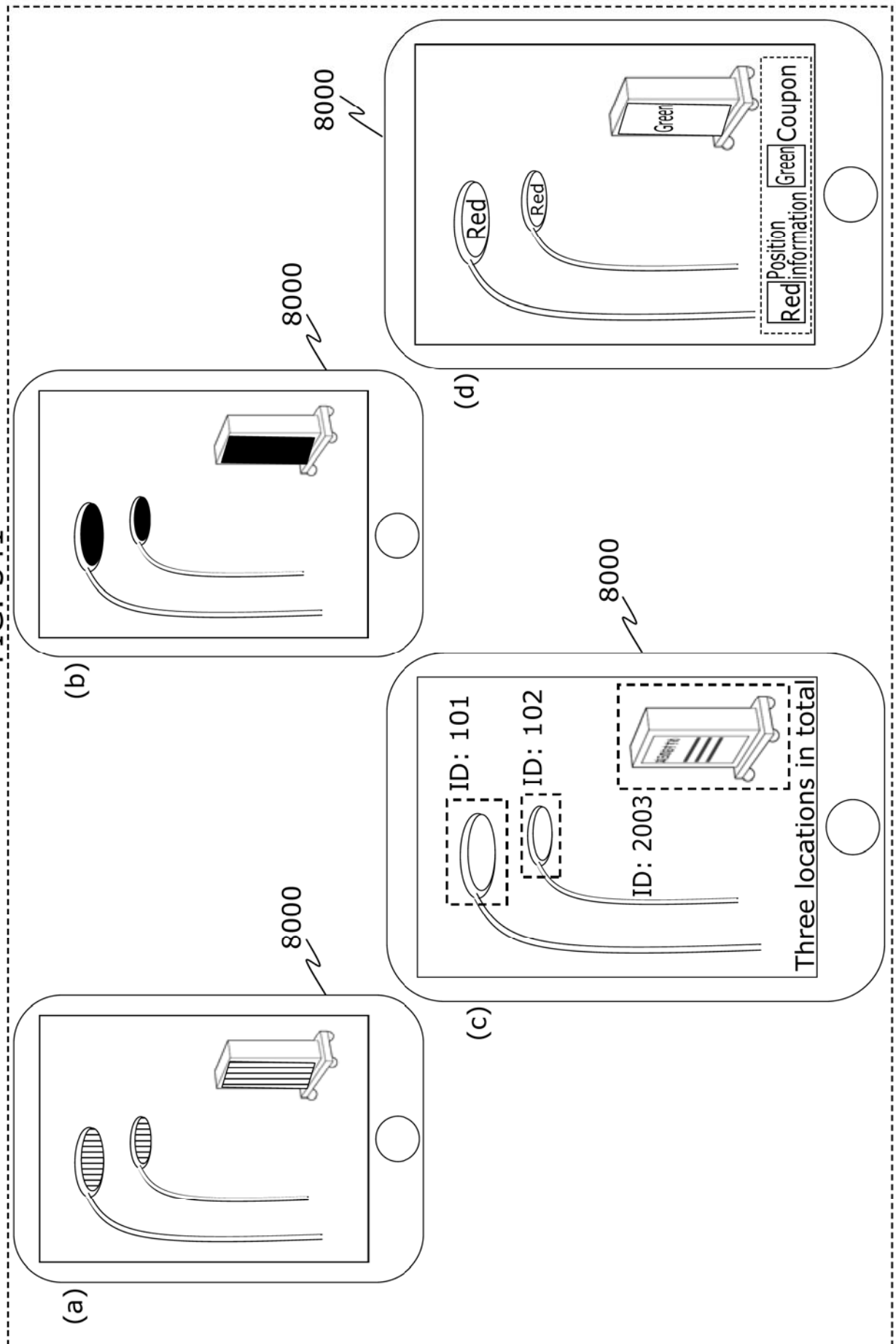


FIG. 342

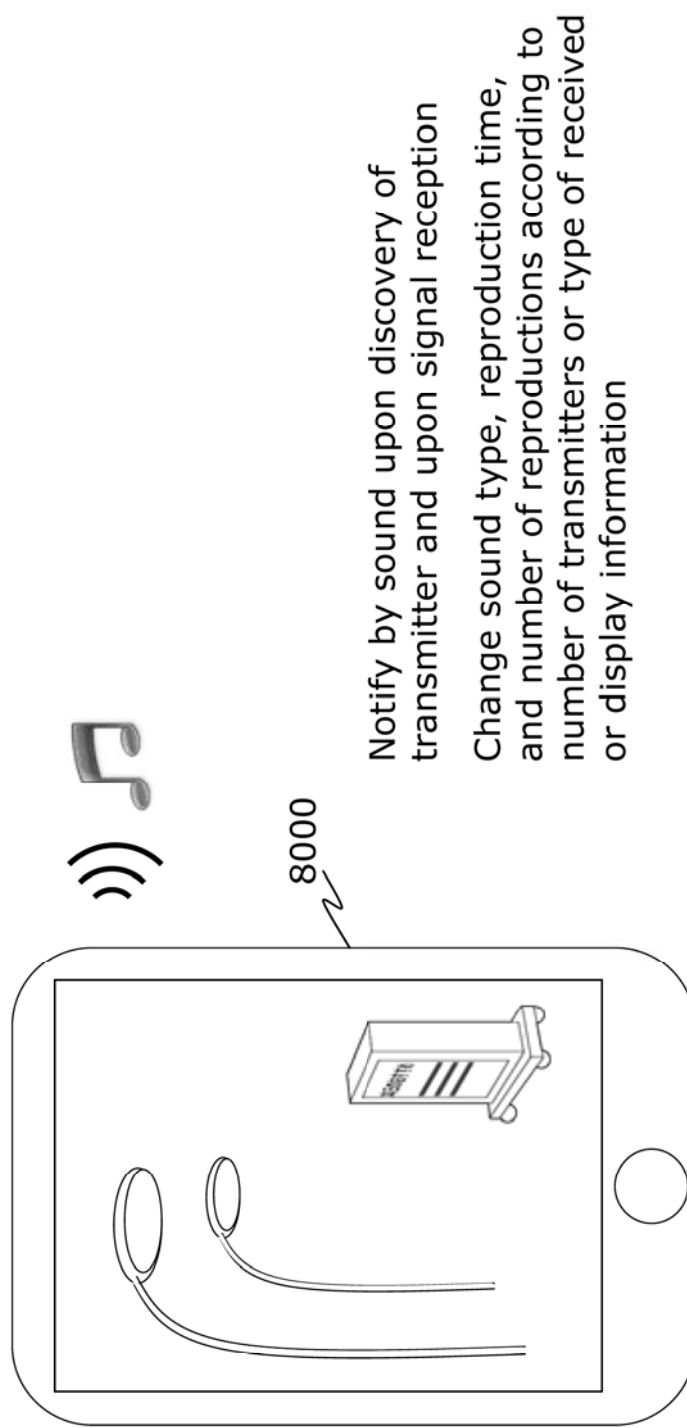


FIG. 343

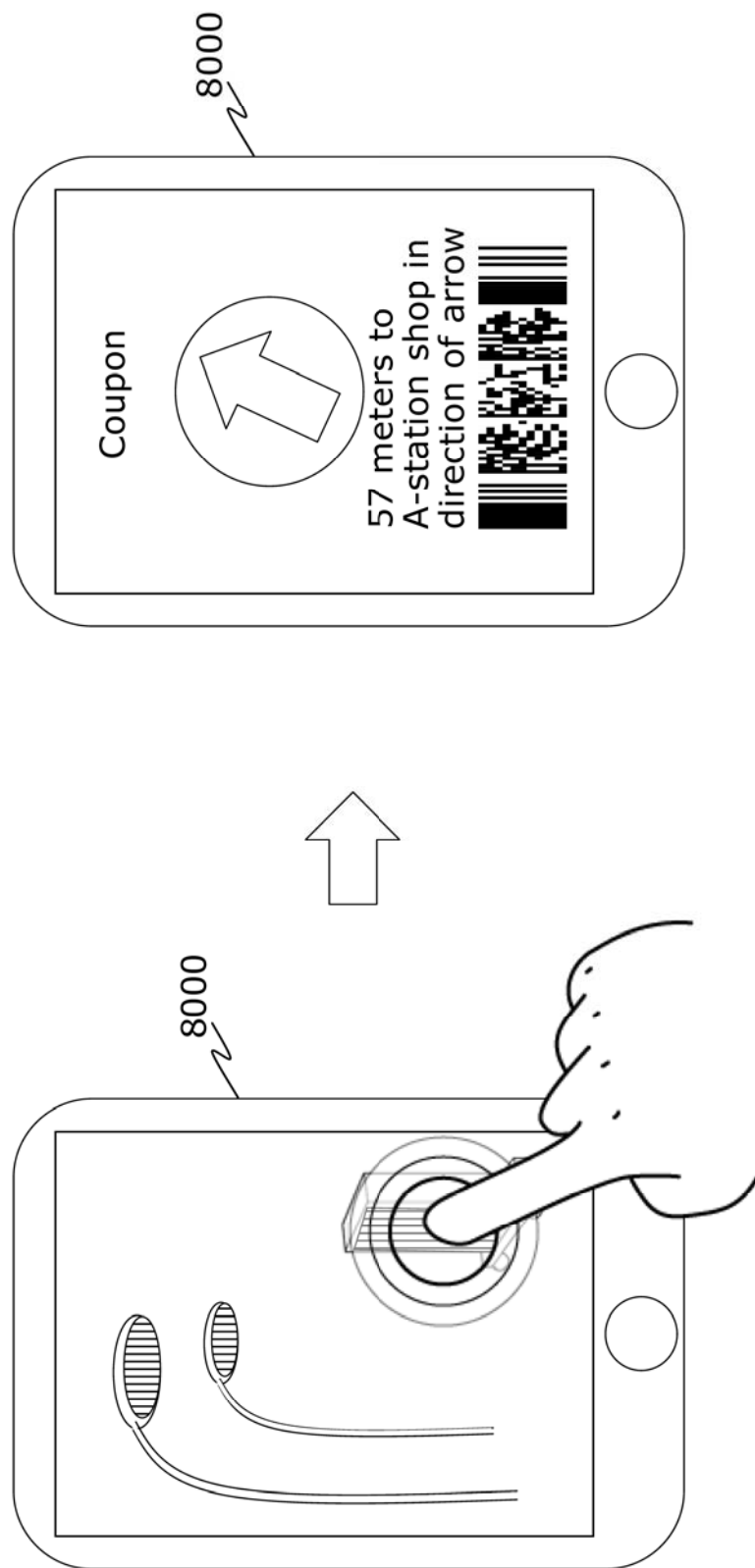


FIG. 344

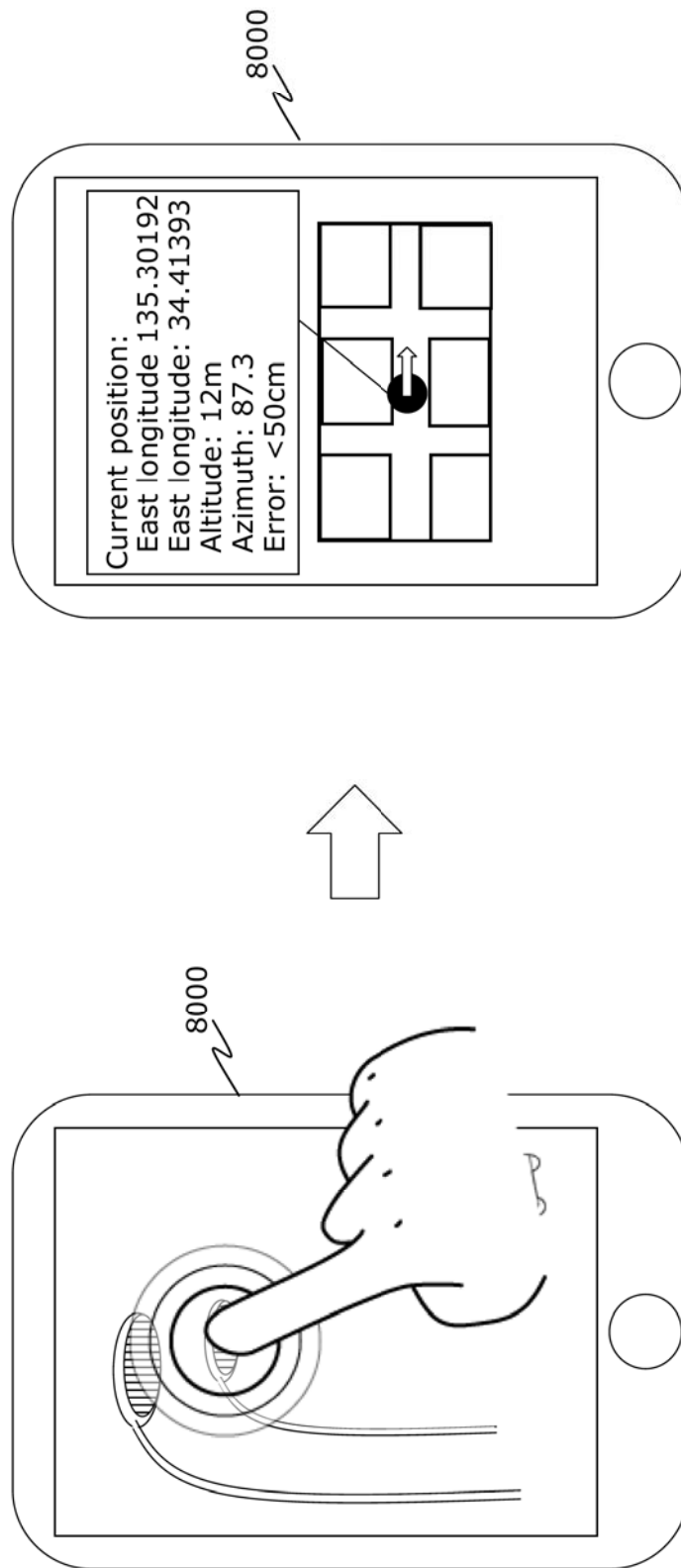


FIG. 345

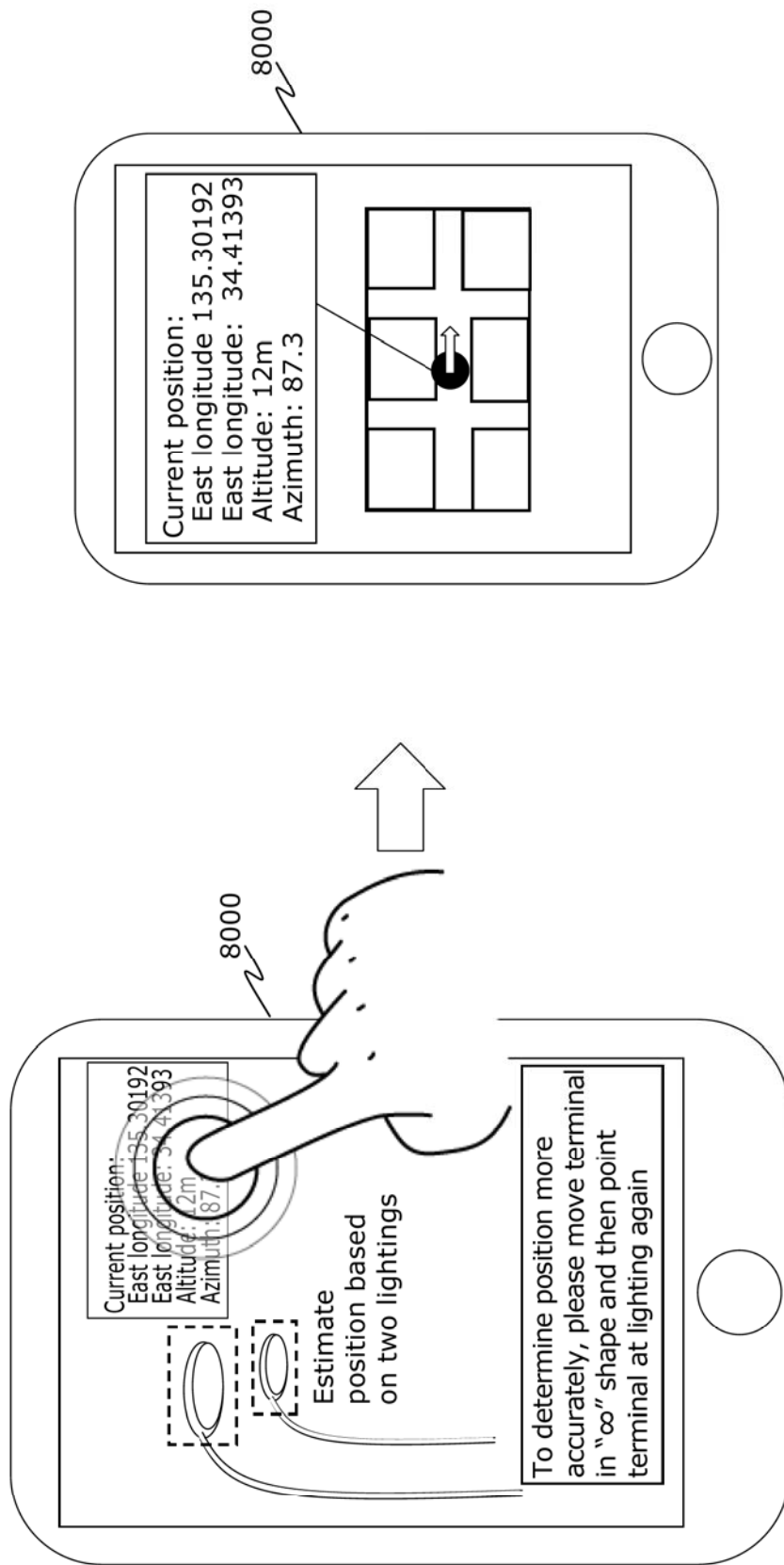


FIG. 346

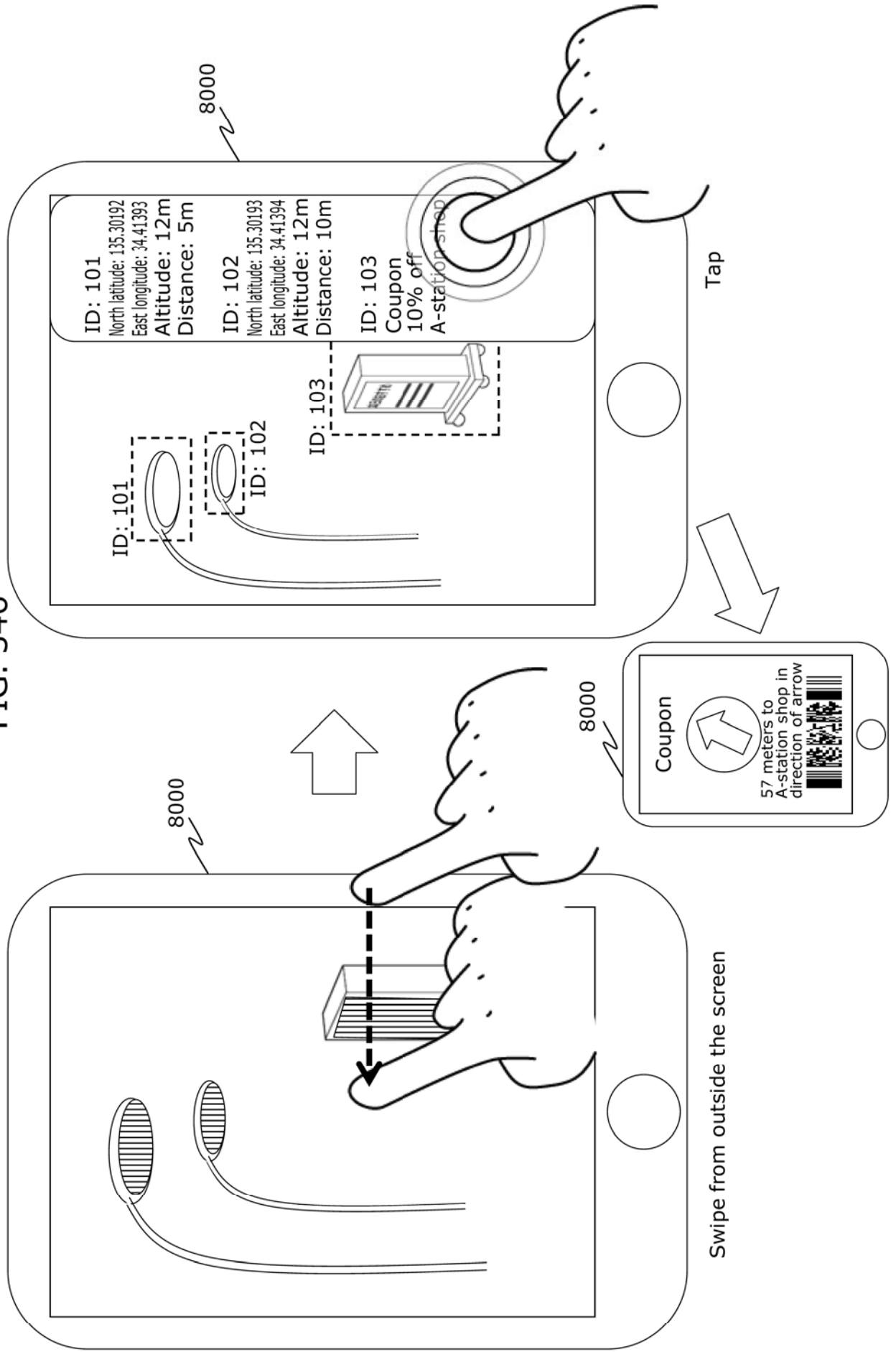


FIG. 347

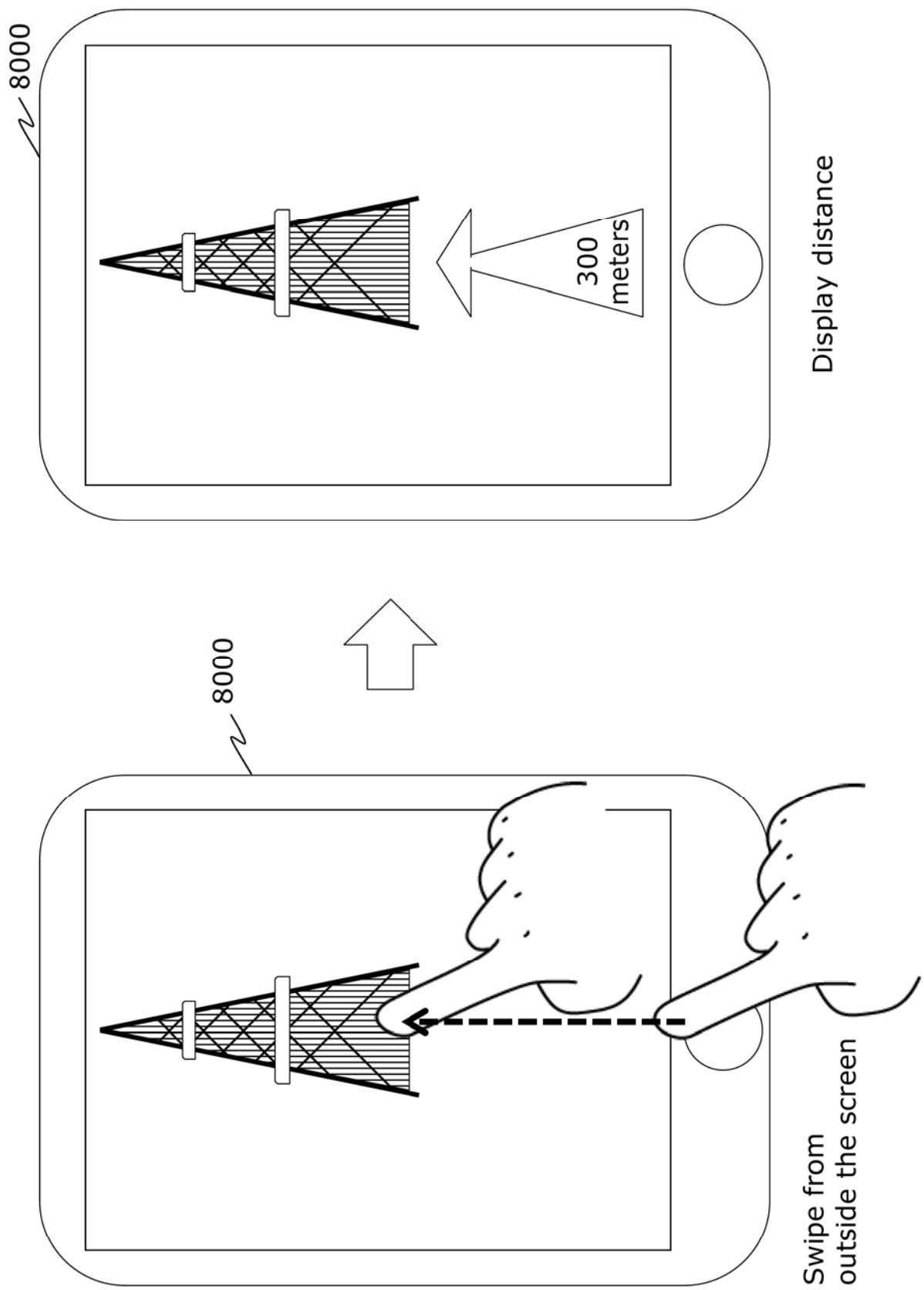


FIG. 348

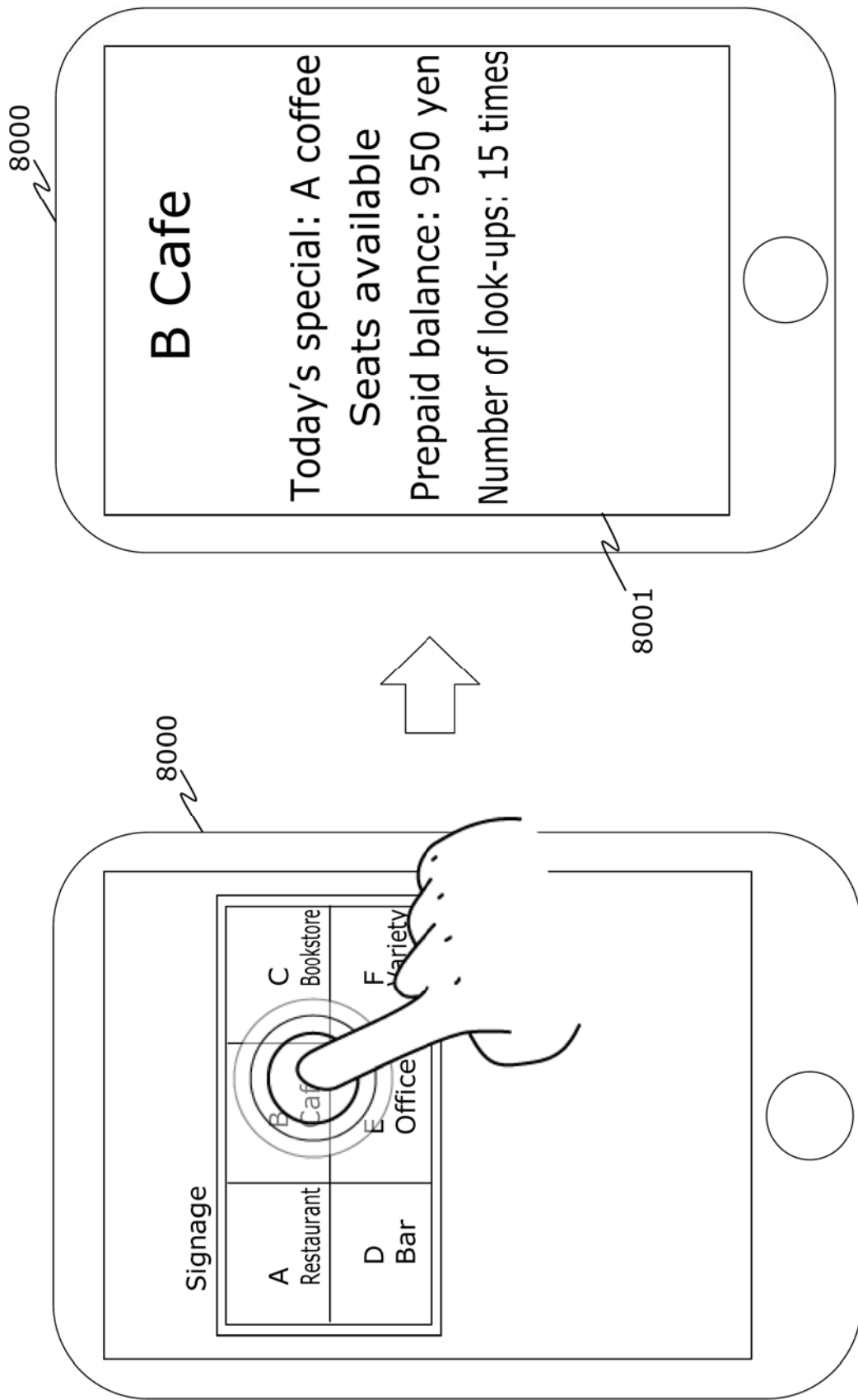


FIG. 349

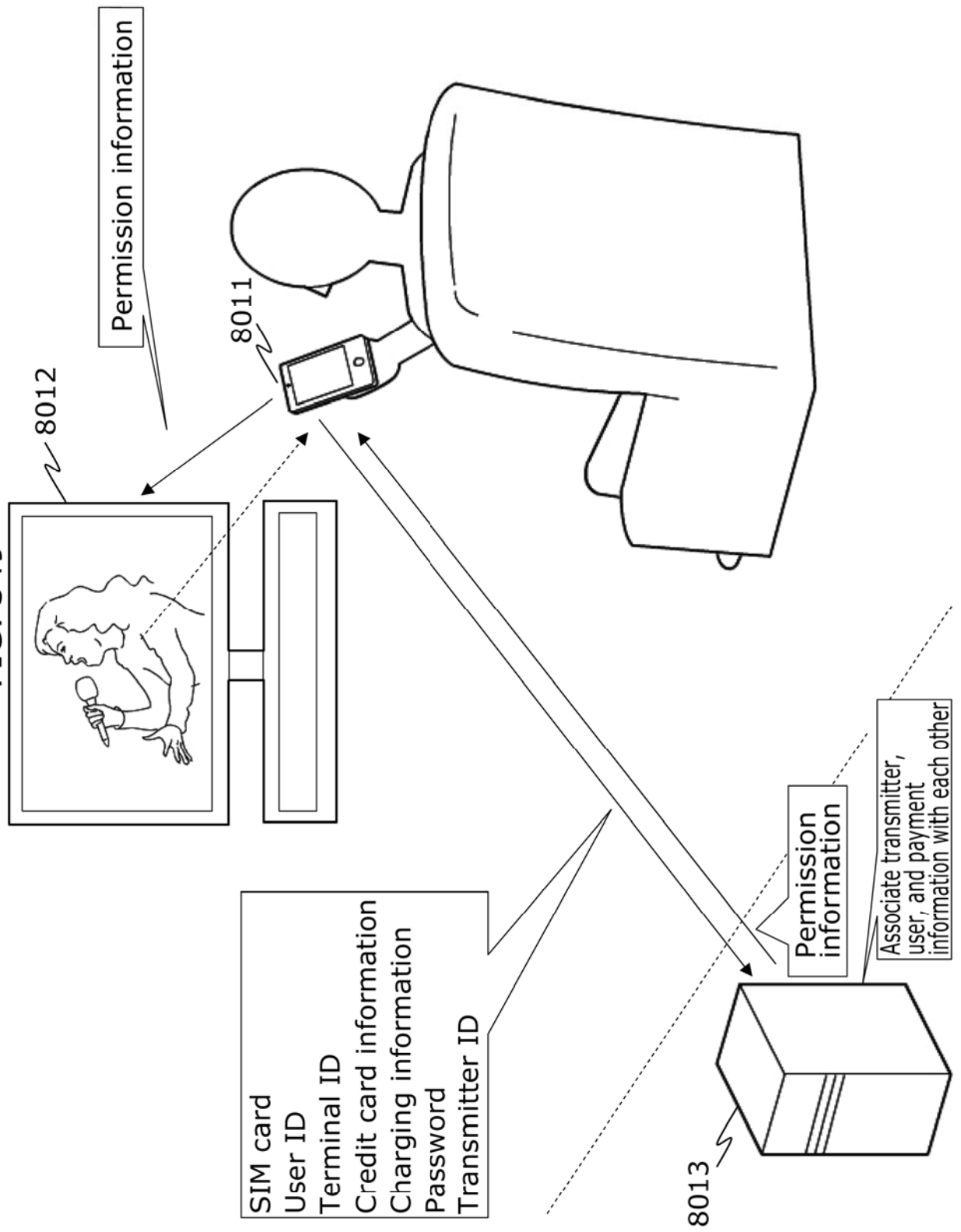


FIG. 350

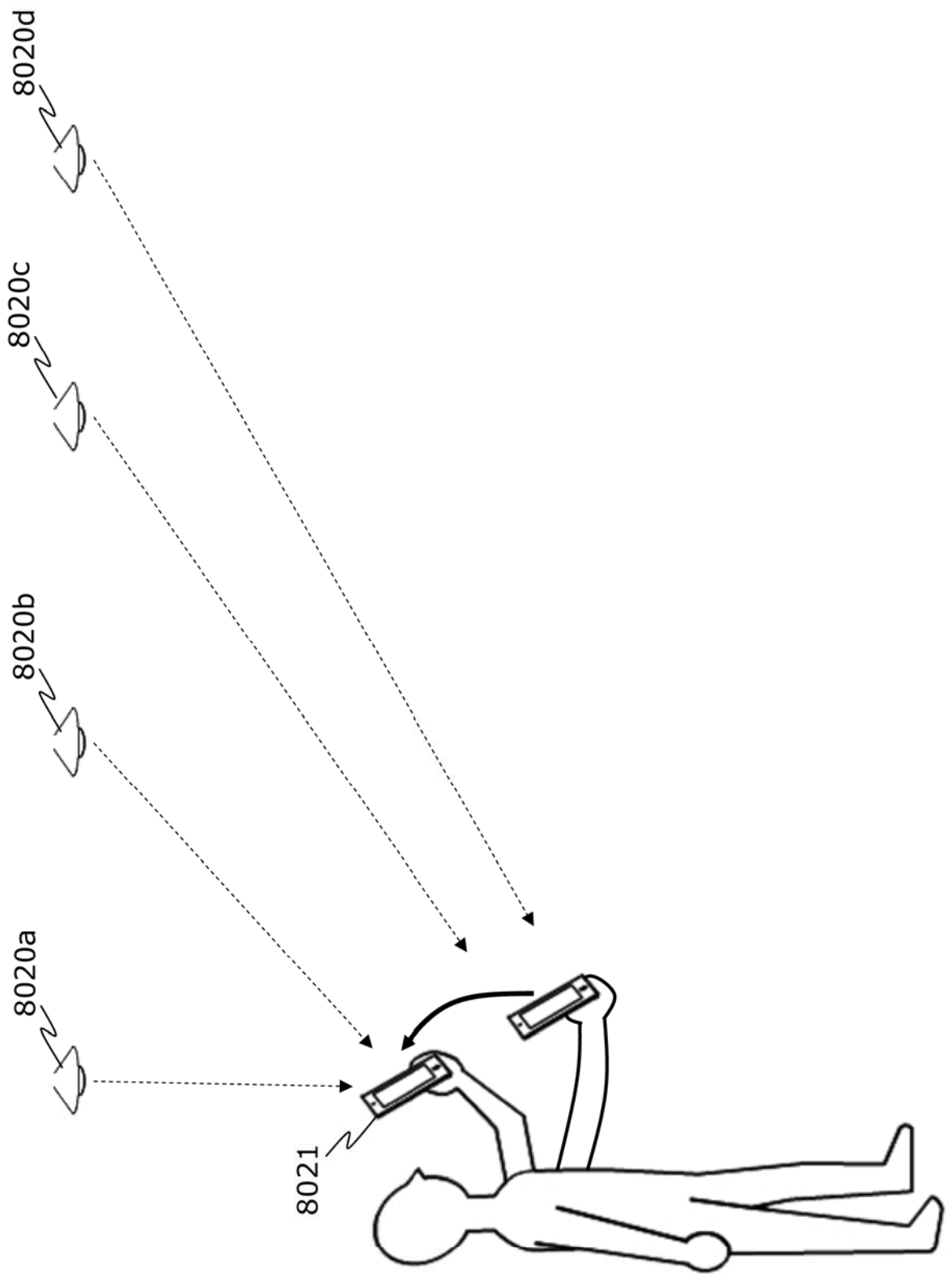


FIG. 351

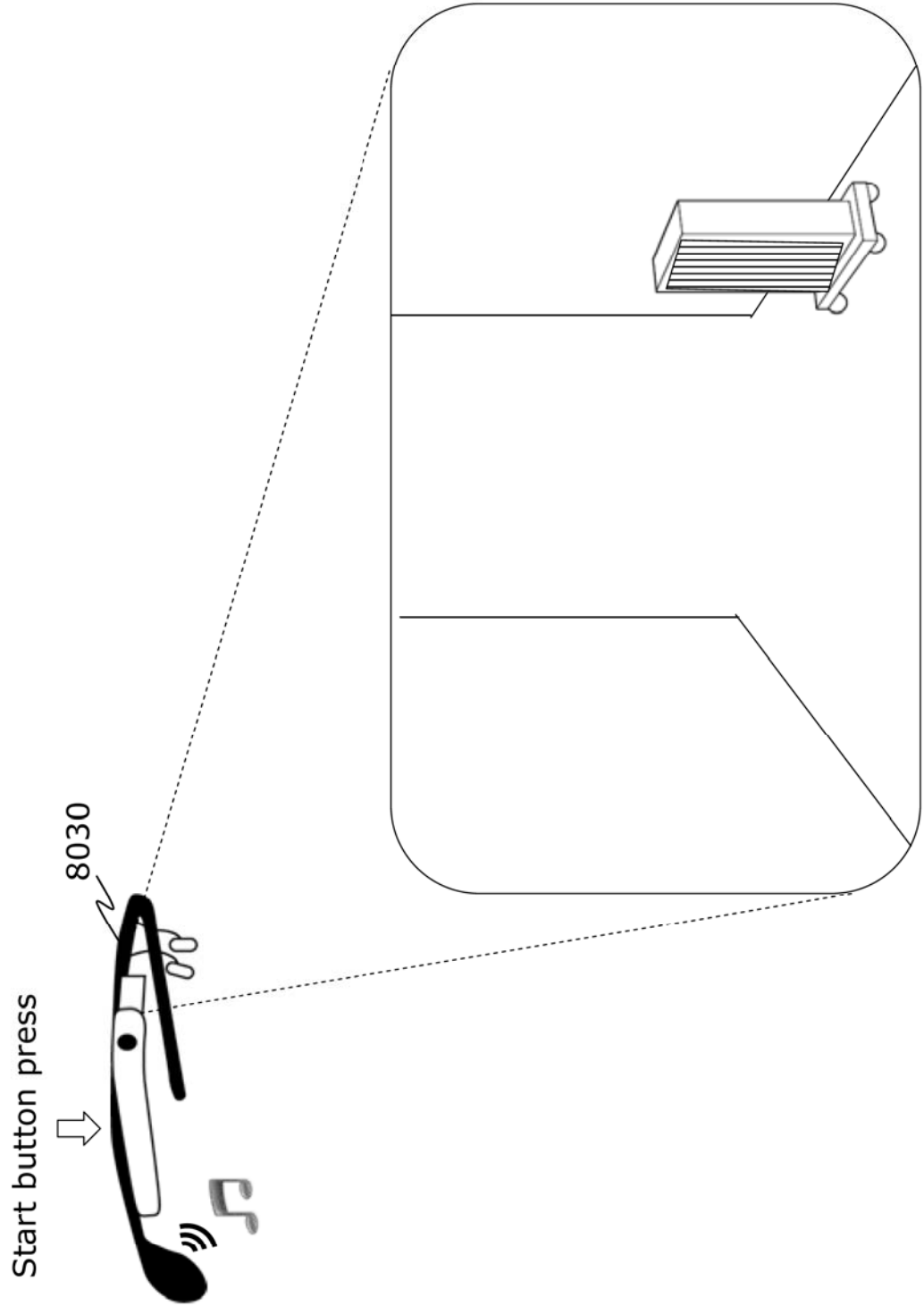
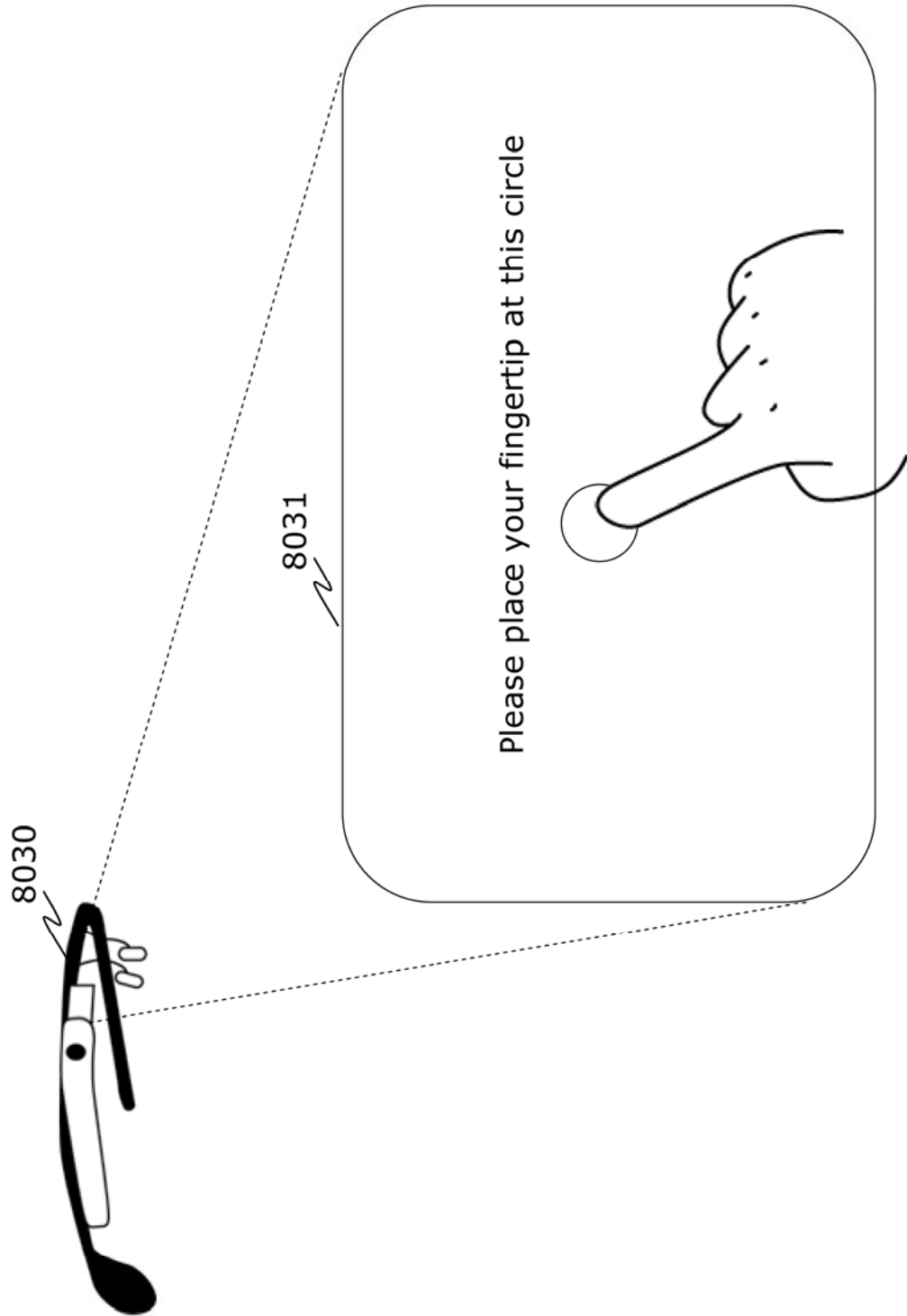


FIG. 352



Alignment of display position and imaging position

FIG. 353

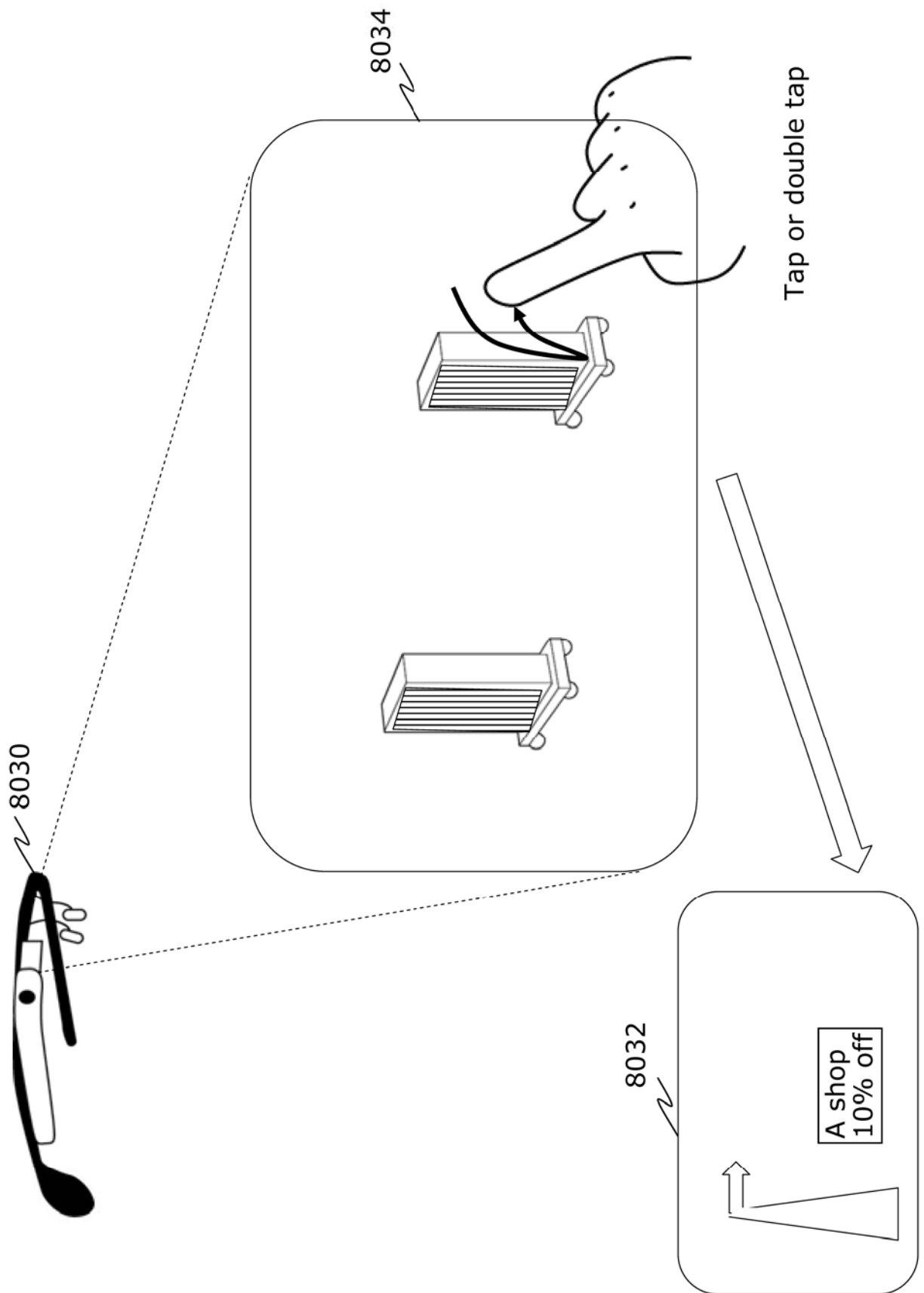


FIG. 354

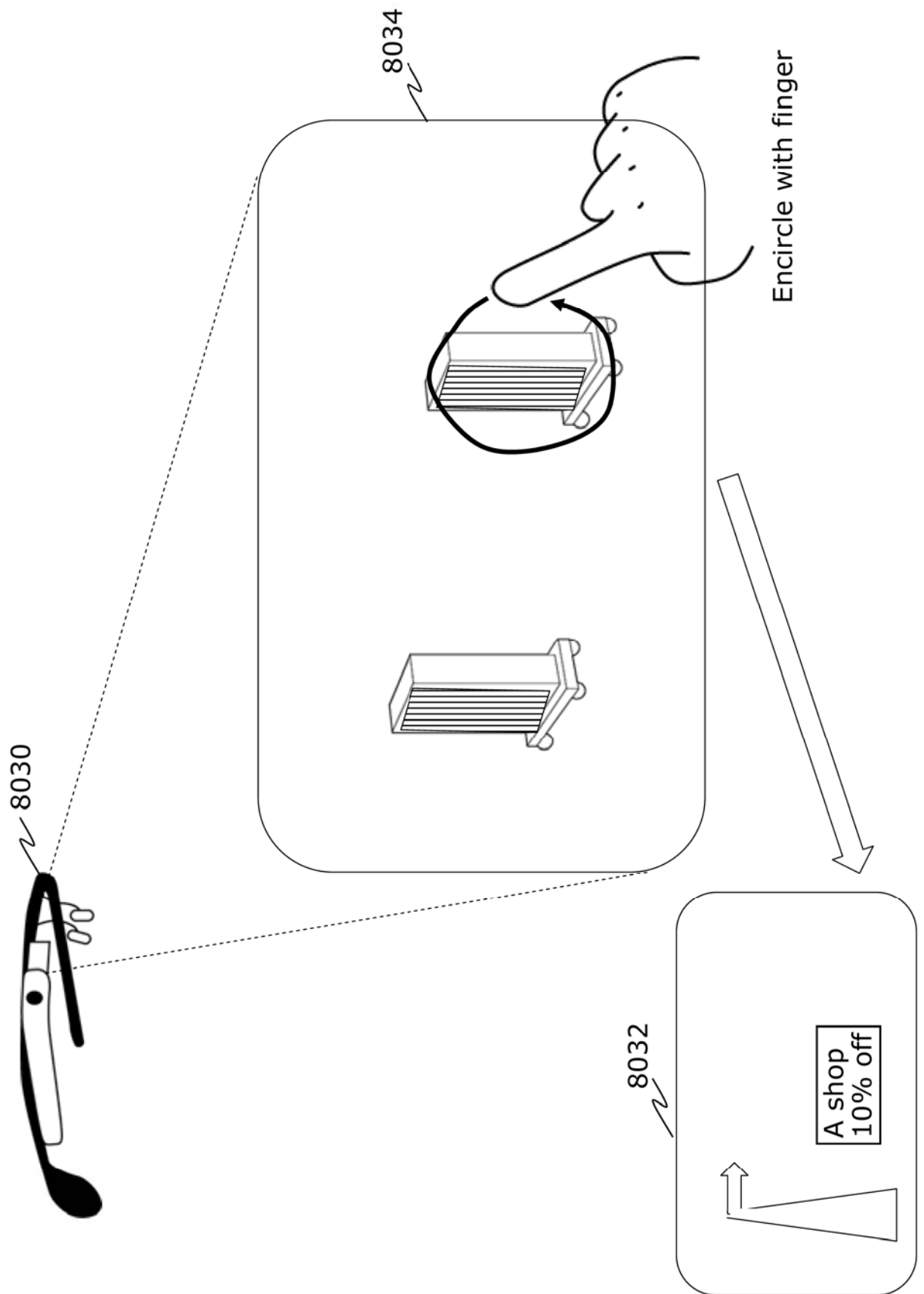


FIG. 355

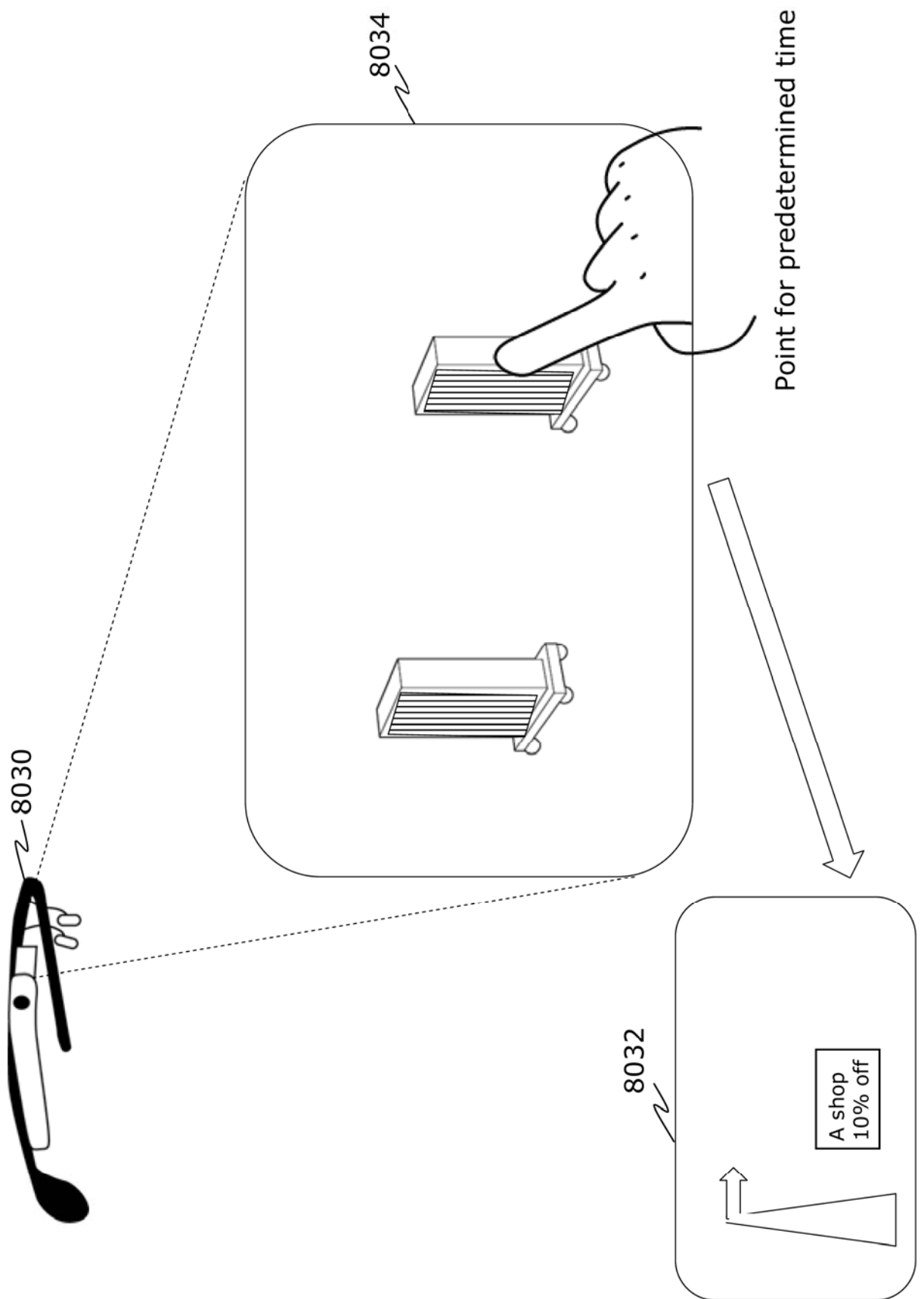


FIG. 356

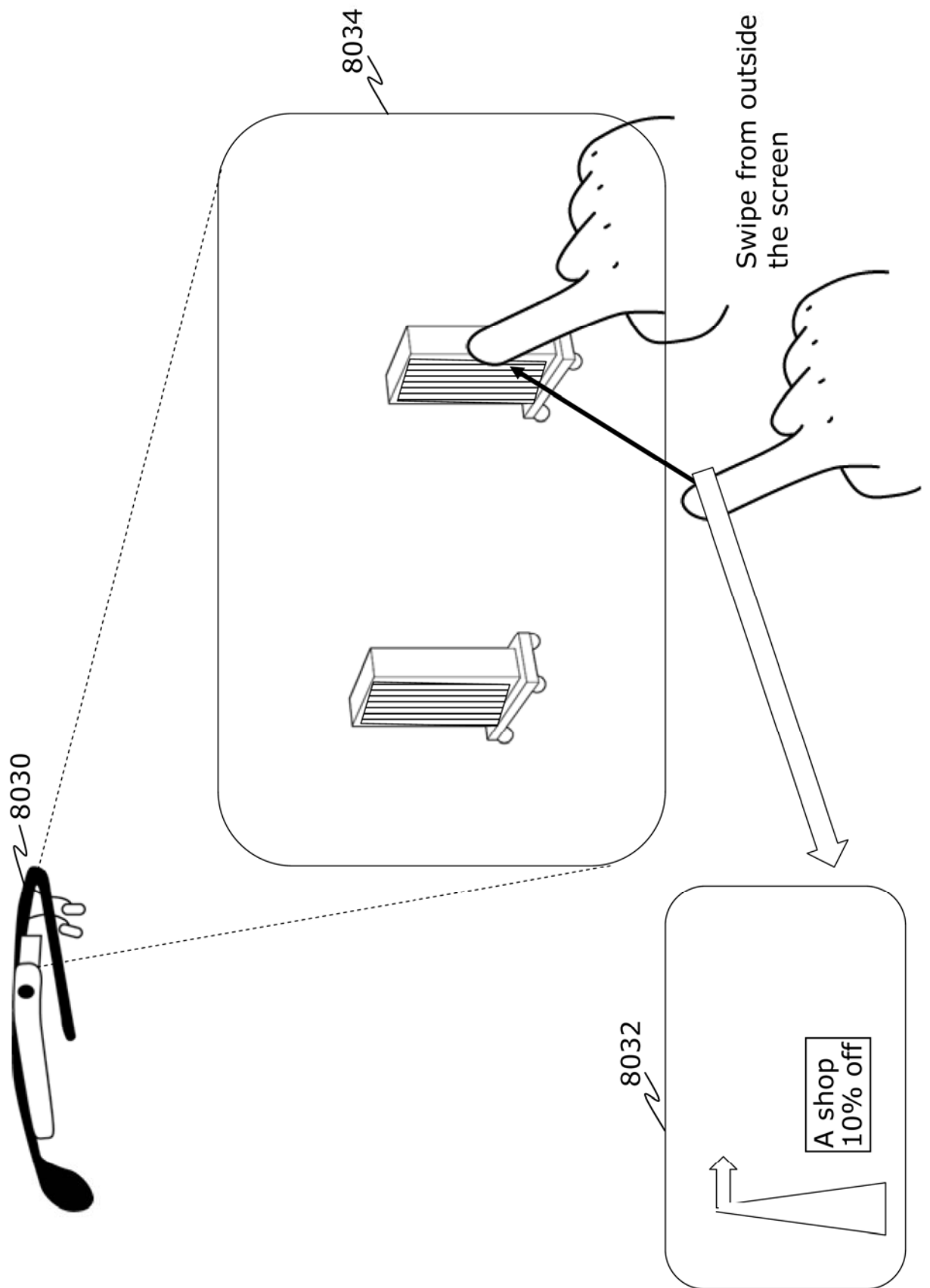


FIG. 357

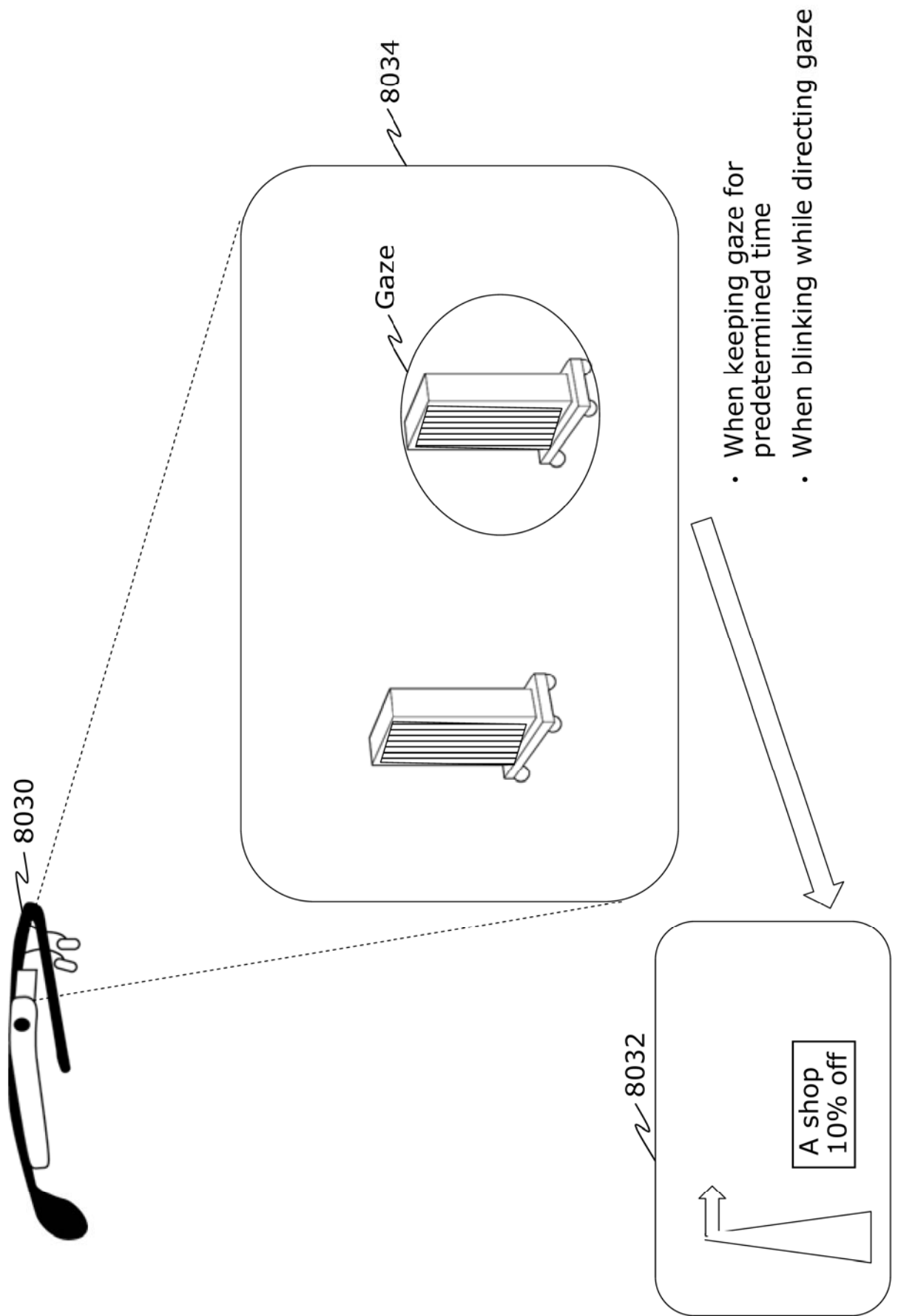


FIG. 358

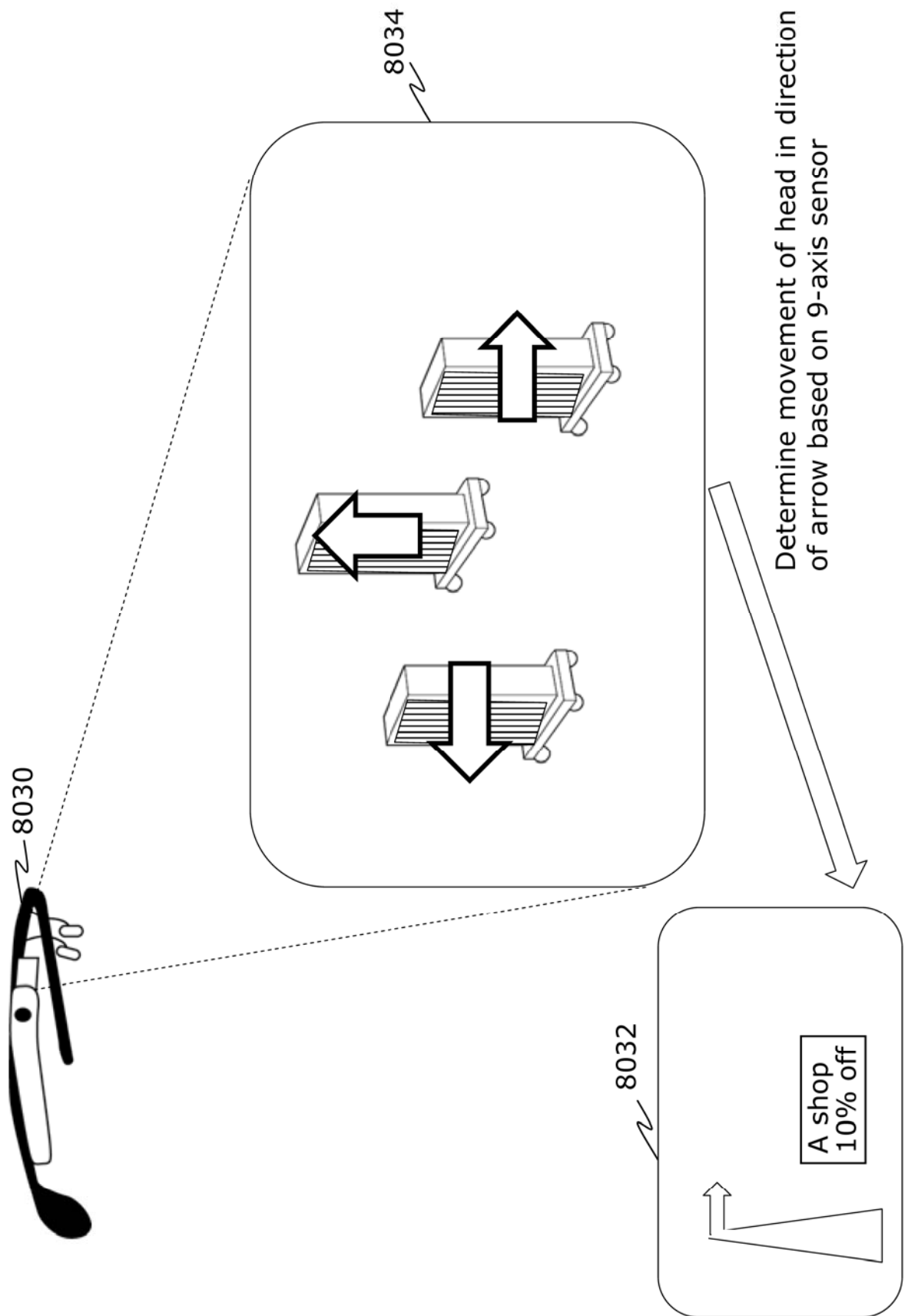


FIG. 359A

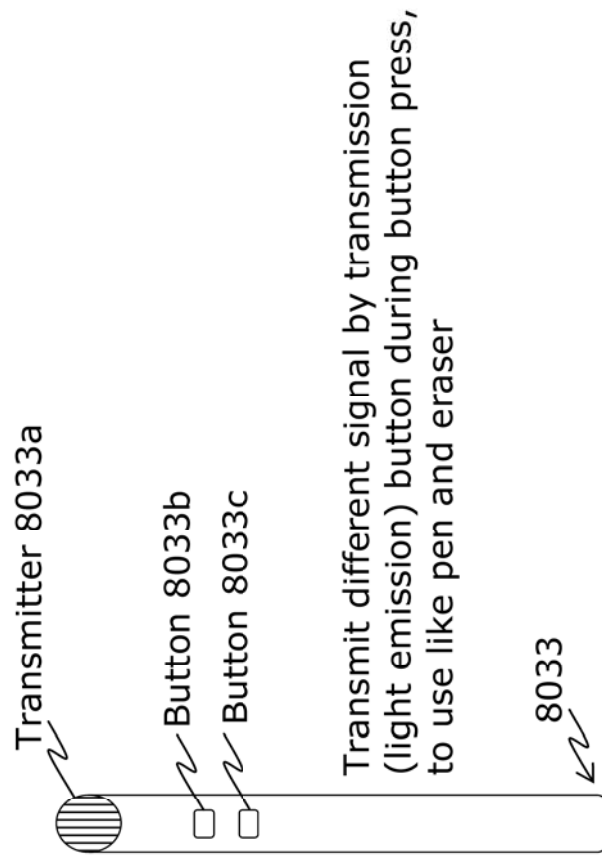


FIG. 359B

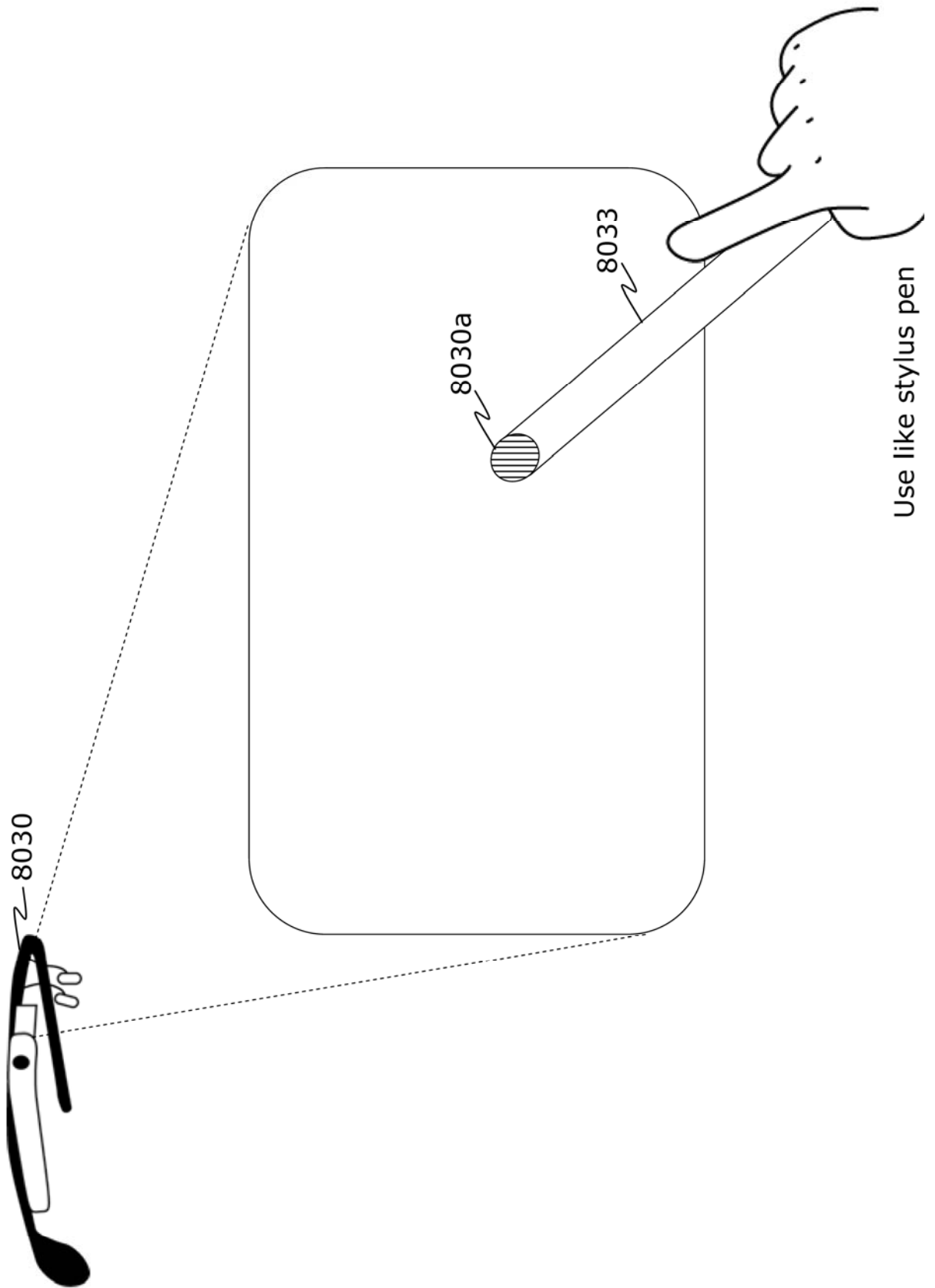


FIG. 360

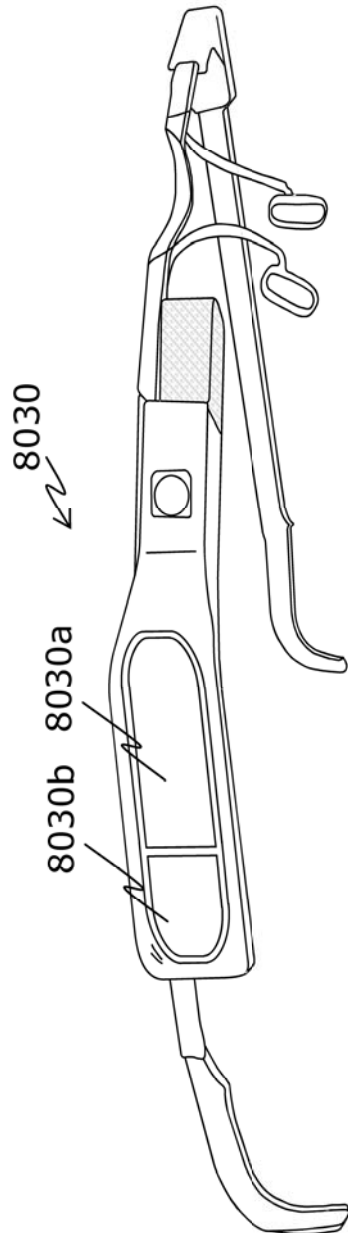


FIG. 361

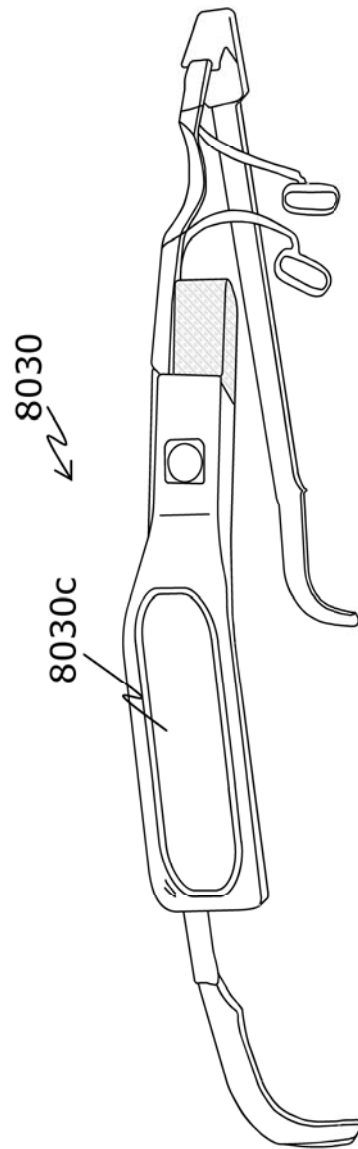


FIG. 362

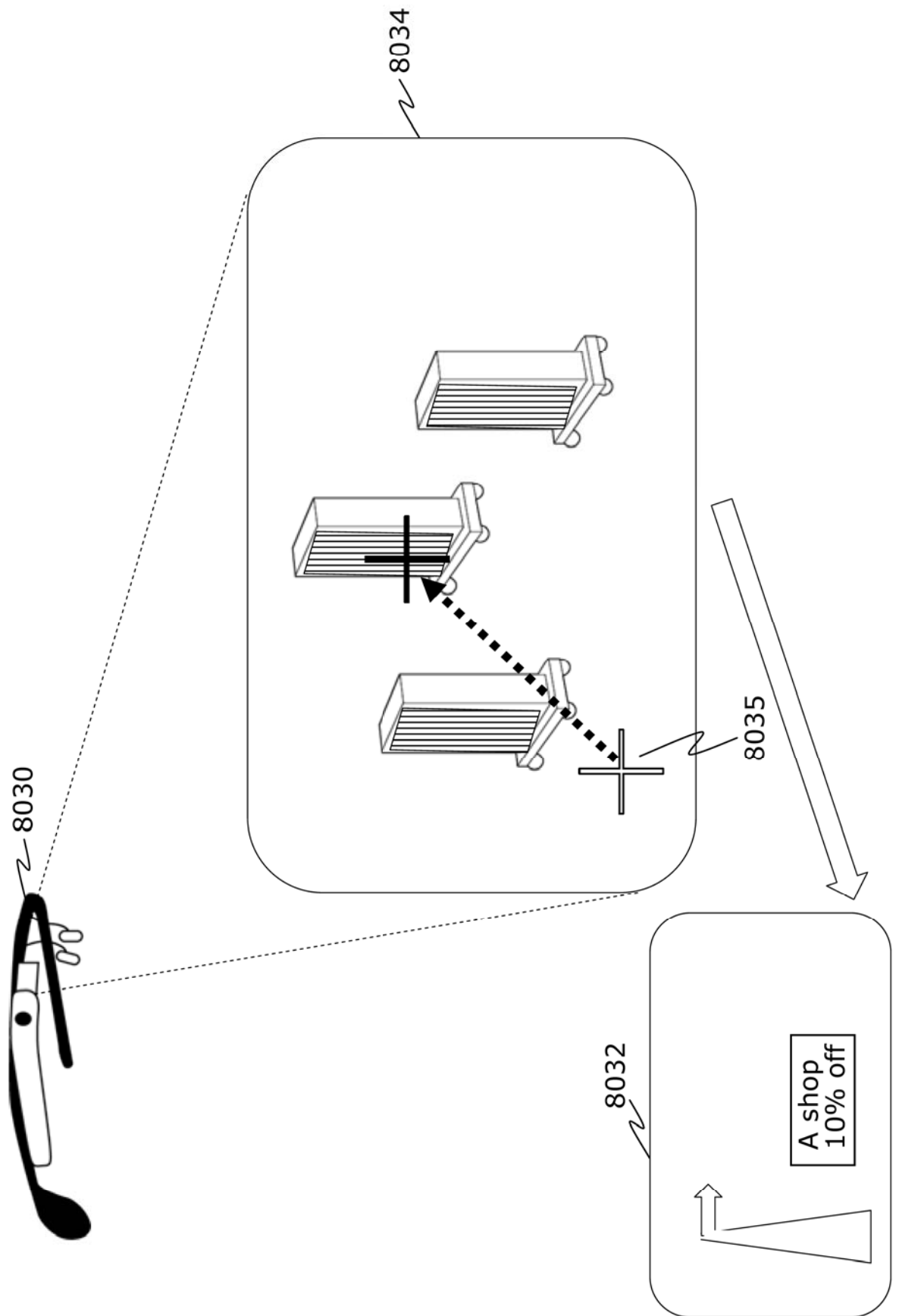


FIG. 363A

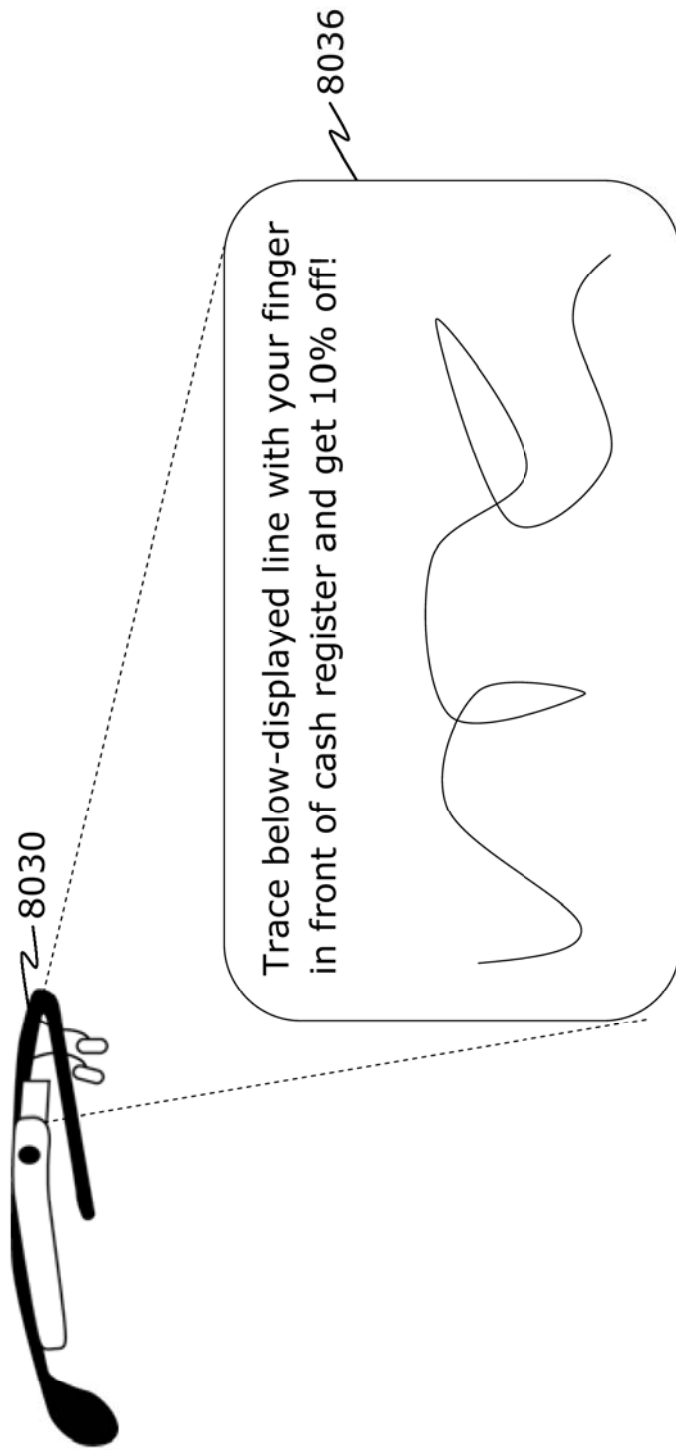


FIG. 363B

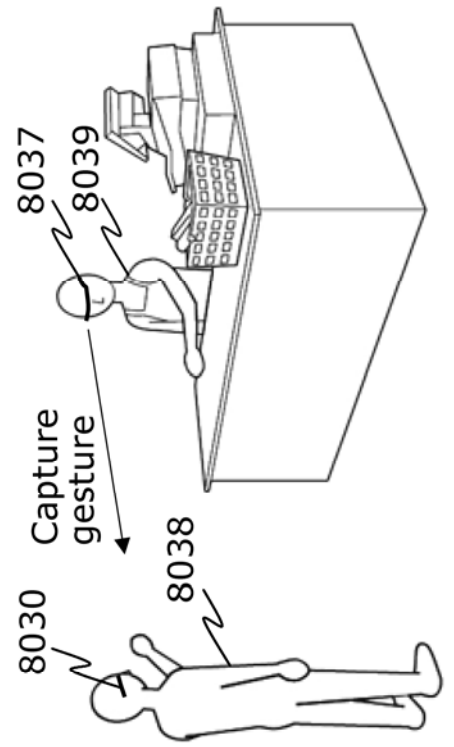


FIG. 364A

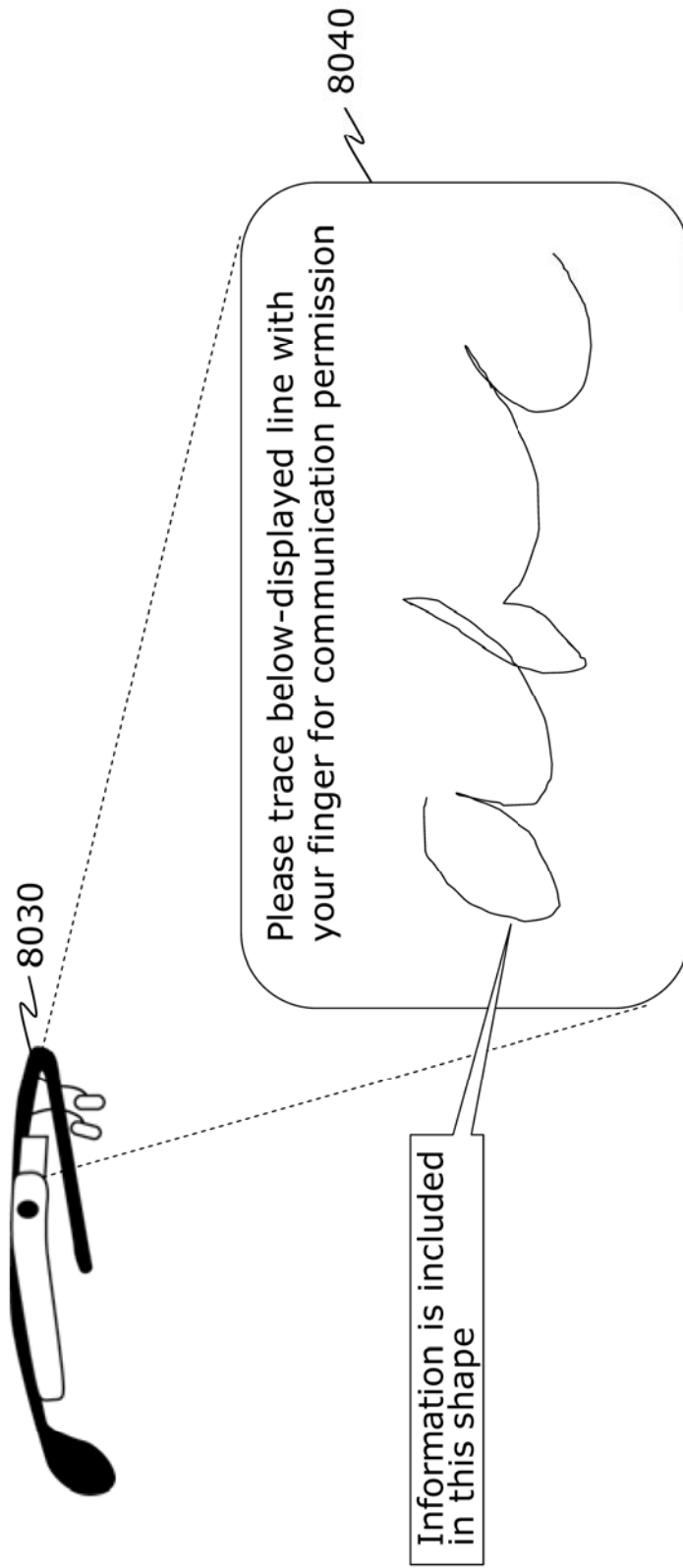


FIG. 364B

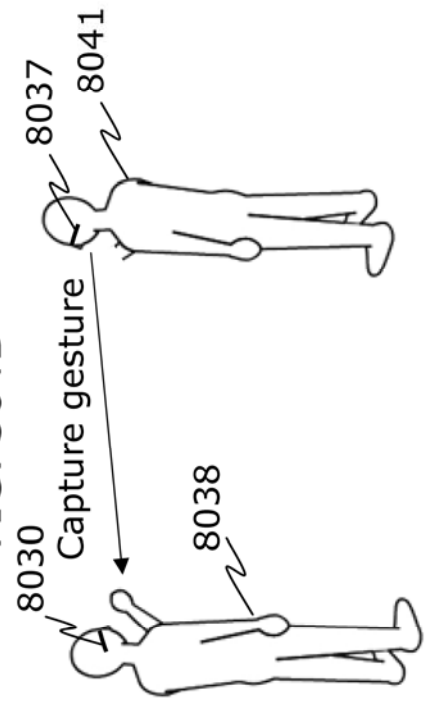
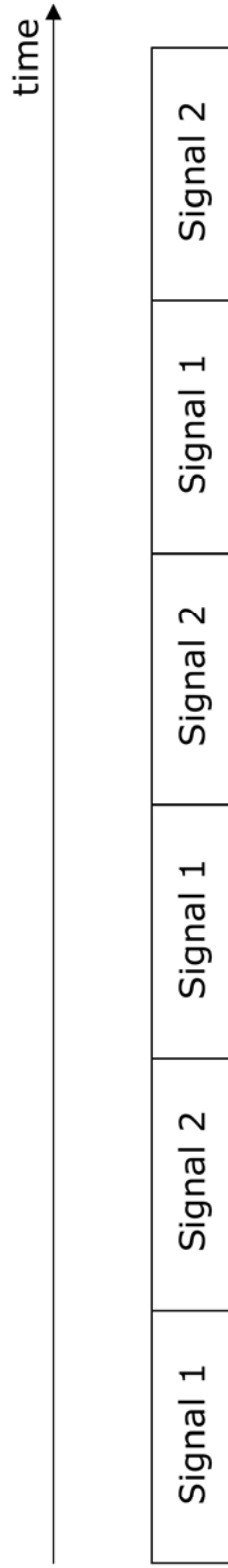


FIG. 365A



Alternately transmit signals of different types

FIG. 365B

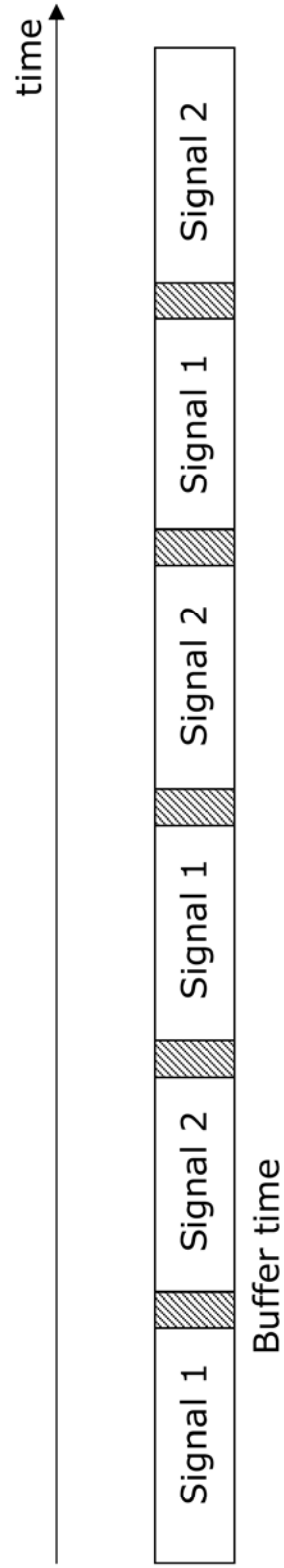


FIG. 366

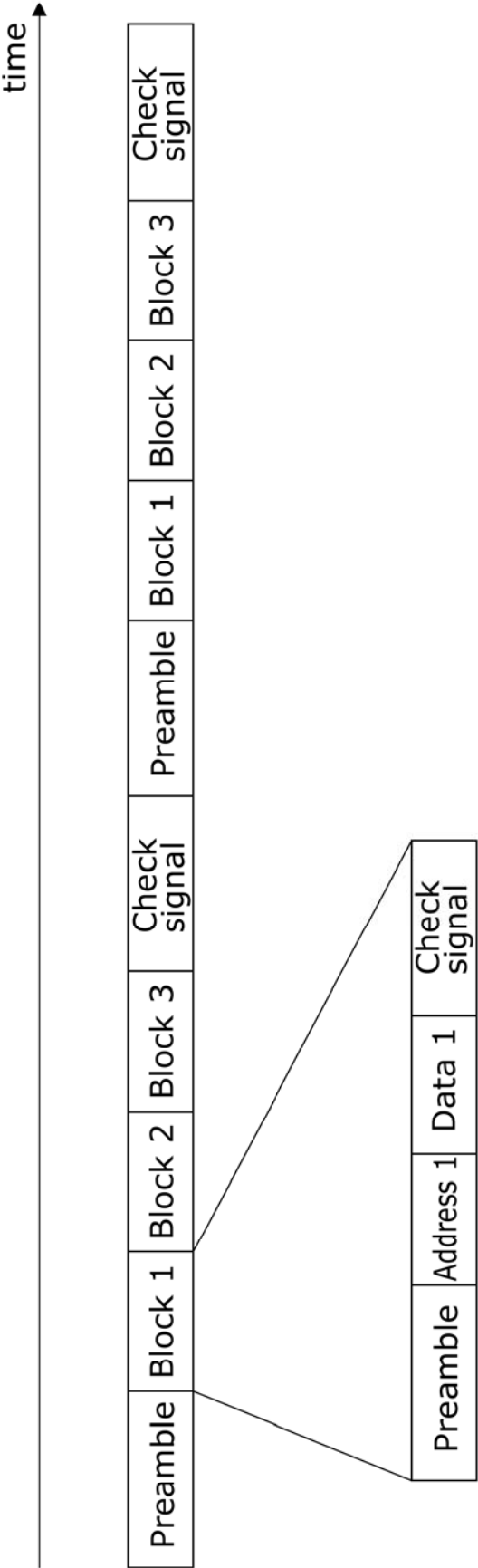


FIG. 367

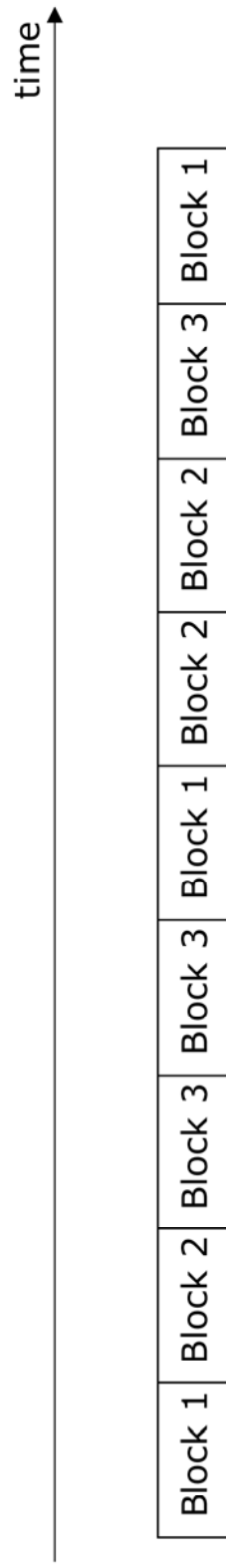
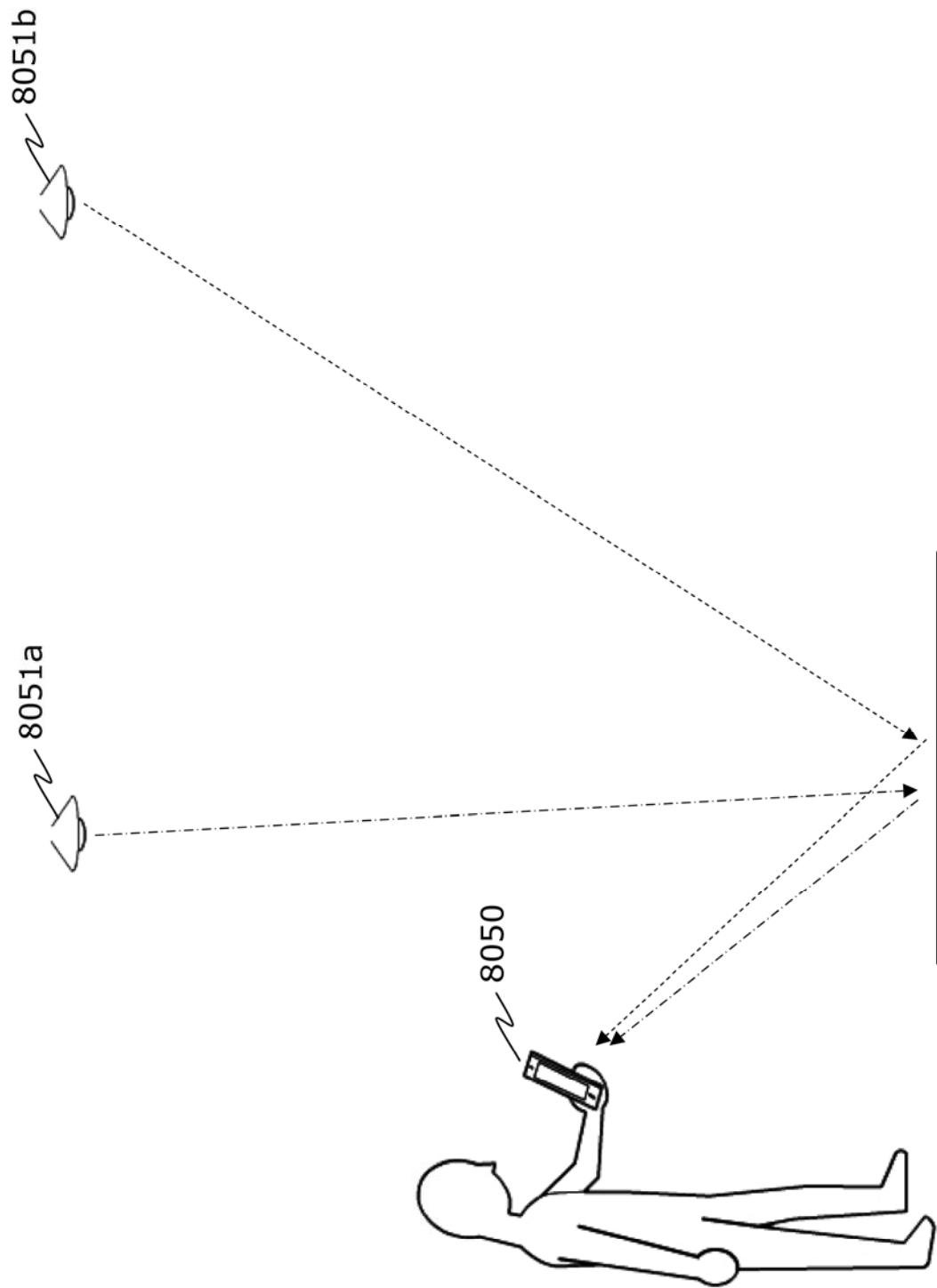
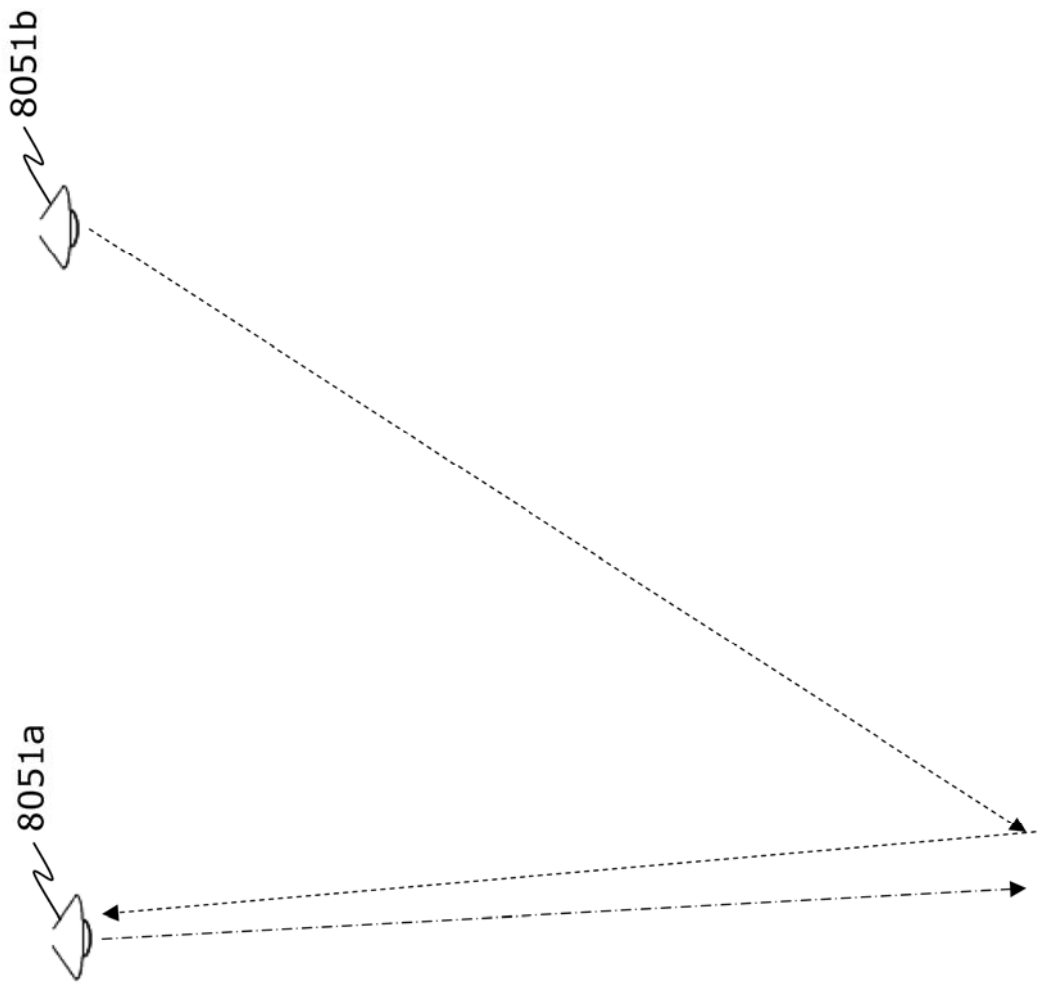


FIG. 368



Nearby positioned transmitters can be received without interference by transmitting signals of different frequencies or protocols

FIG. 369



Transmitter receives signal from other transmitter, and changes transmission protocol or transmits signal in period during which other transmitter is not transmitting signal, to prevent its transmission signal from interfering with transmission signal from other transmitter

FIG. 370

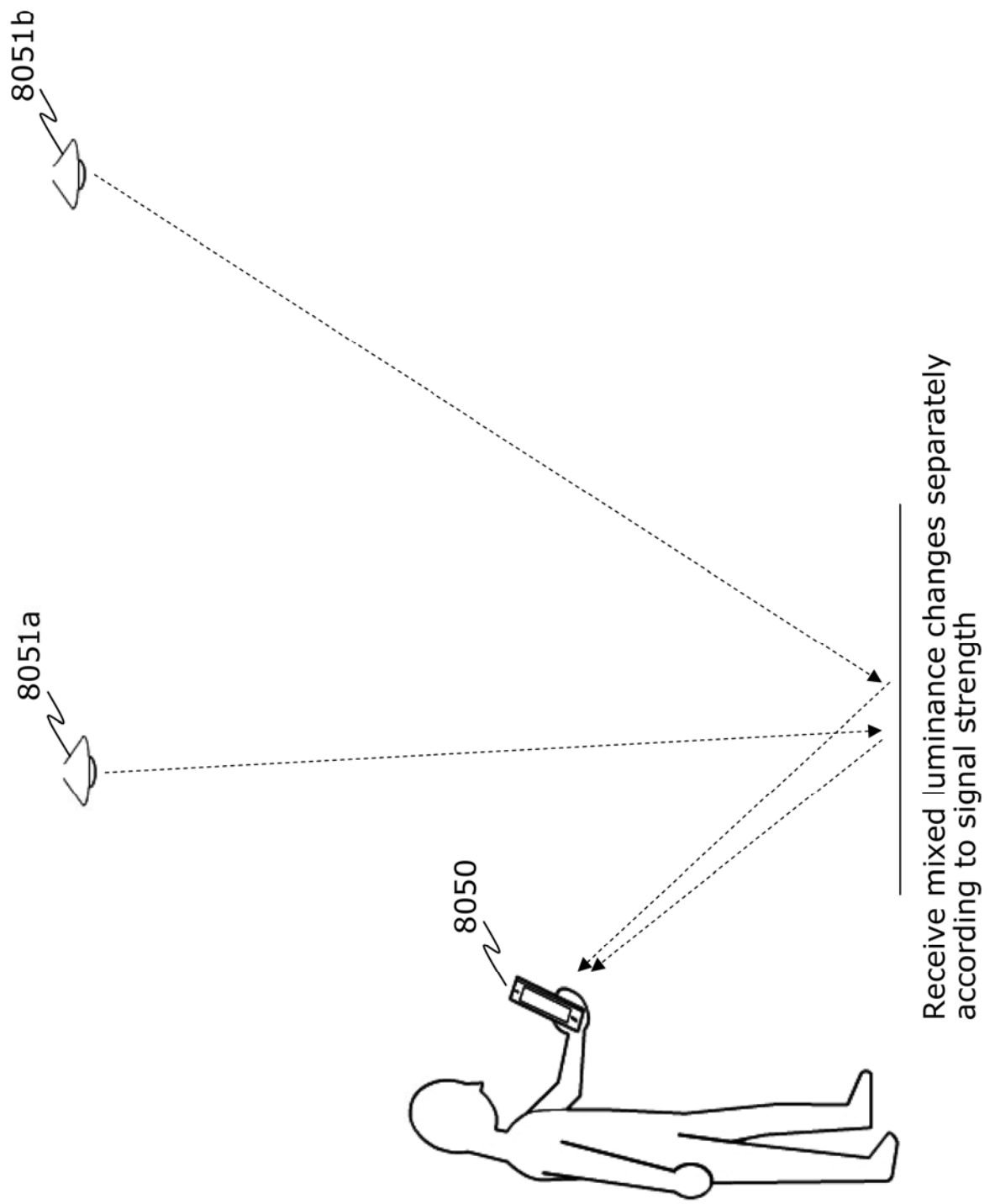


FIG. 371

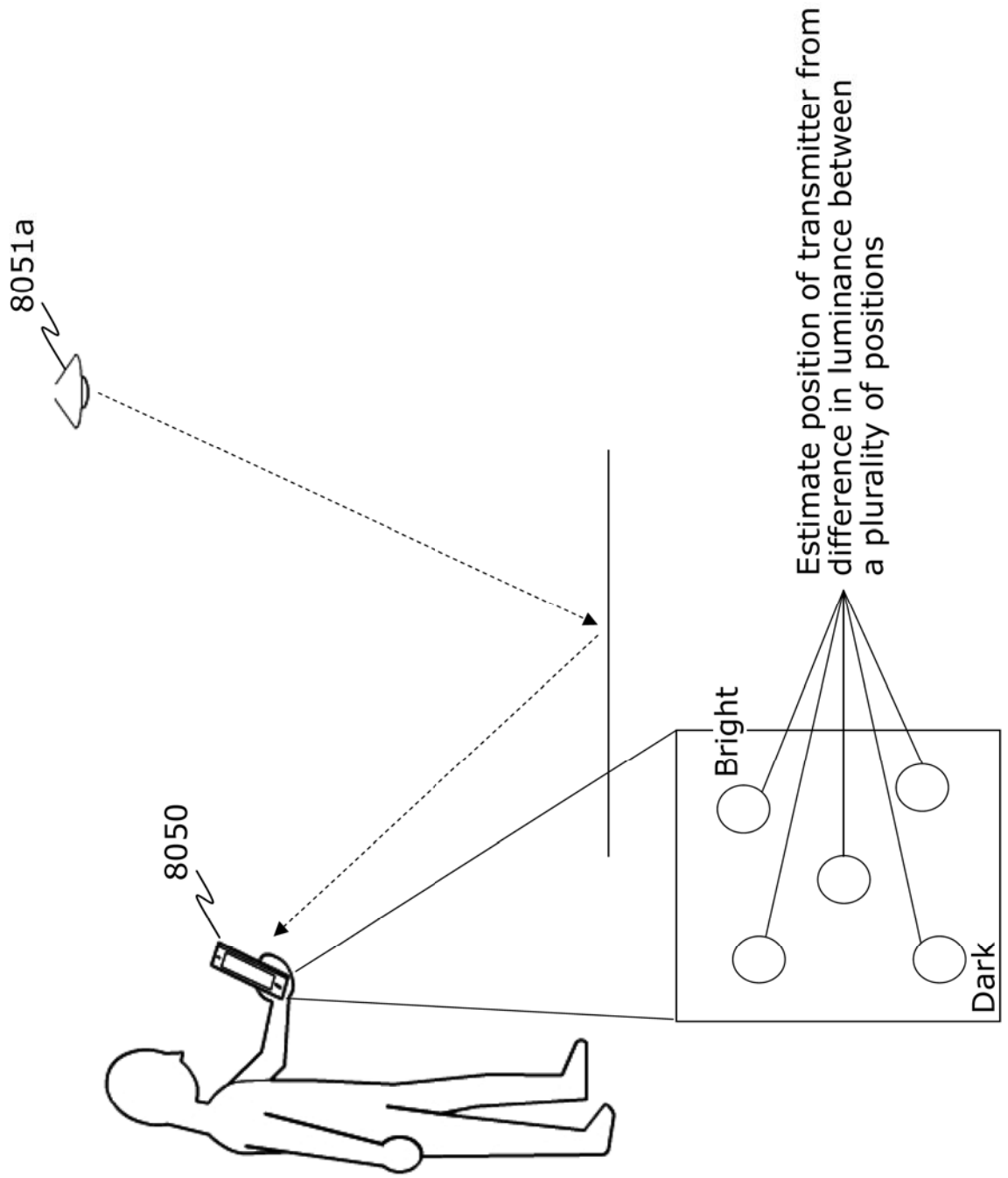


FIG. 372

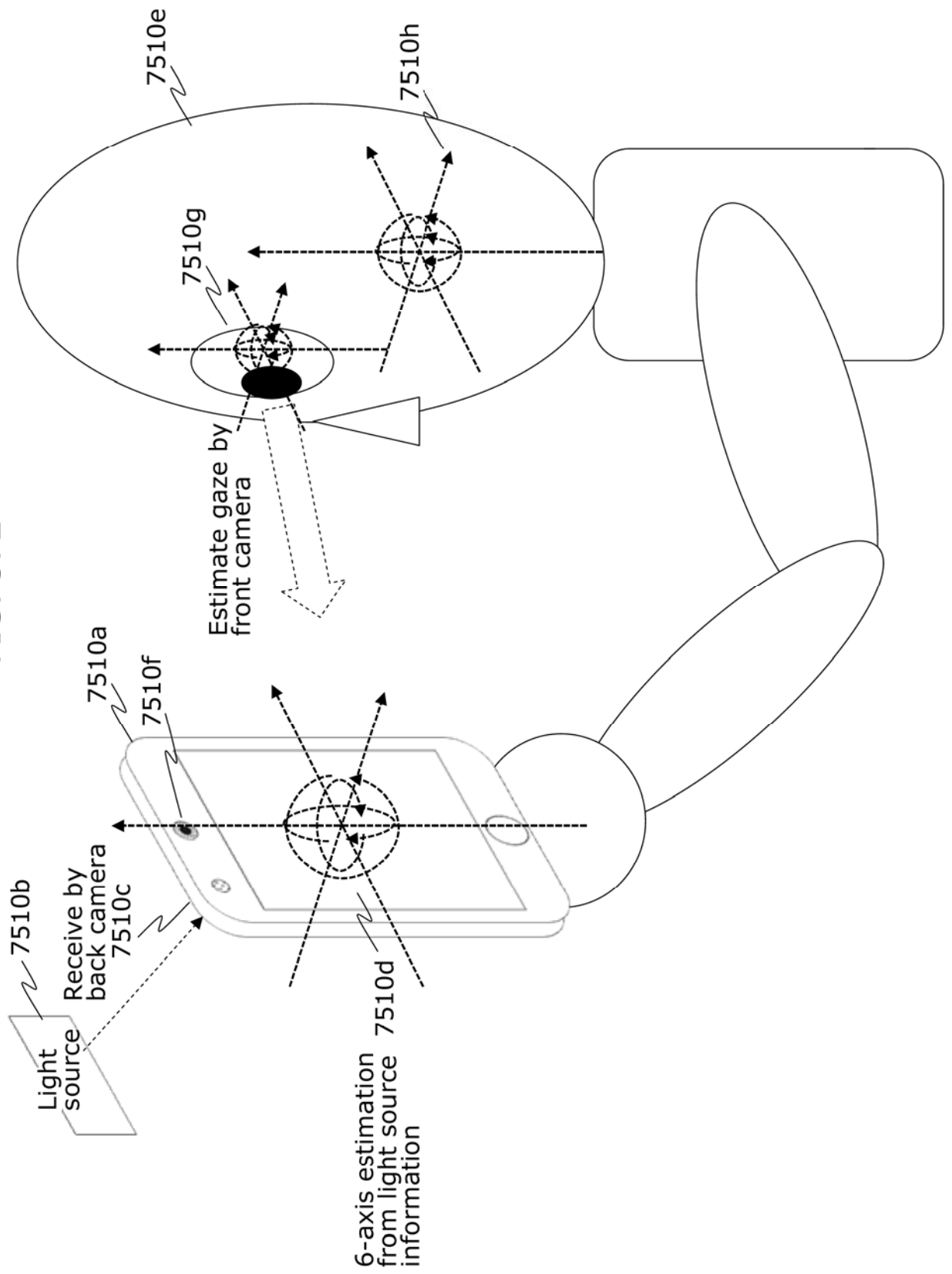


FIG. 373

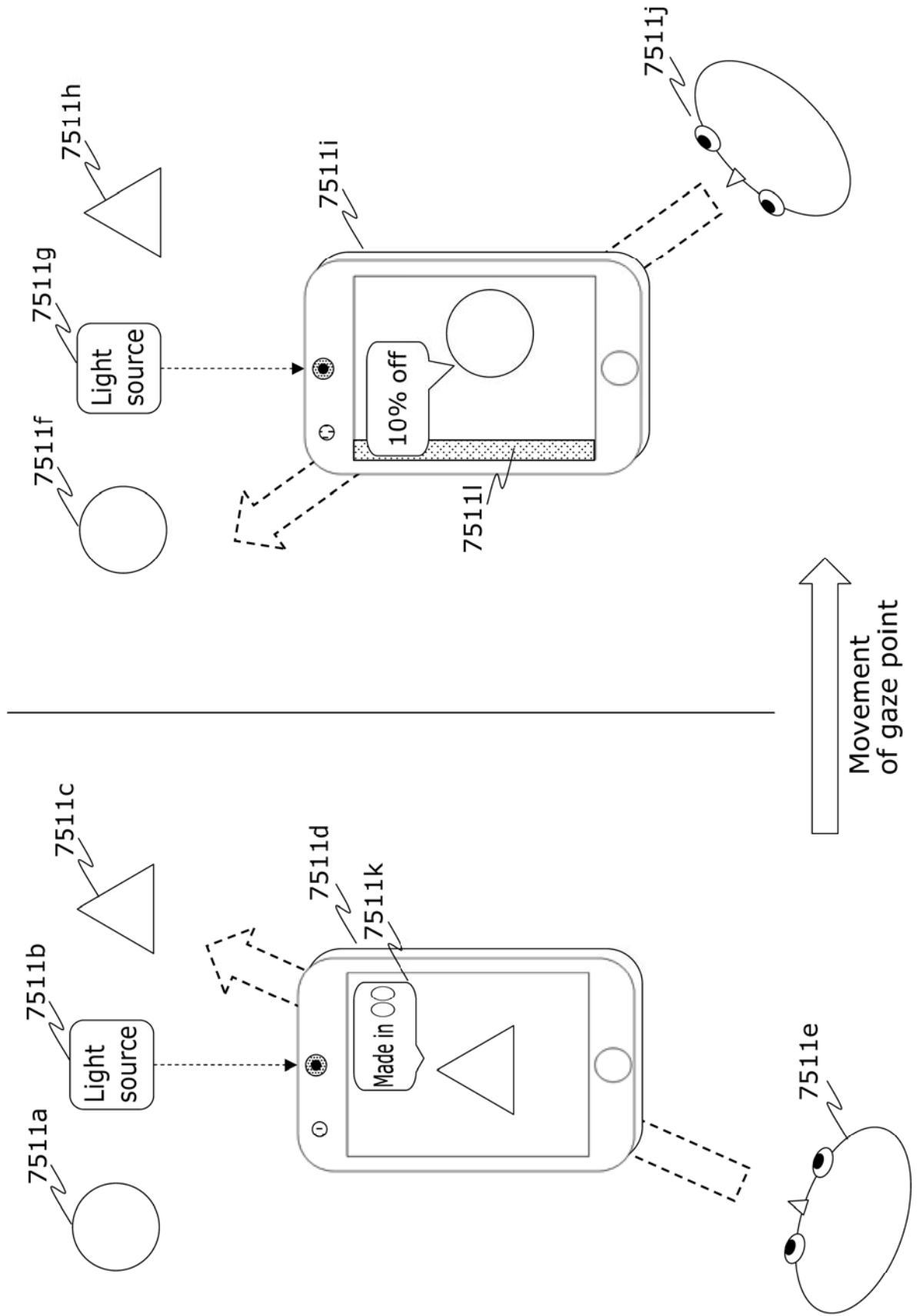


FIG. 374

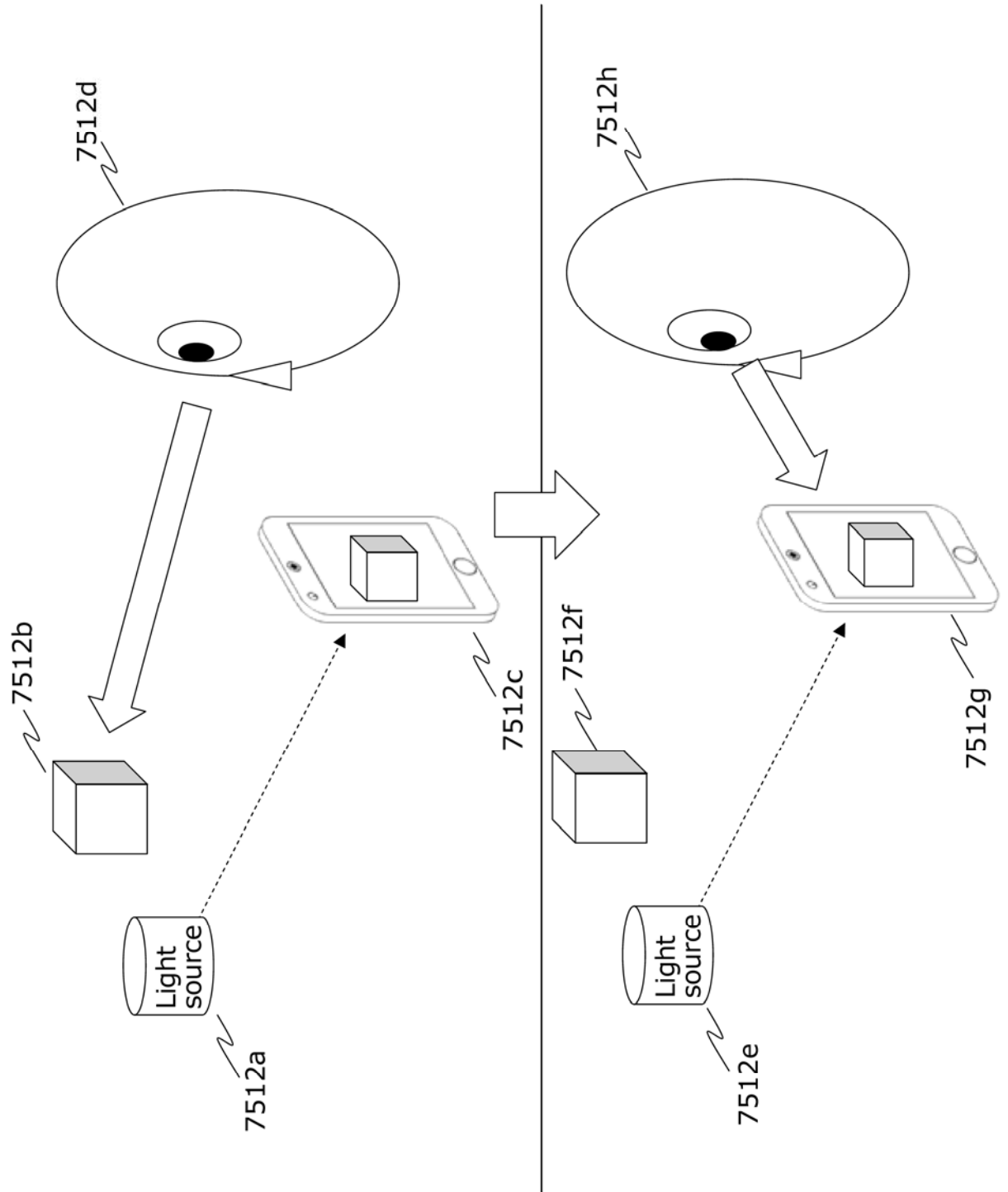


FIG. 375

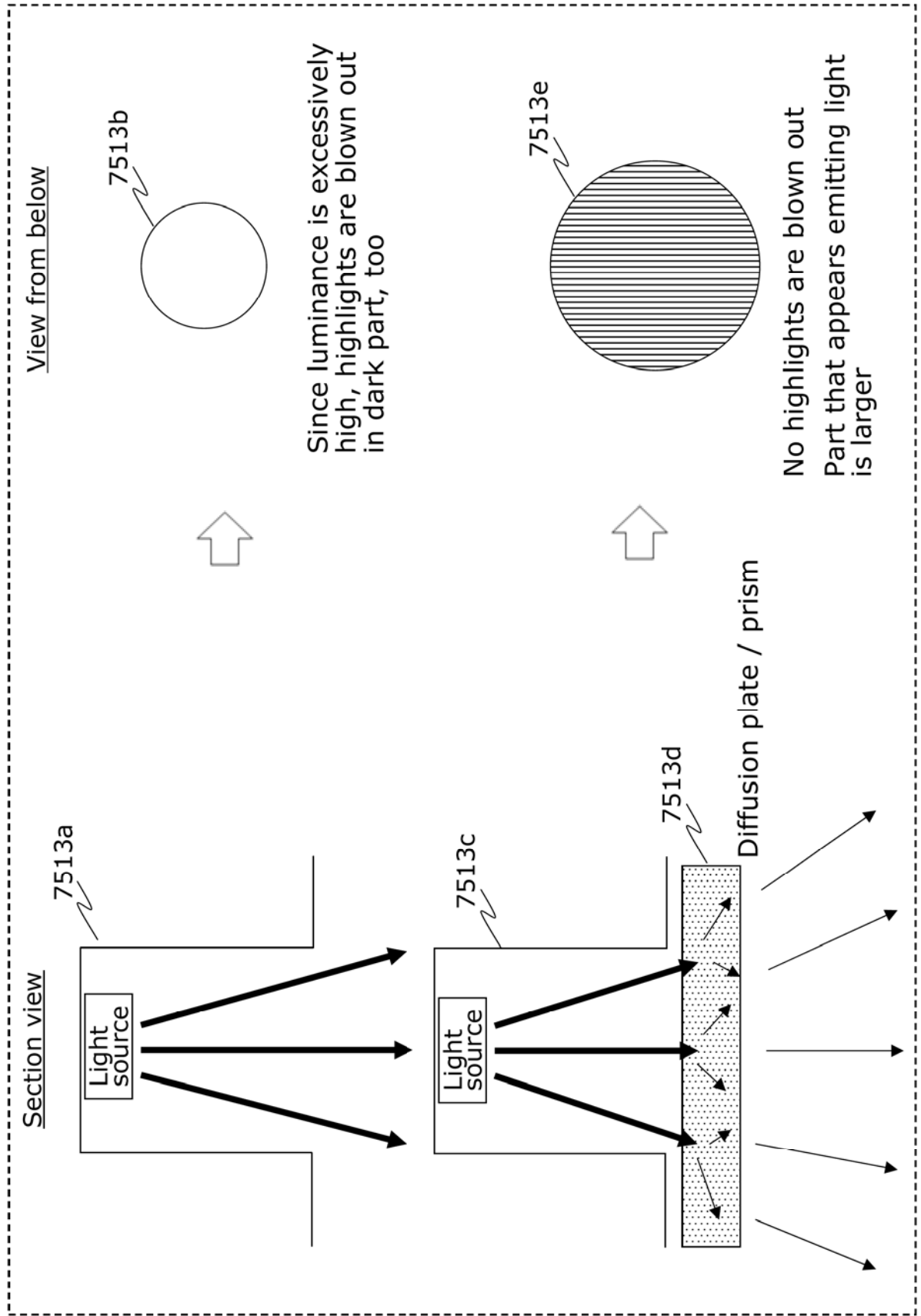


FIG. 376

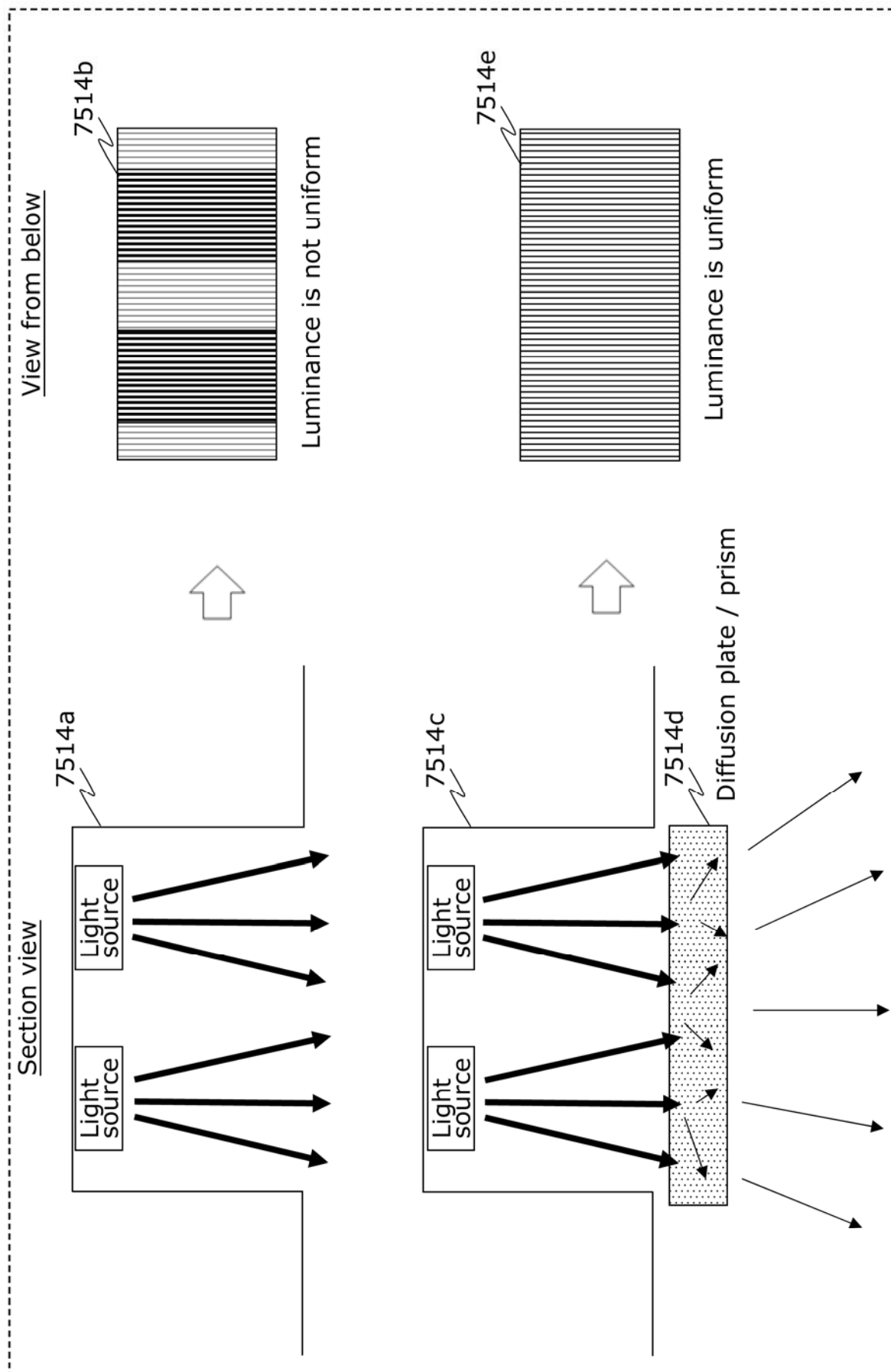


FIG. 377

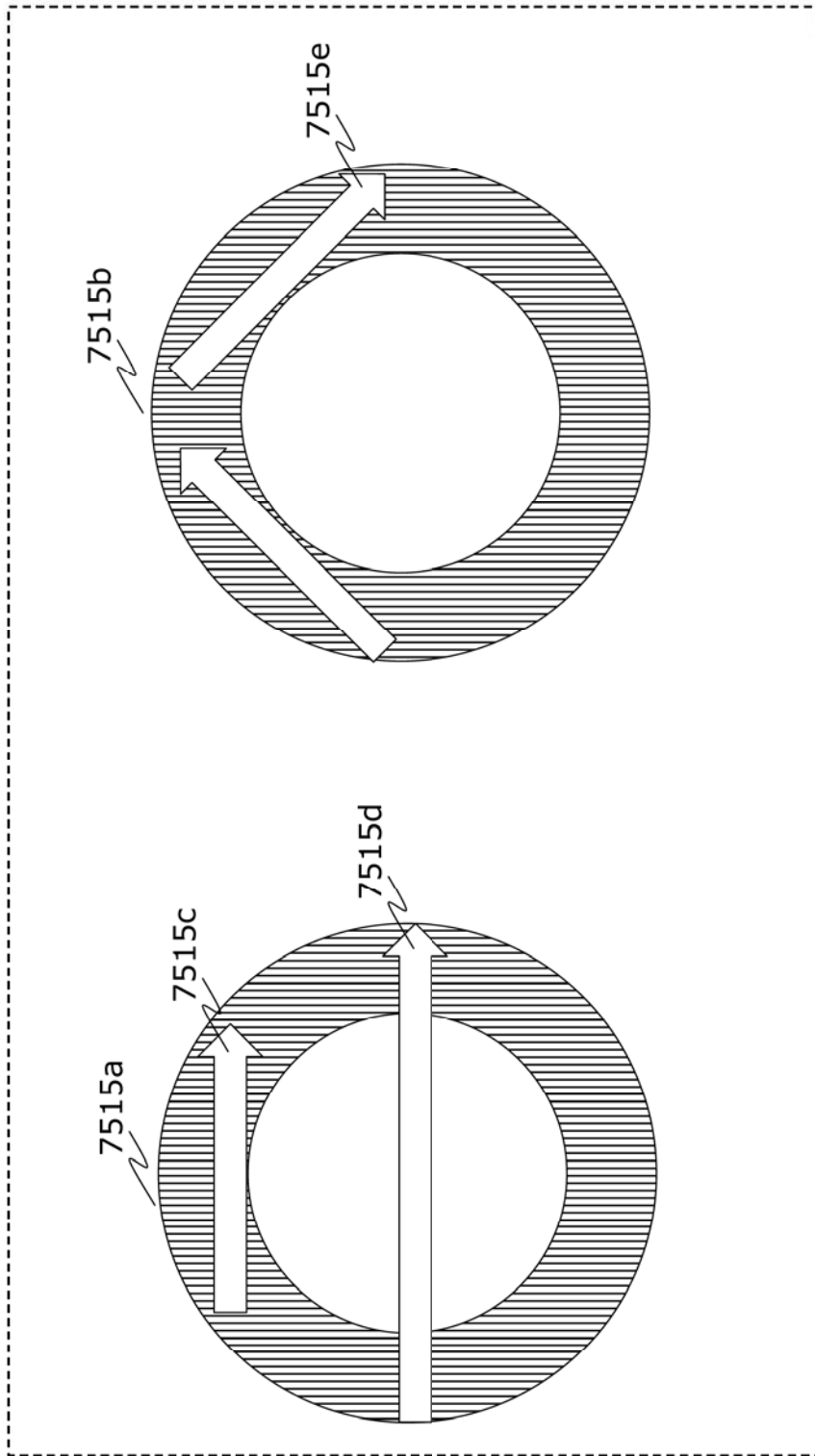


FIG. 378

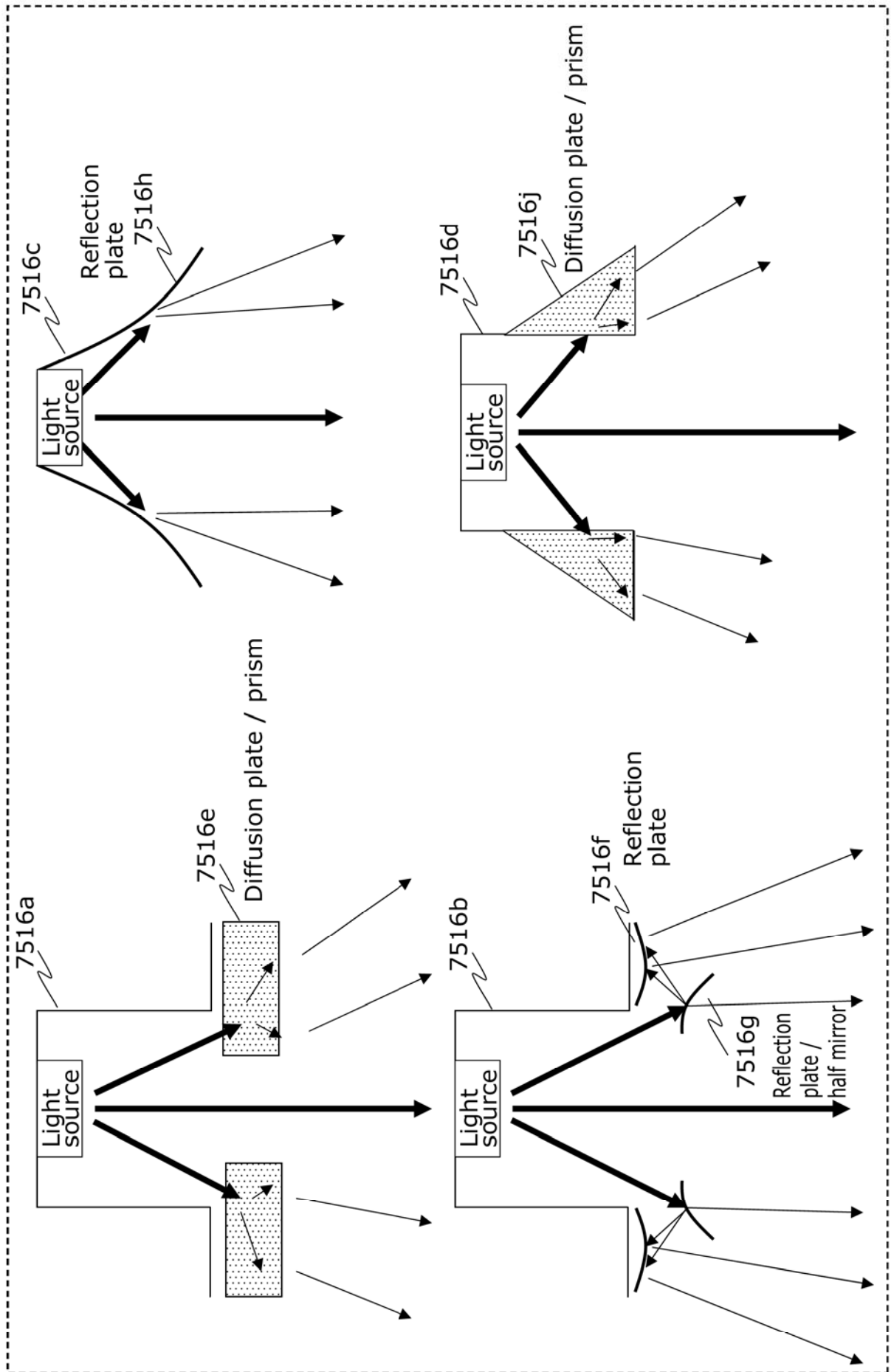


FIG. 379

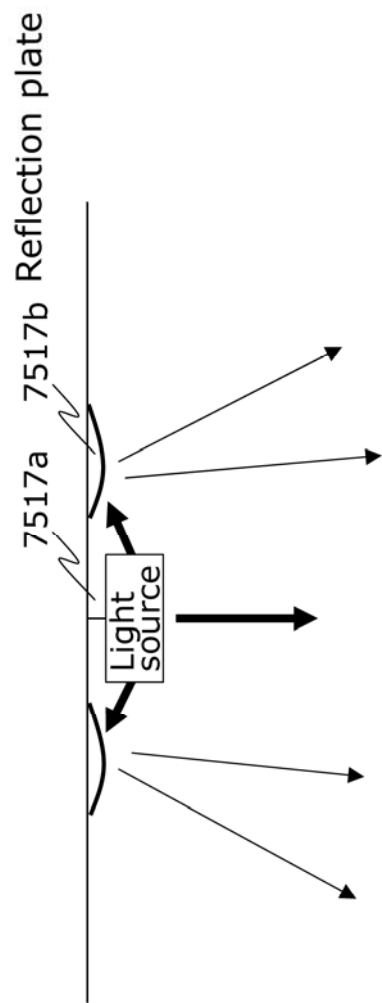


FIG. 380

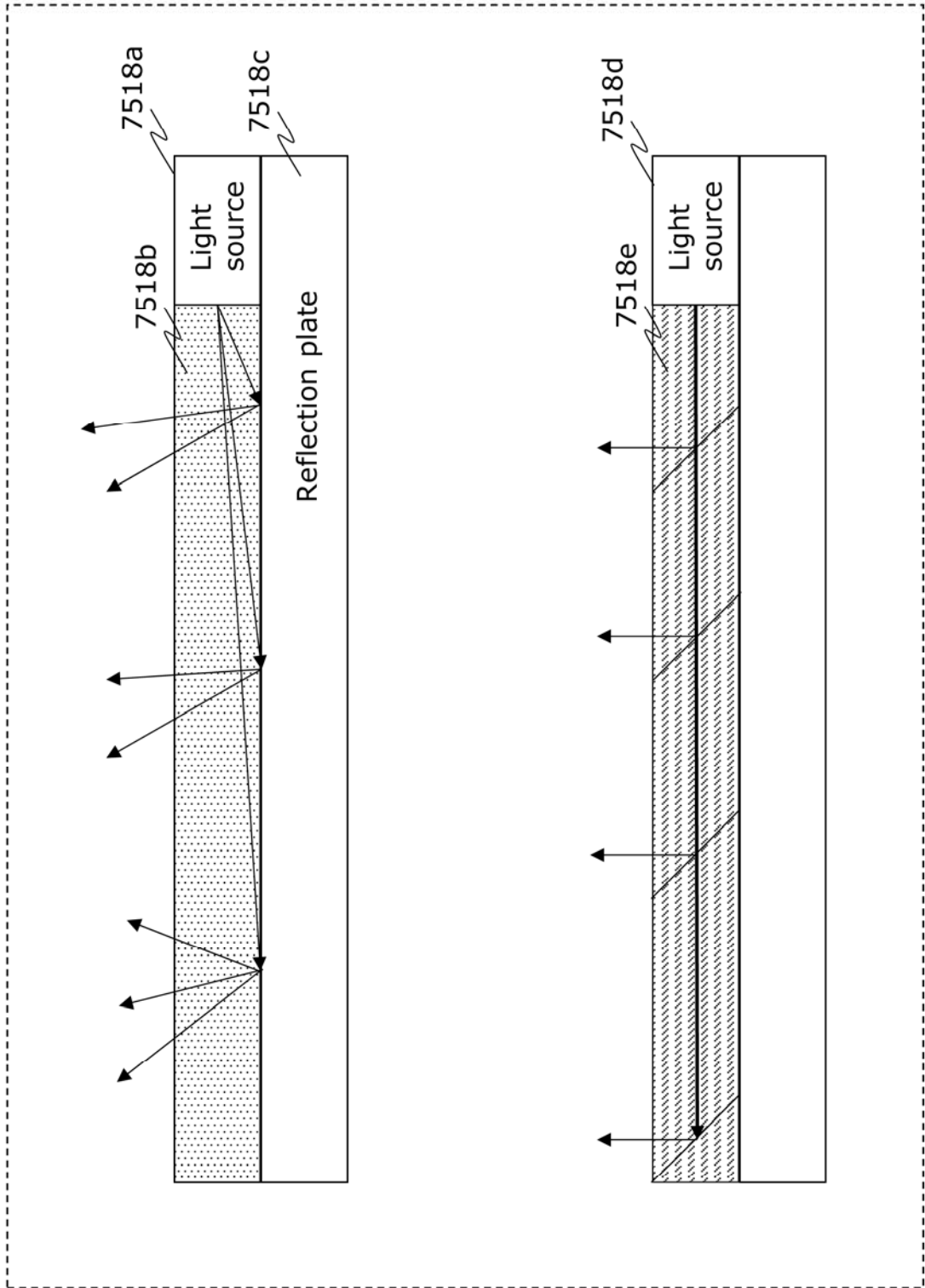
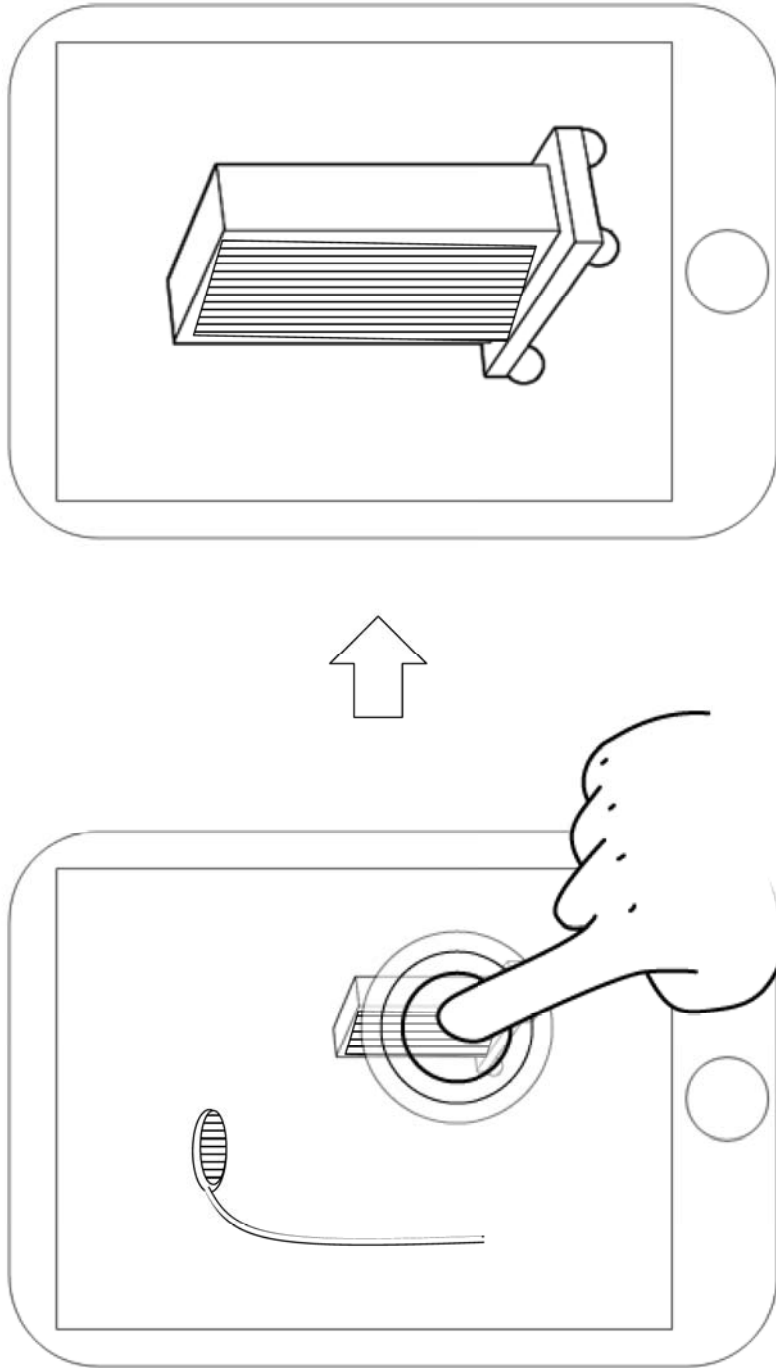


FIG. 381



Zoom in and receive signal

FIG. 382

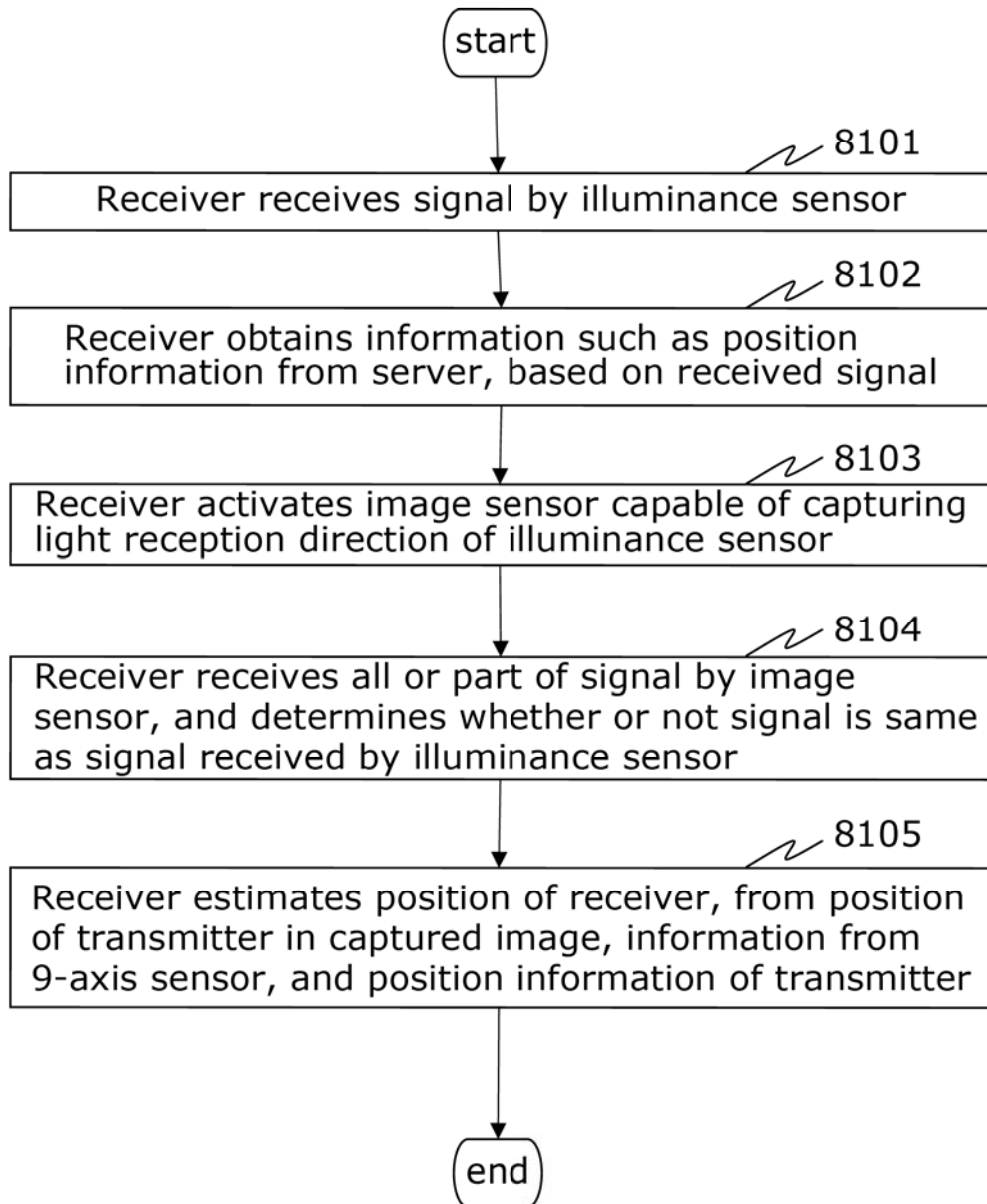
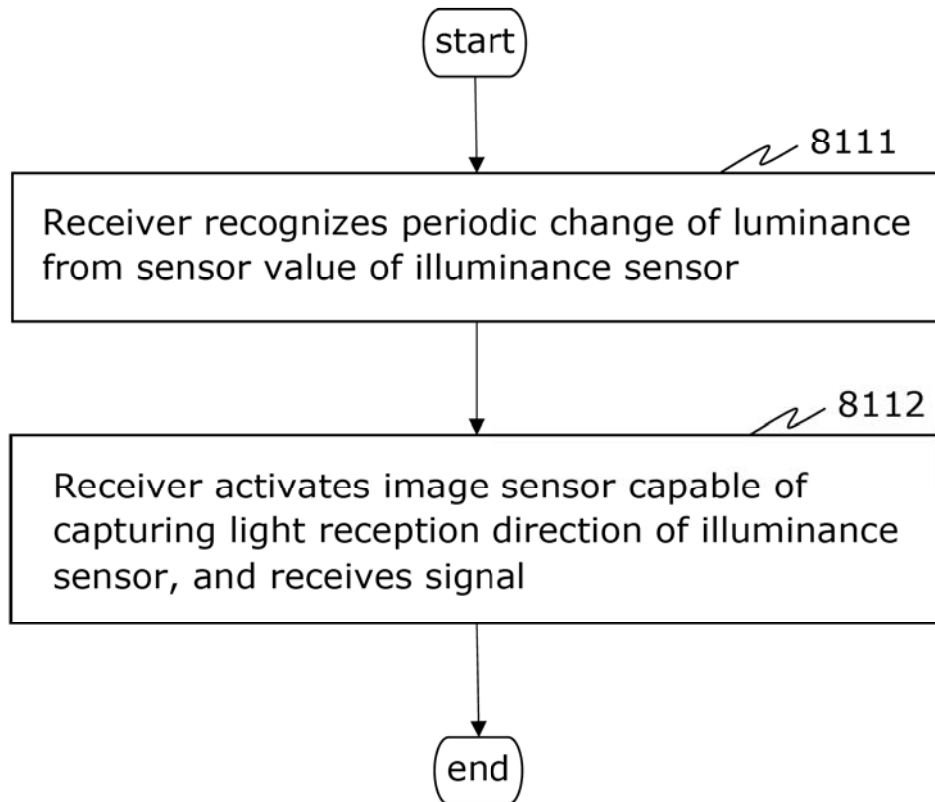


FIG. 383



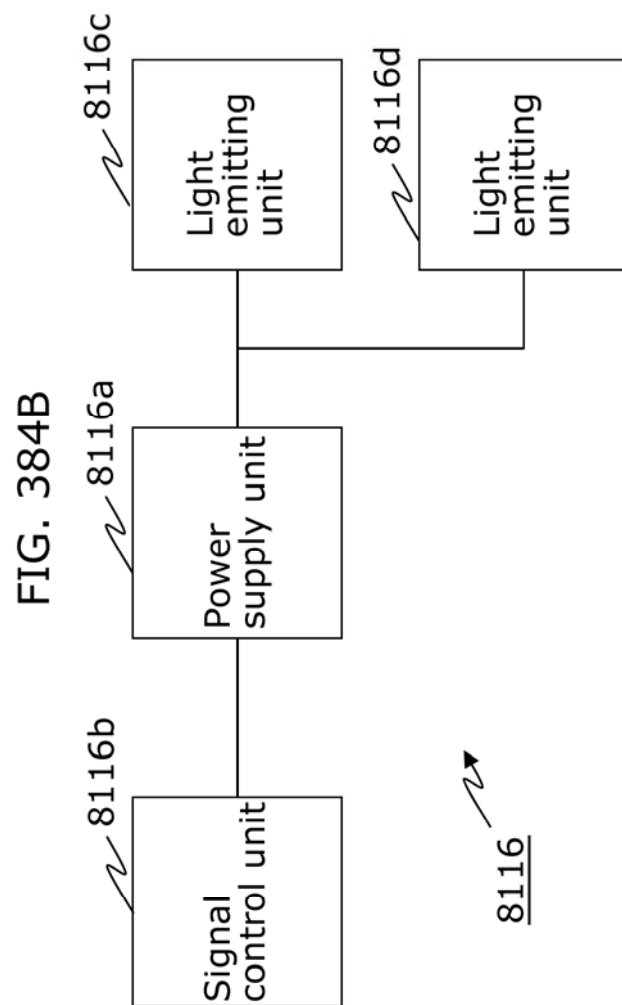
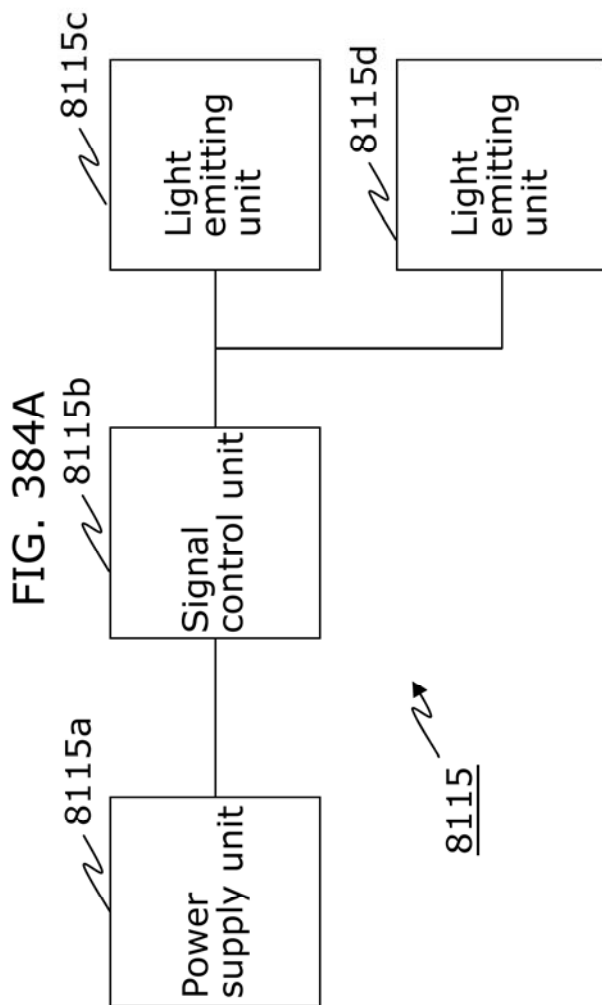


FIG. 385

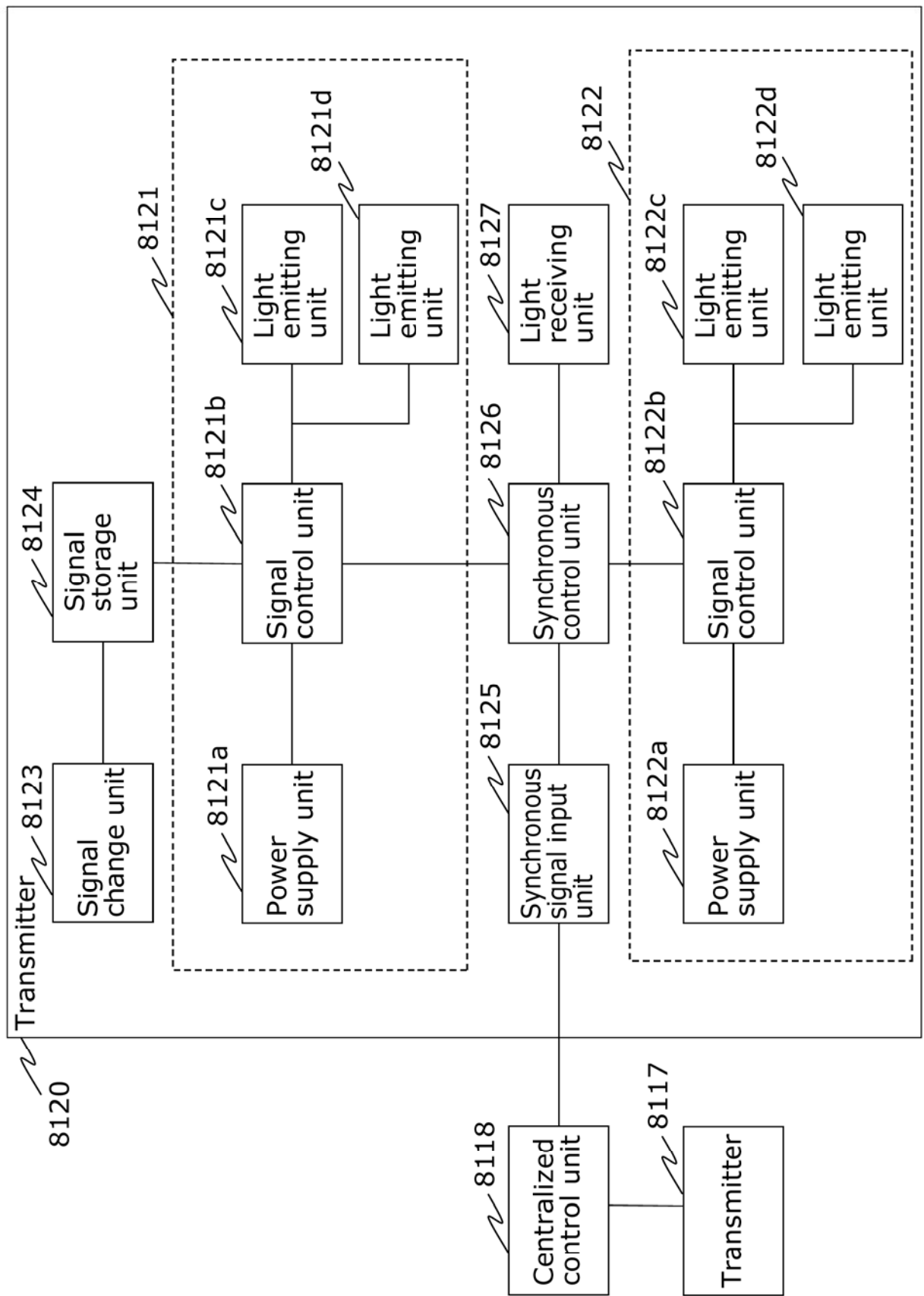


FIG. 386

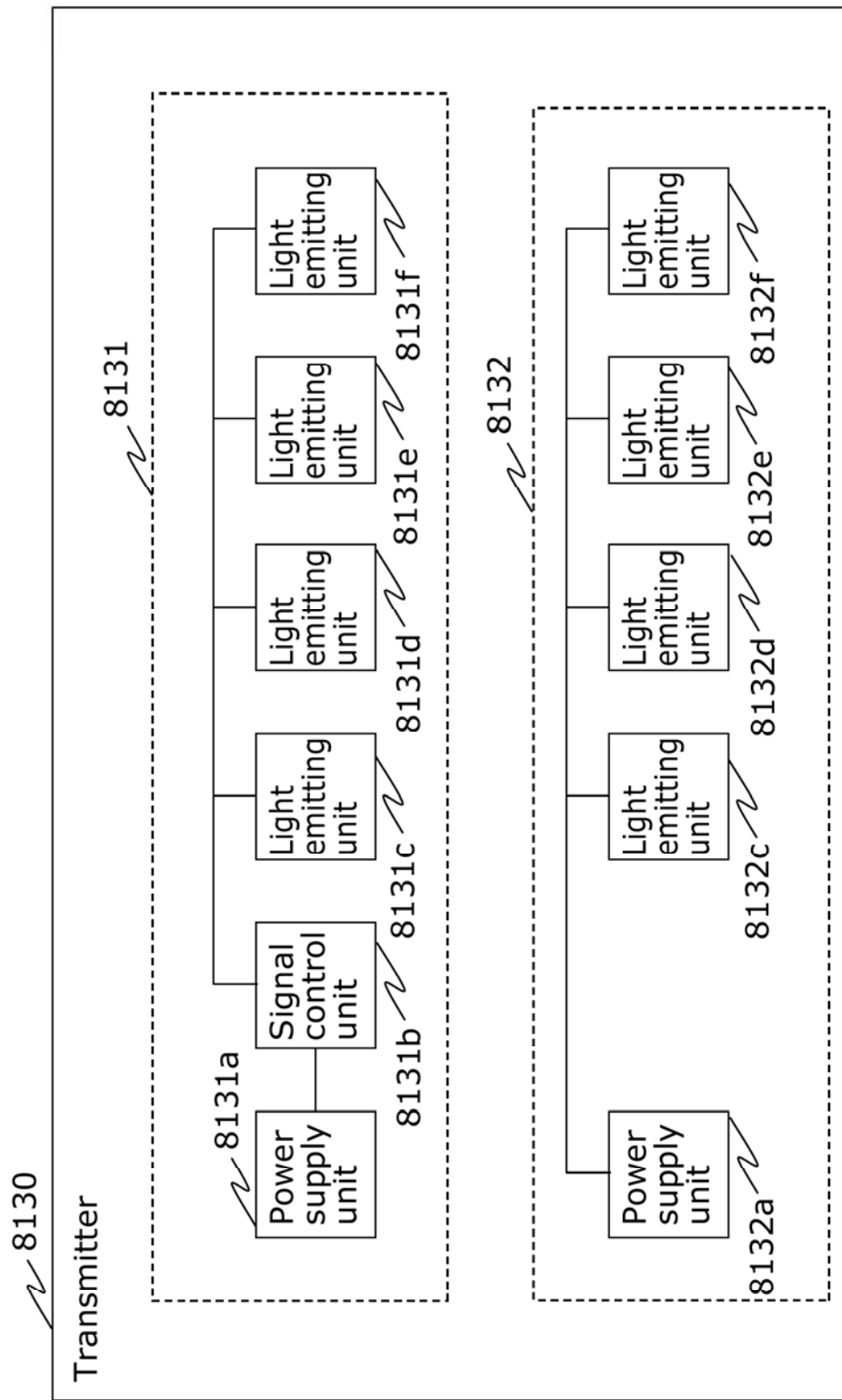


FIG. 387A

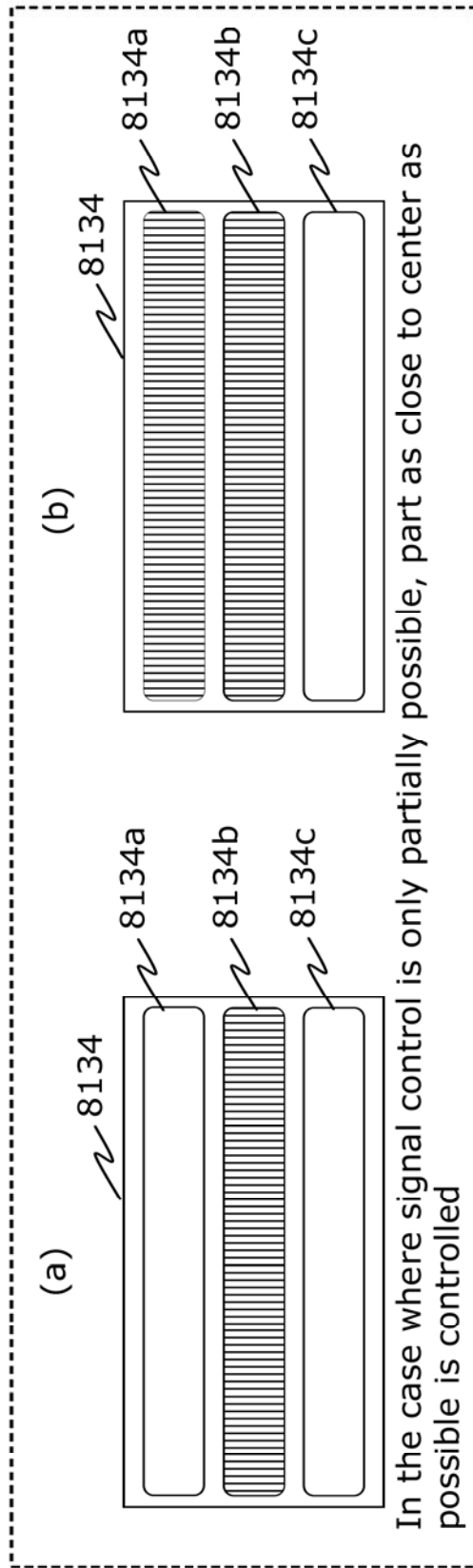


FIG. 387B

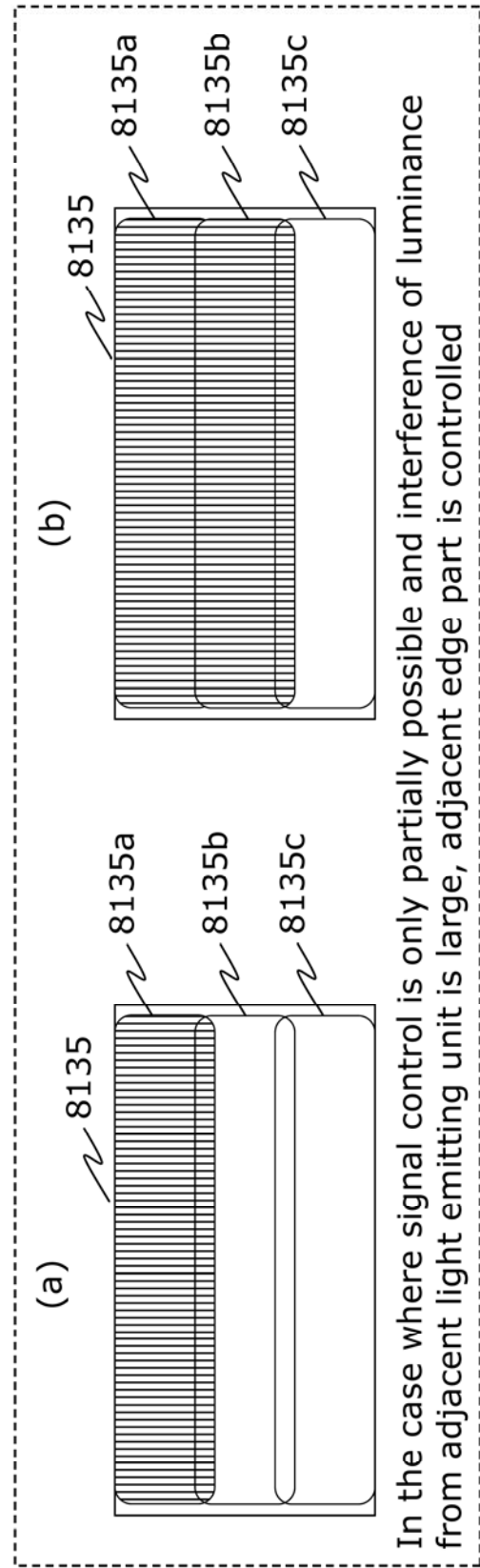
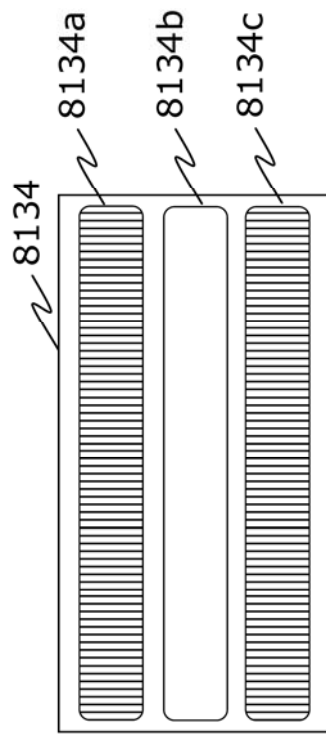
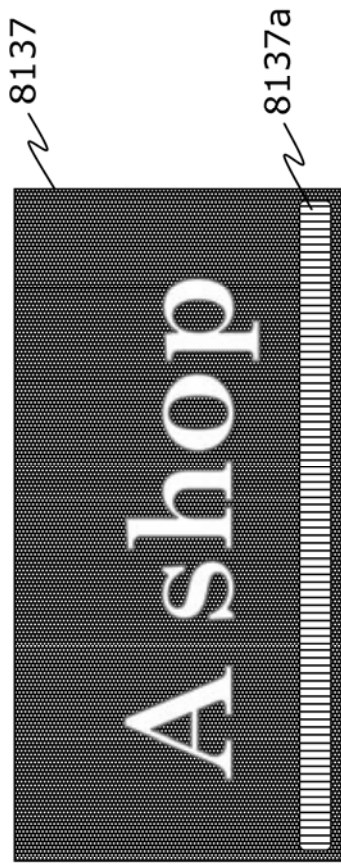


FIG. 387C



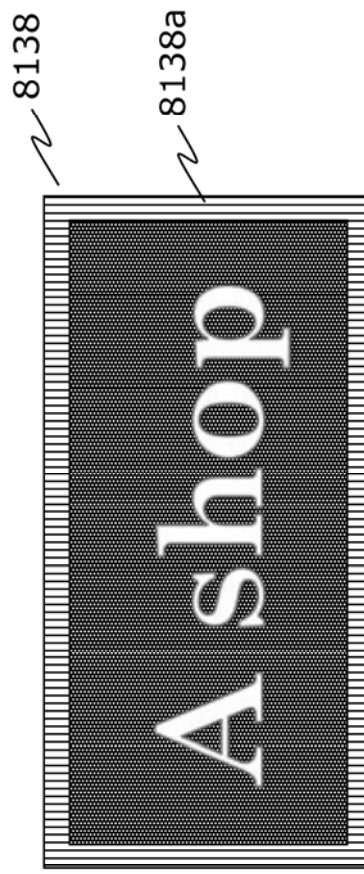
In the case where signal control is only partially possible and receivable range needs to be widened, edge part is controlled

FIG. 388A



Provide uniform light emitting portion in part of sign to facilitate reception

FIG. 388B



Arrange uniform light emitting portion so that uniform light emitting portion is present in large size in whichever direction image is captured

FIG. 389

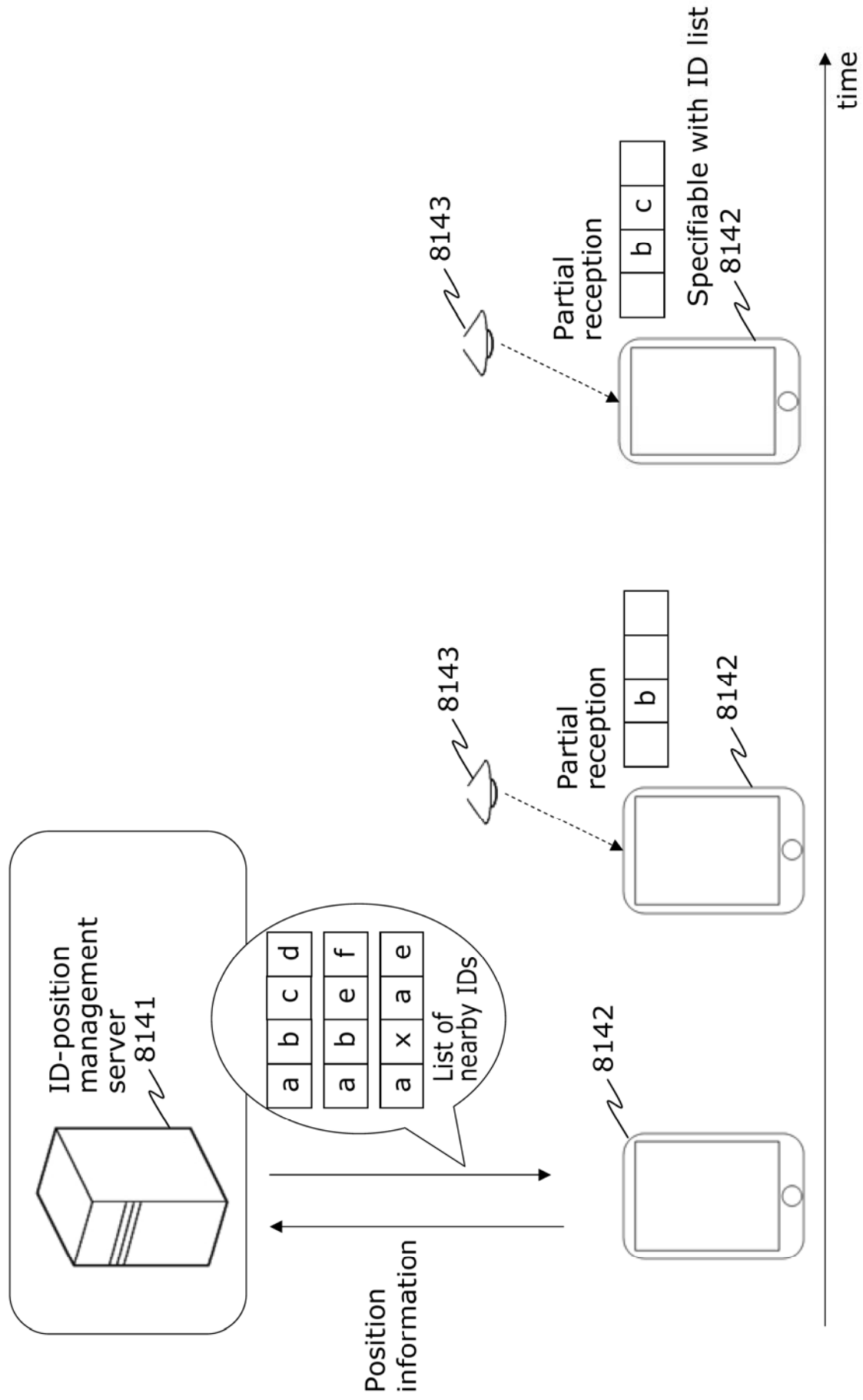


FIG. 390

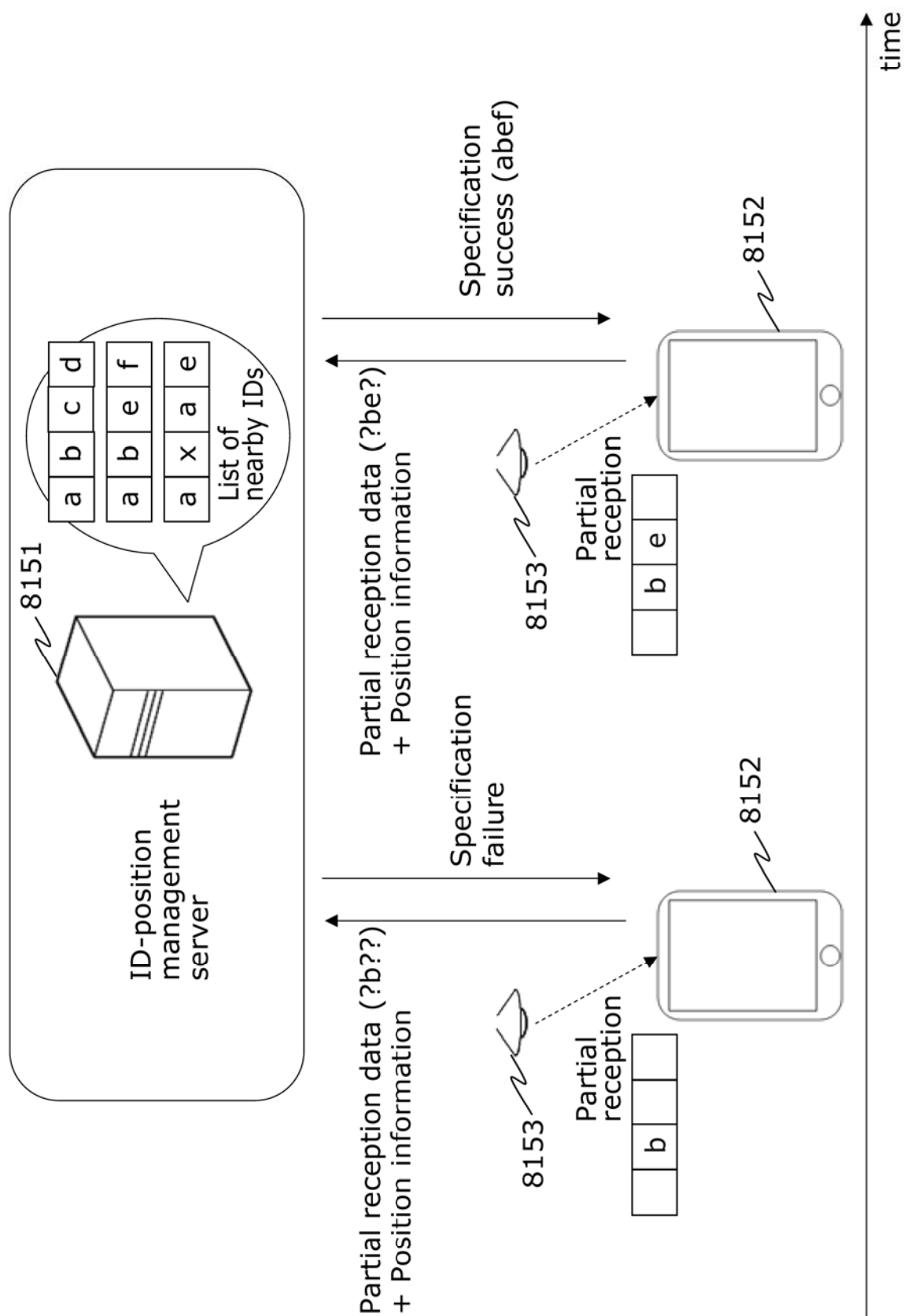


FIG. 391

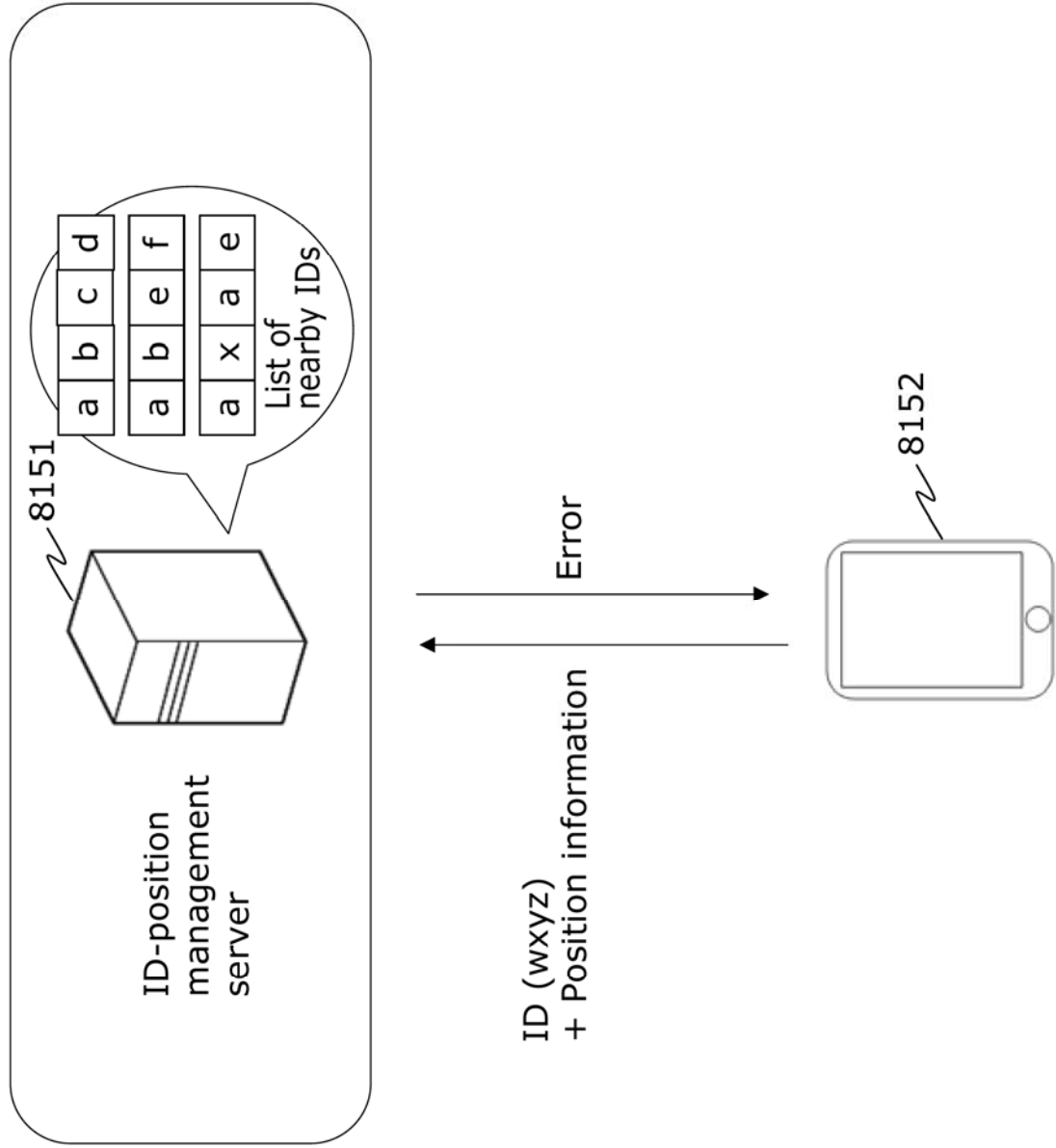


FIG. 392A

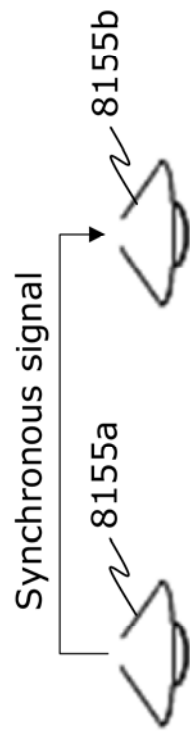


FIG. 392B

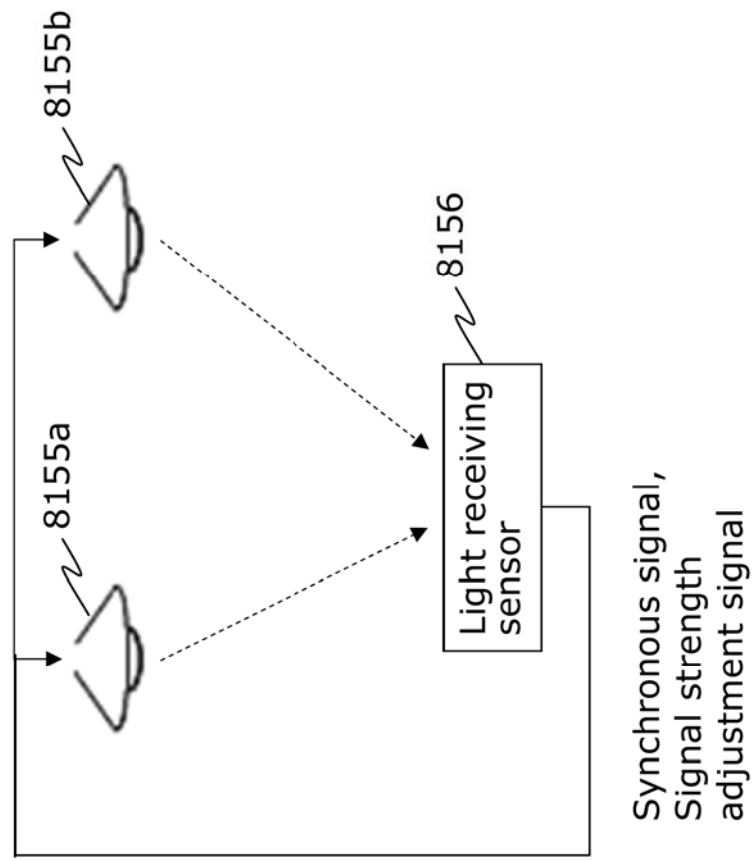


FIG. 393

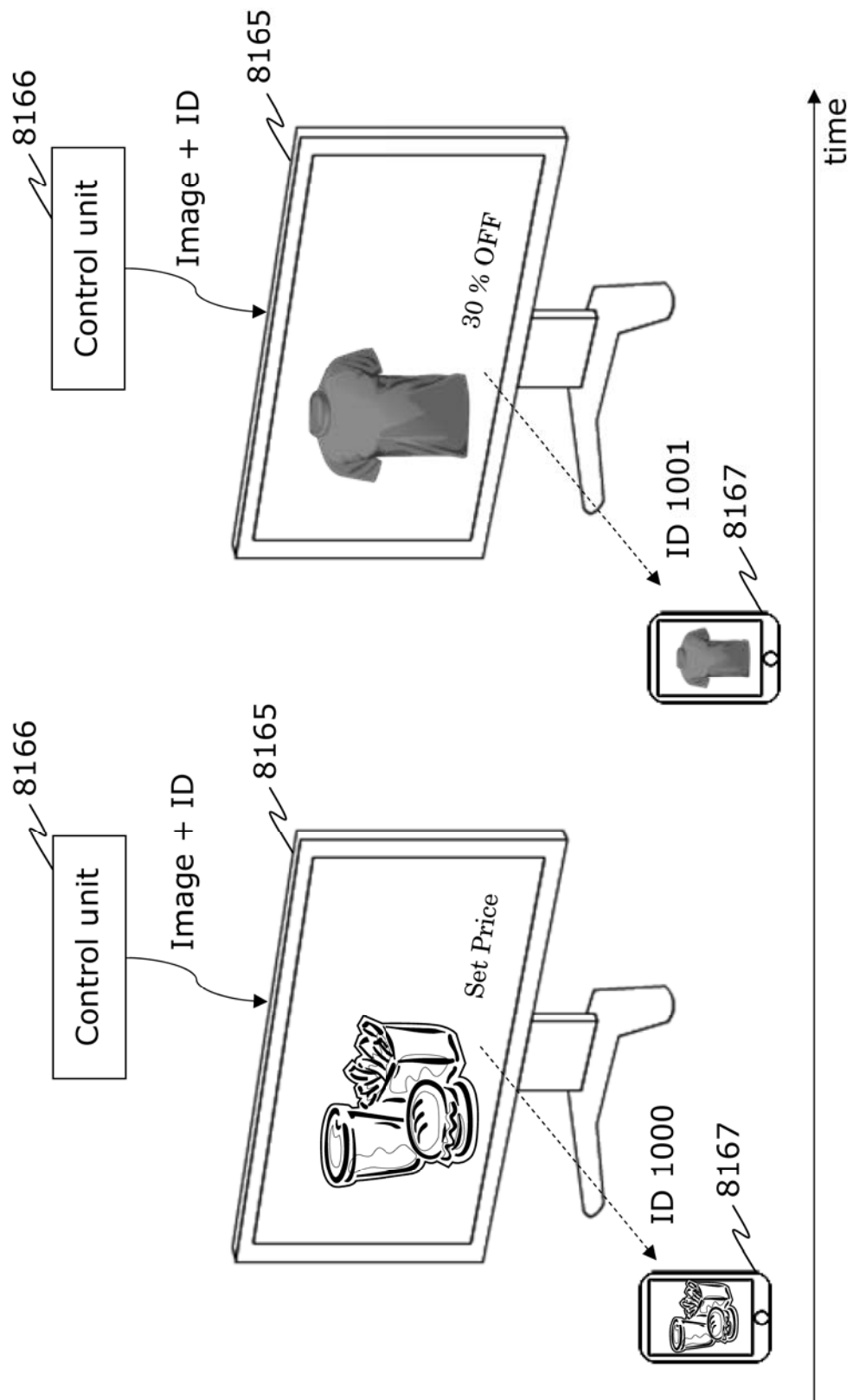


FIG. 394

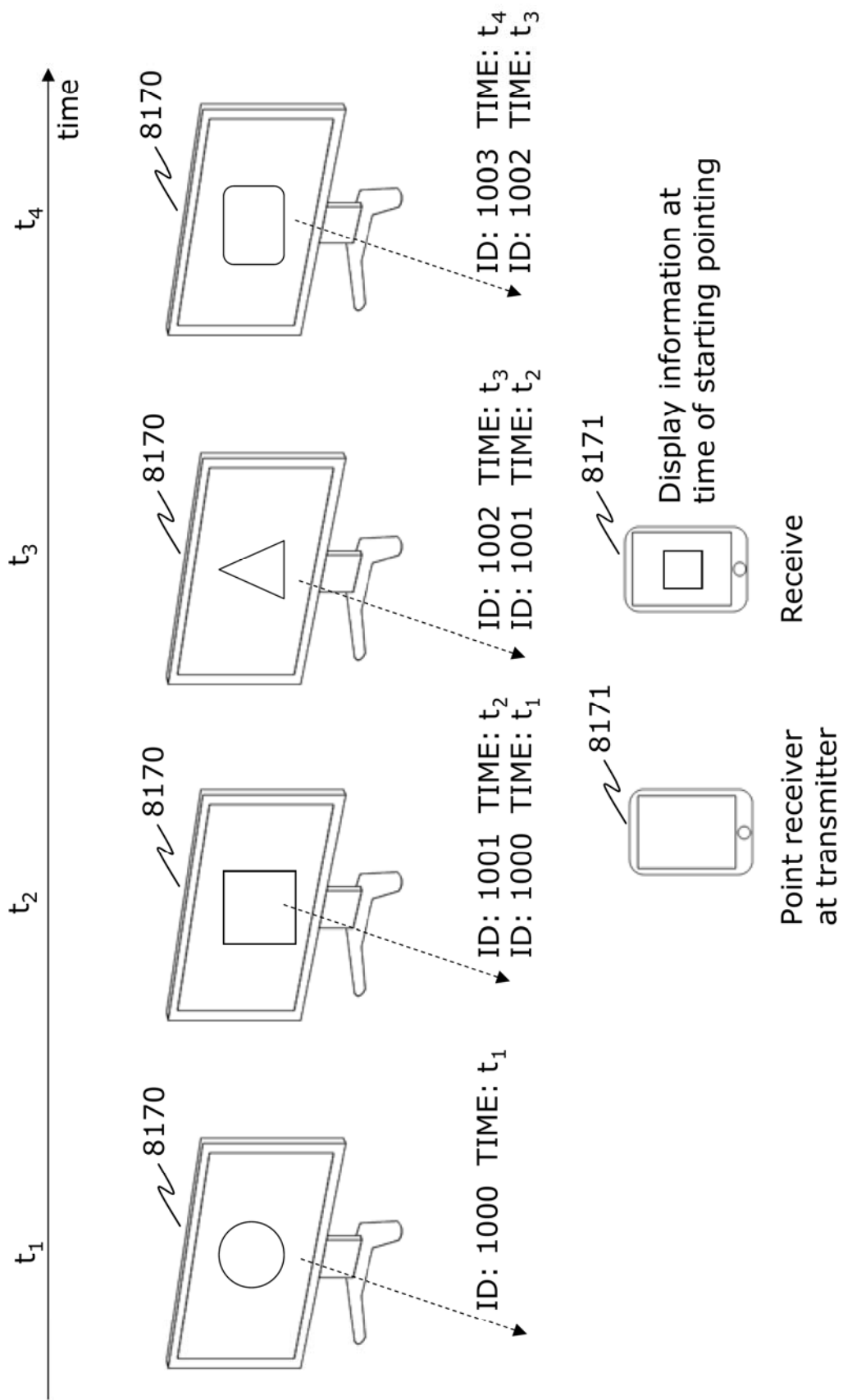


FIG. 395

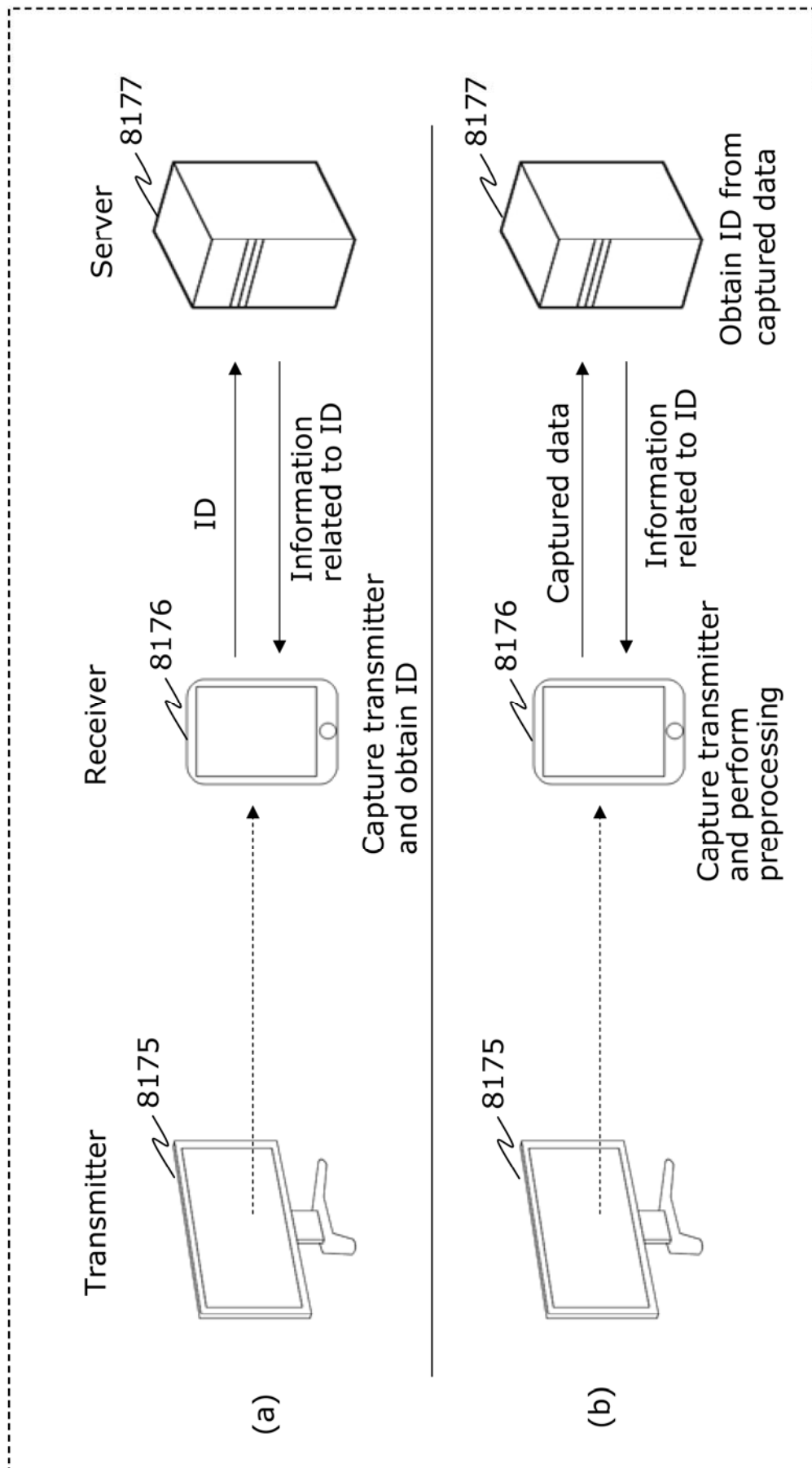


FIG. 396

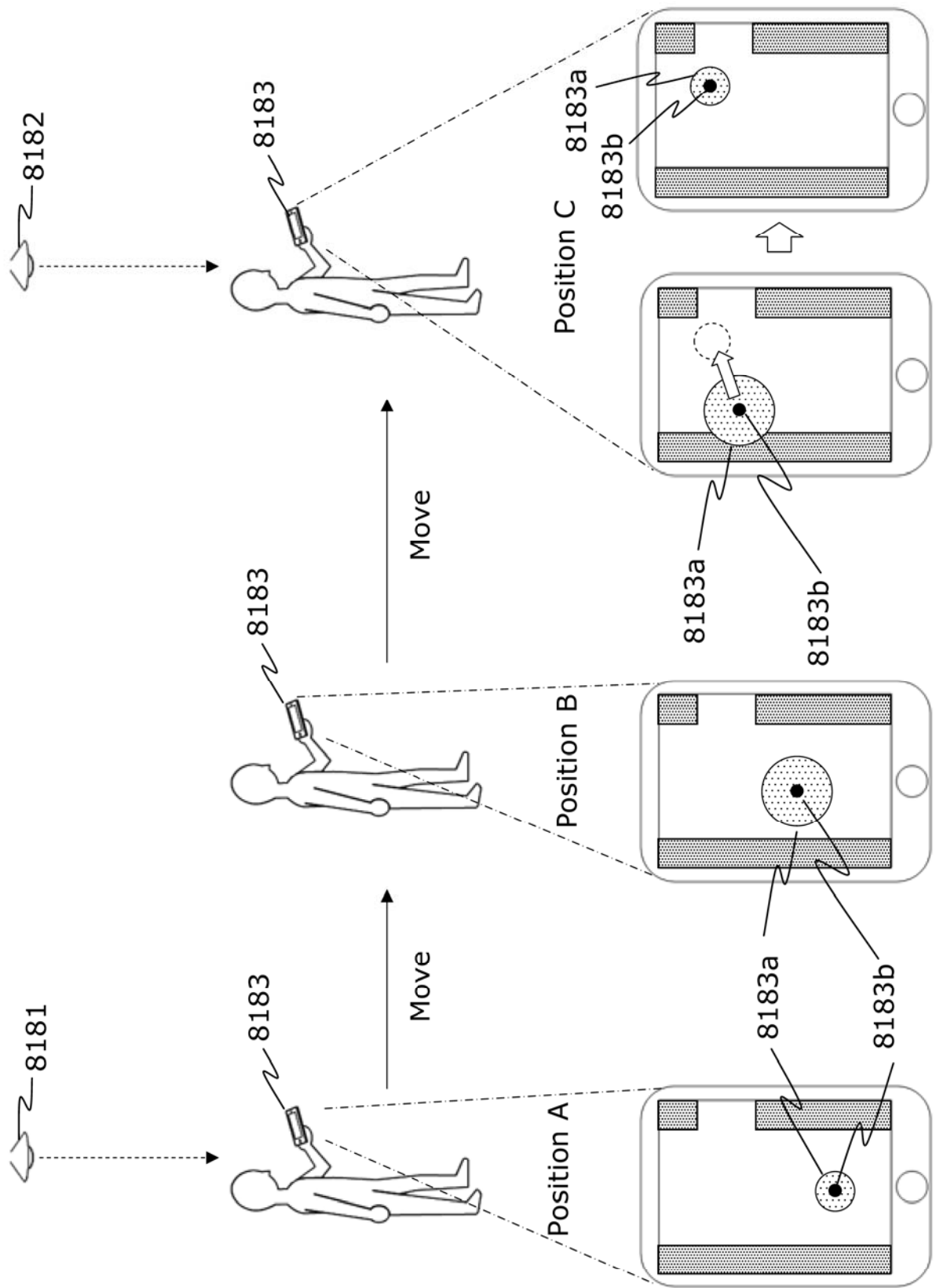


Figure 8 consists of two schematic diagrams of a mobile terminal. Diagram (a) is a front view showing a screen 8183e. At the top, there is a camera 8183d with an arrow pointing to it labeled 'Reception'. At the bottom, there is a camera 8183c with an arrow pointing to it labeled 'Reception'. A dashed arrow at the bottom points downwards, labeled 'Transmission'. Diagram (b) is a side view showing the terminal's profile. At the top, there is a camera 8183g with an arrow pointing to it labeled 'Reception'. At the bottom, there is a camera 8183h with an arrow pointing to it labeled 'Transmission'.

FIG. 398

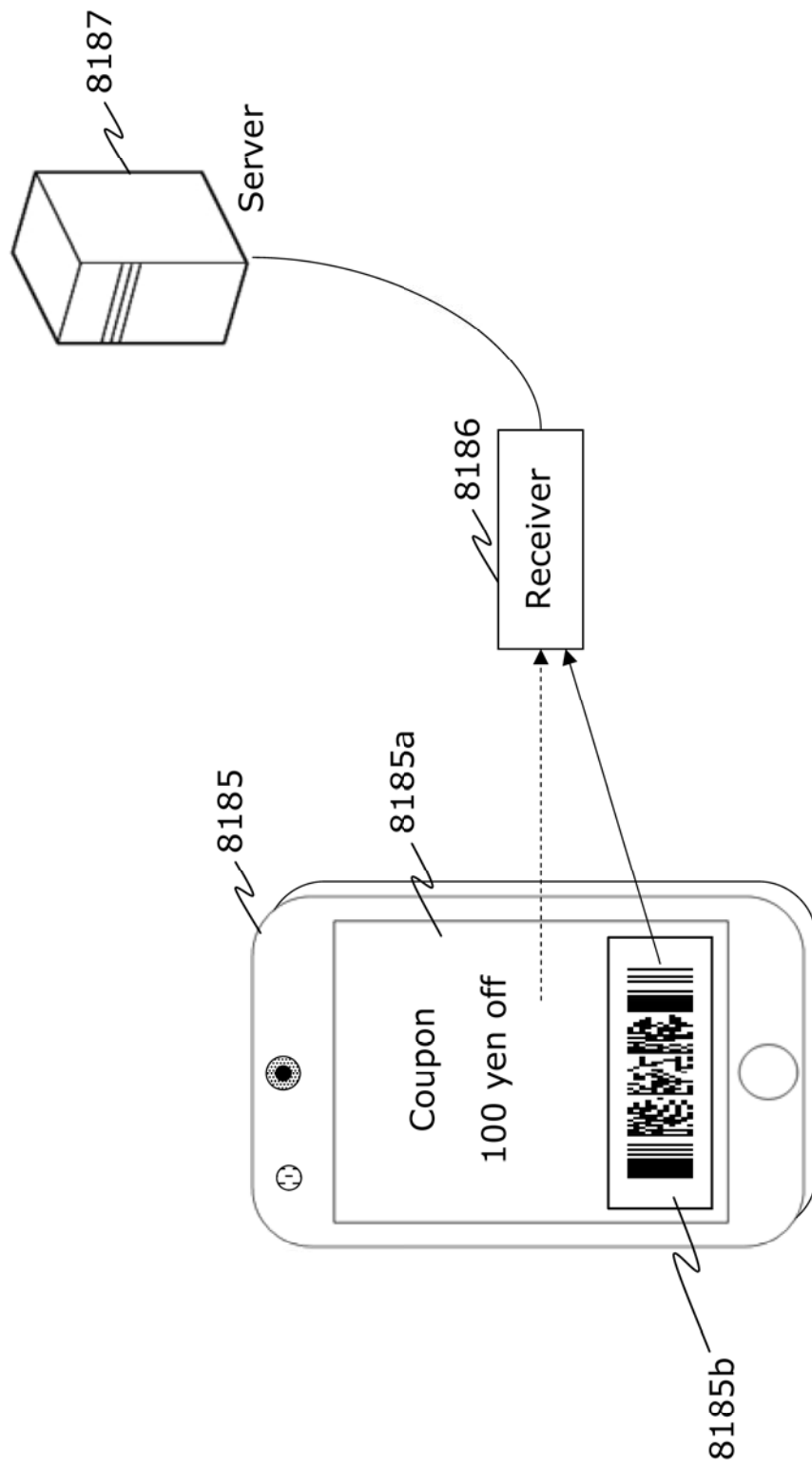


FIG. 399

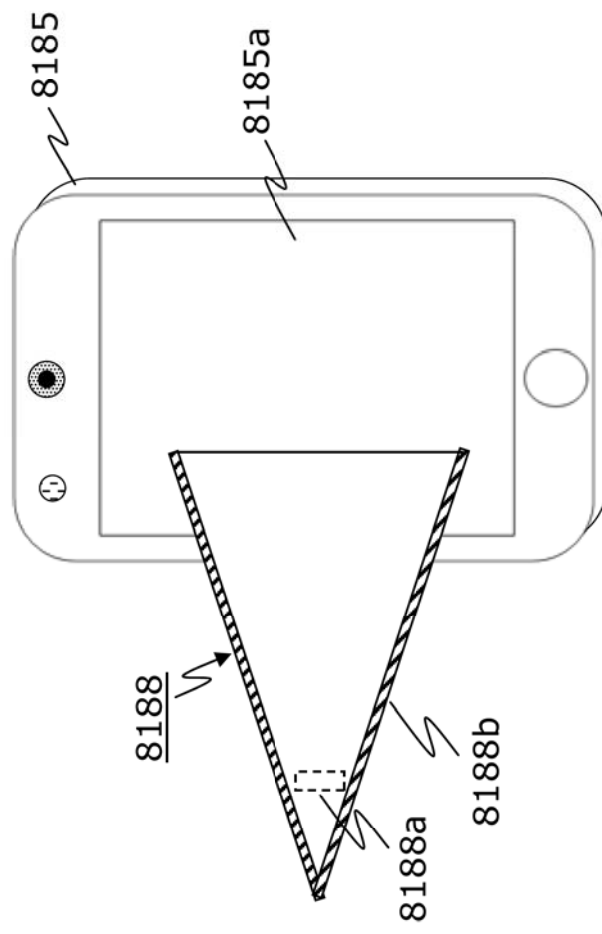


FIG. 400

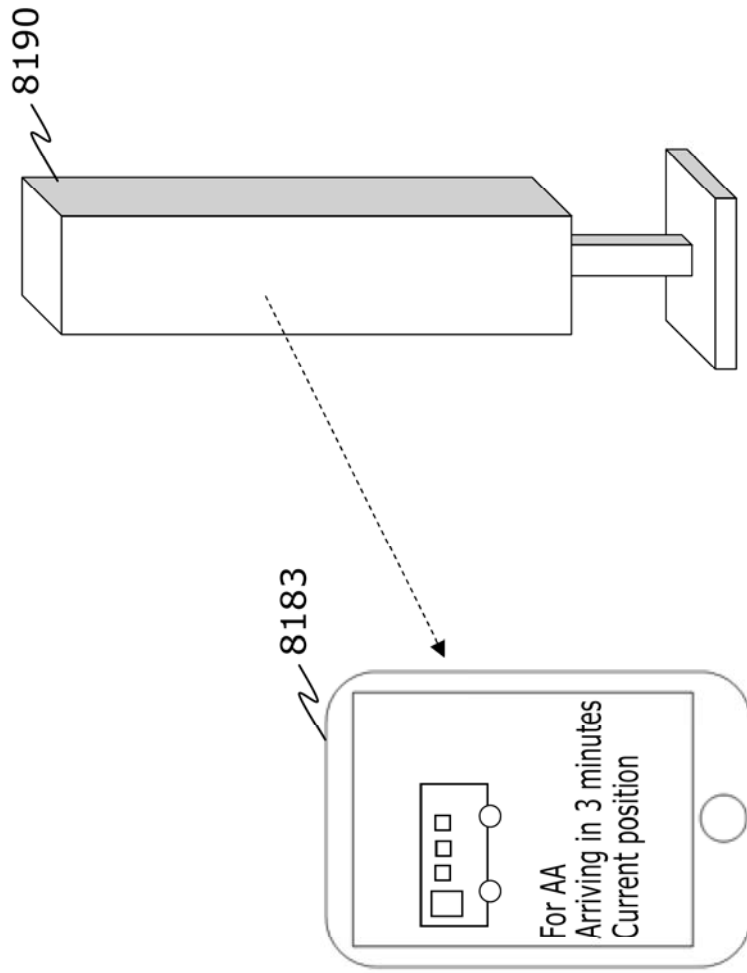


FIG. 401

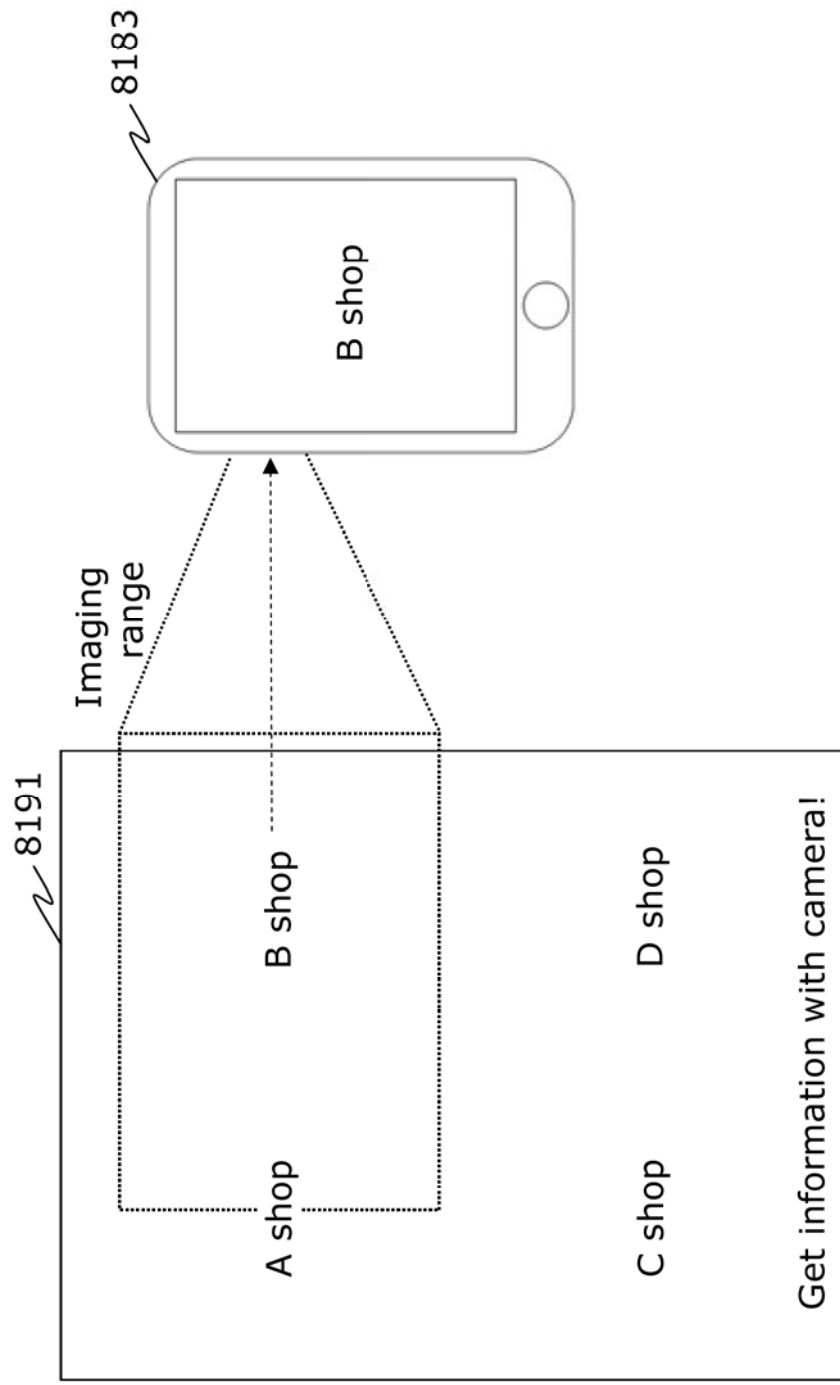


FIG. 402

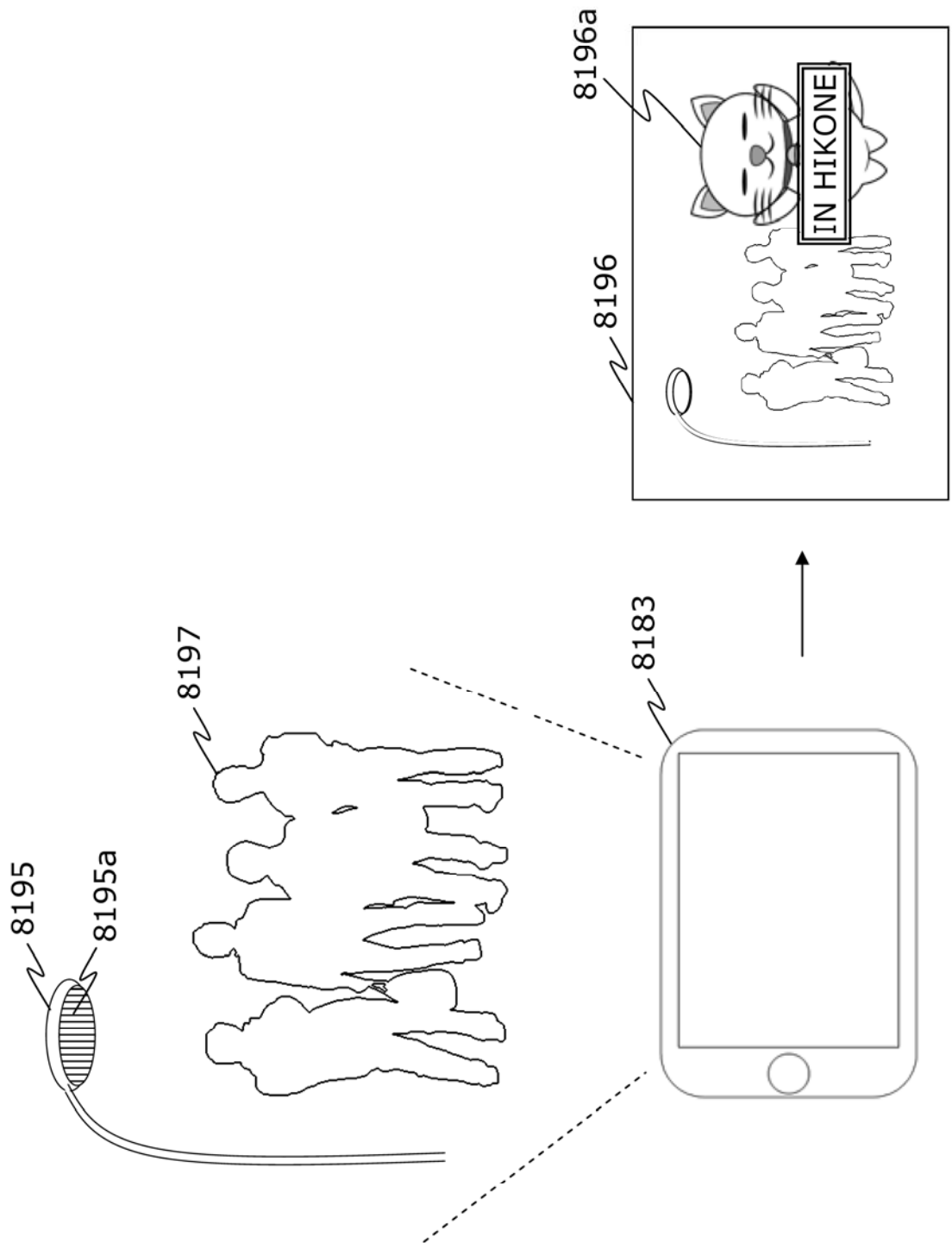


FIG. 403A

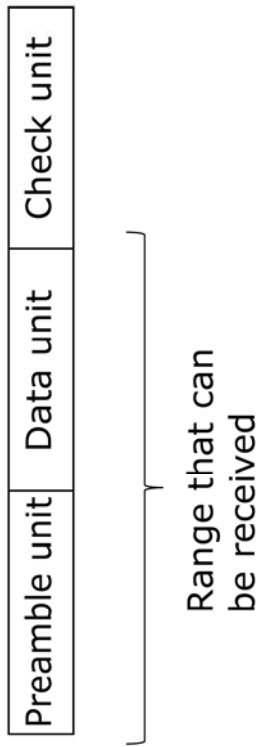


FIG. 403B

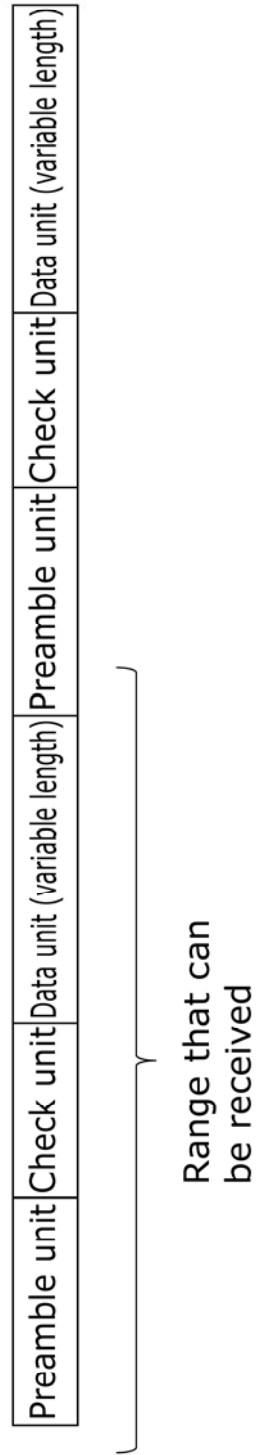


FIG. 404

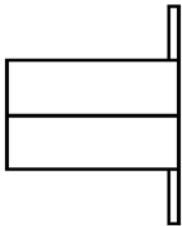
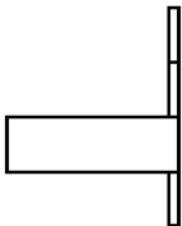
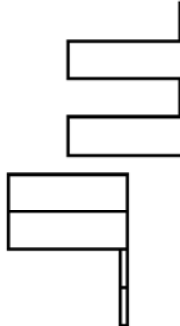
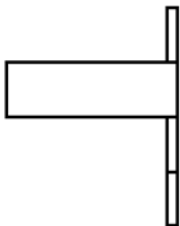
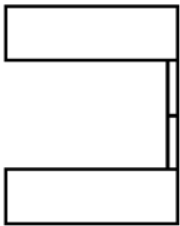
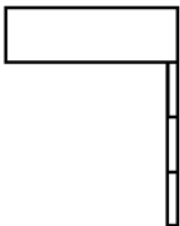
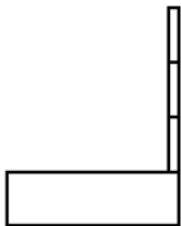
Signal	Rise position	Brightness		
		75 %	50 %	25 %
00	Slots 1 → 2			
01	Slots 2 → 3			
10	Slots 3 → 4			
11	None			

FIG. 405

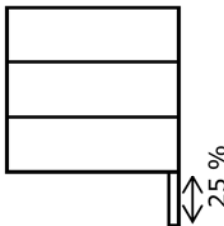
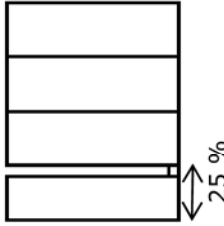
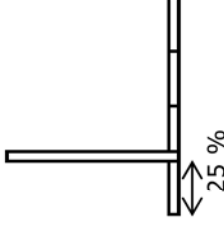
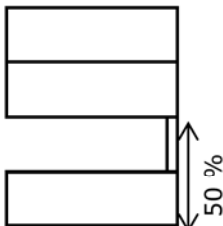
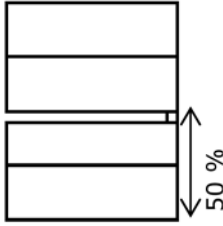
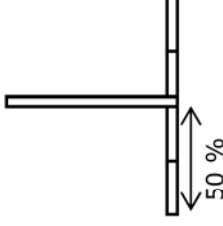
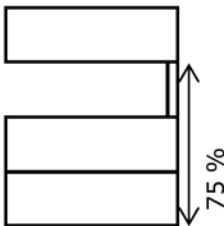
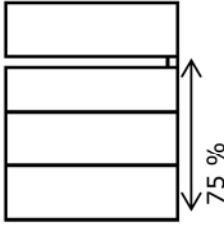
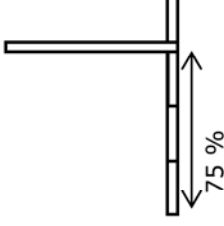
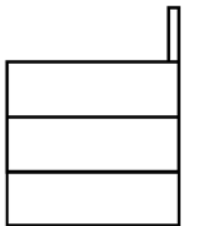
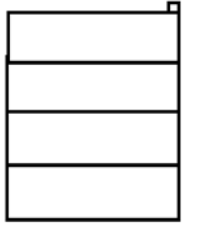
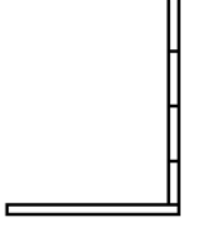
Signal	Rise position	Brightness		
		75 % (Basic)	99 %	1 %
00	Position of 25%			
01	Position of 50%			
10	Position of 75%			
11	None			

FIG. 406

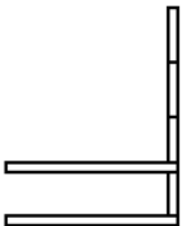
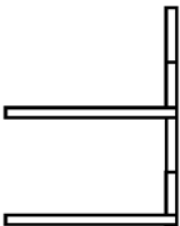
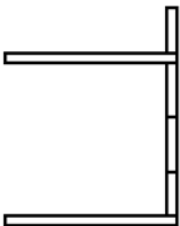
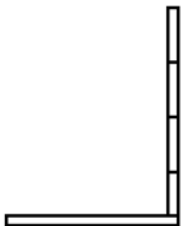
Signal	Rise position	Brightness		
		75 %	99 %	1 %
00	Position of 25%			
01	Position of 50%			
10	Position of 75%			
11	None			

FIG. 407A

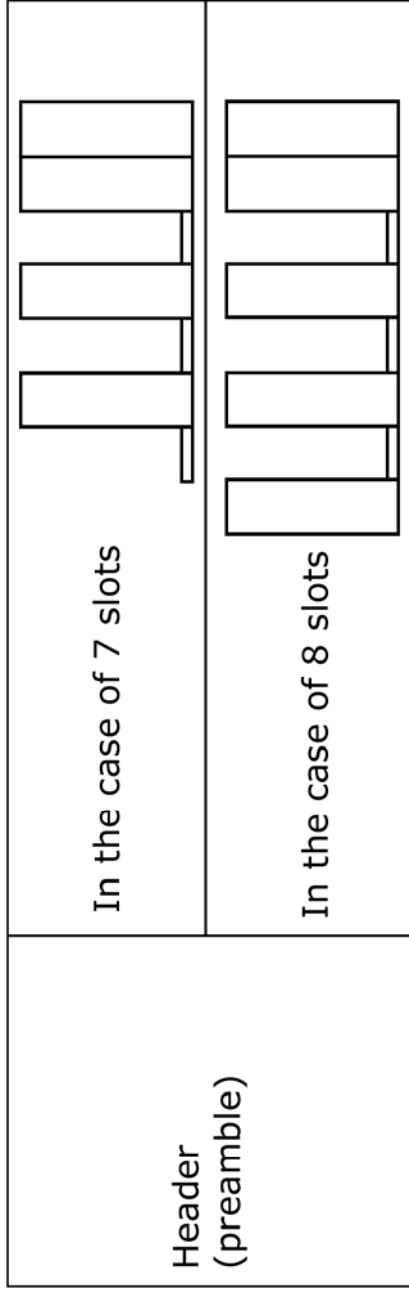


FIG. 407B

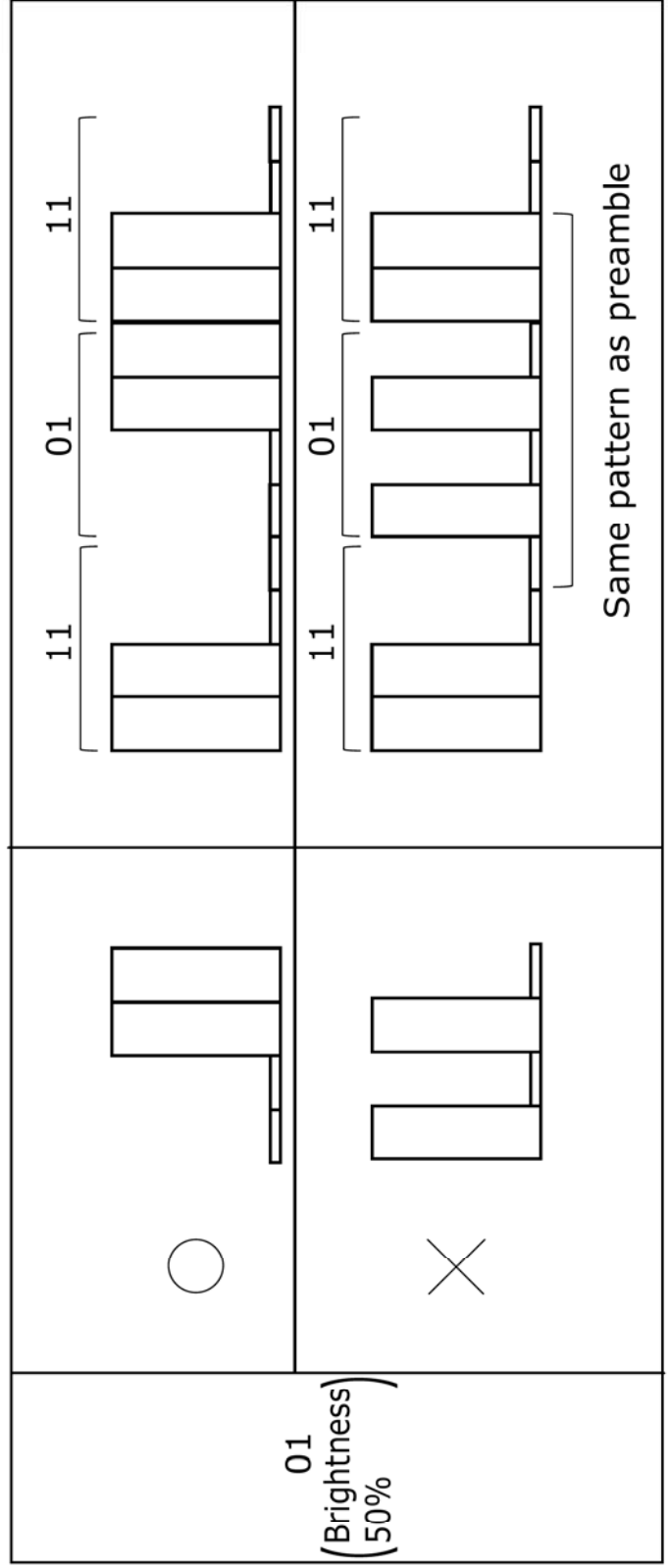


FIG. 408A

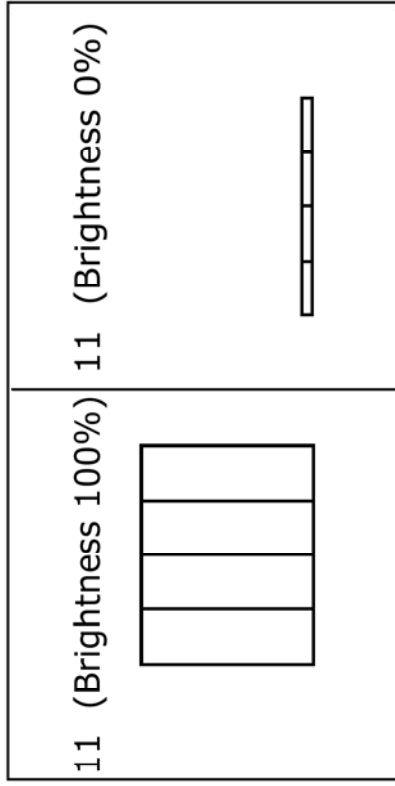
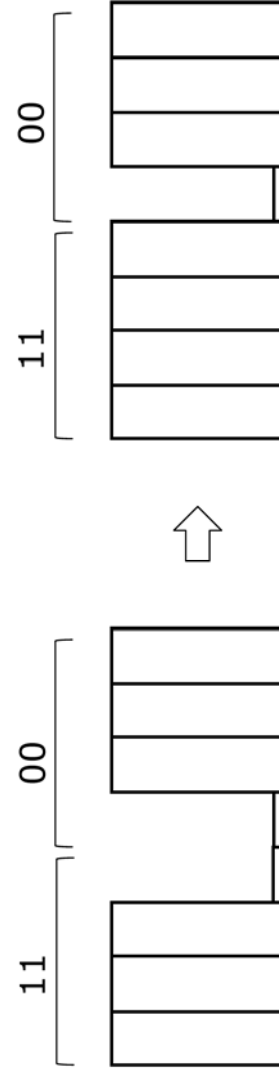


FIG. 408B



In the case of consecutive Ls,
L other than last L is set to H

FIG. 409

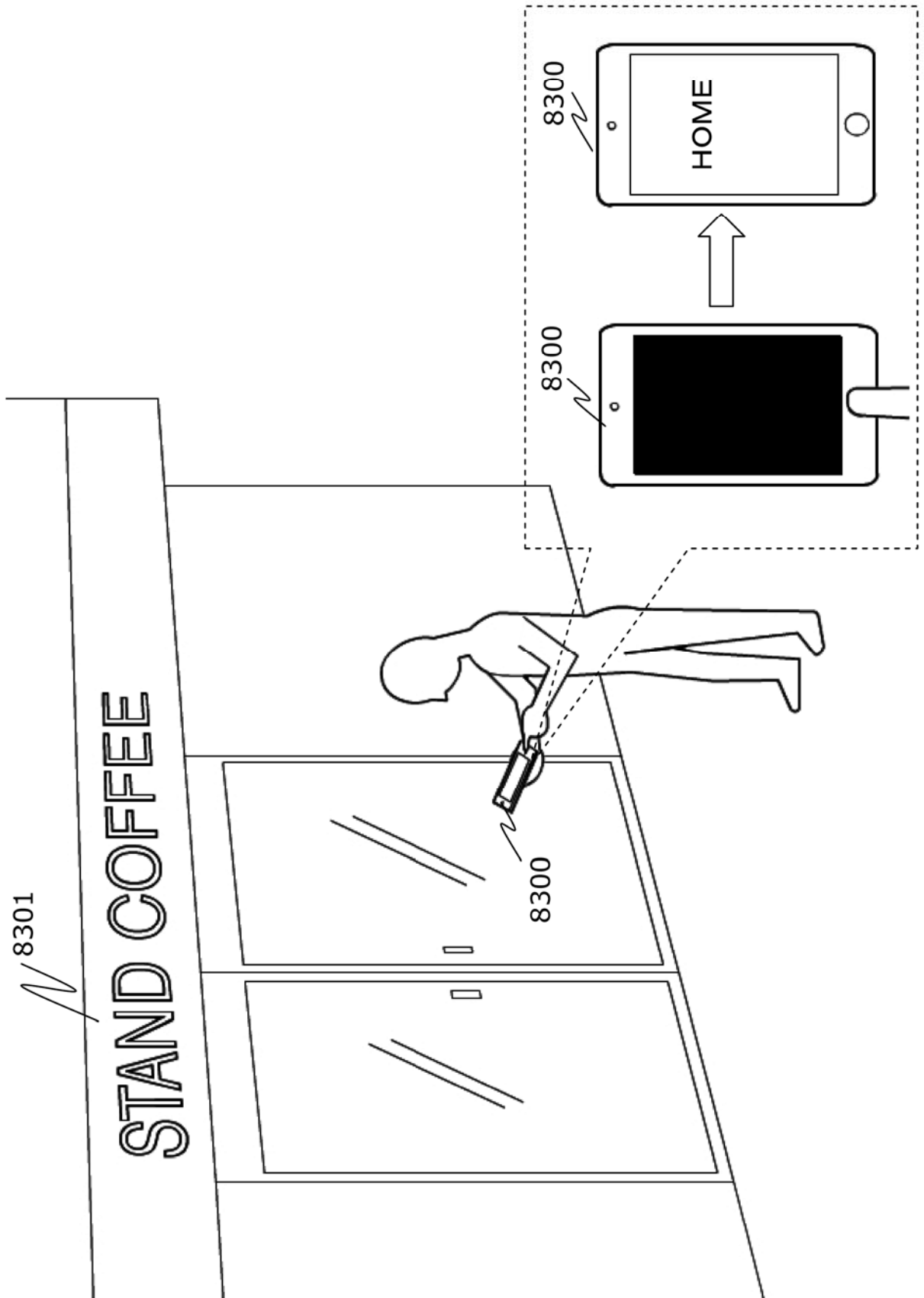


FIG. 410

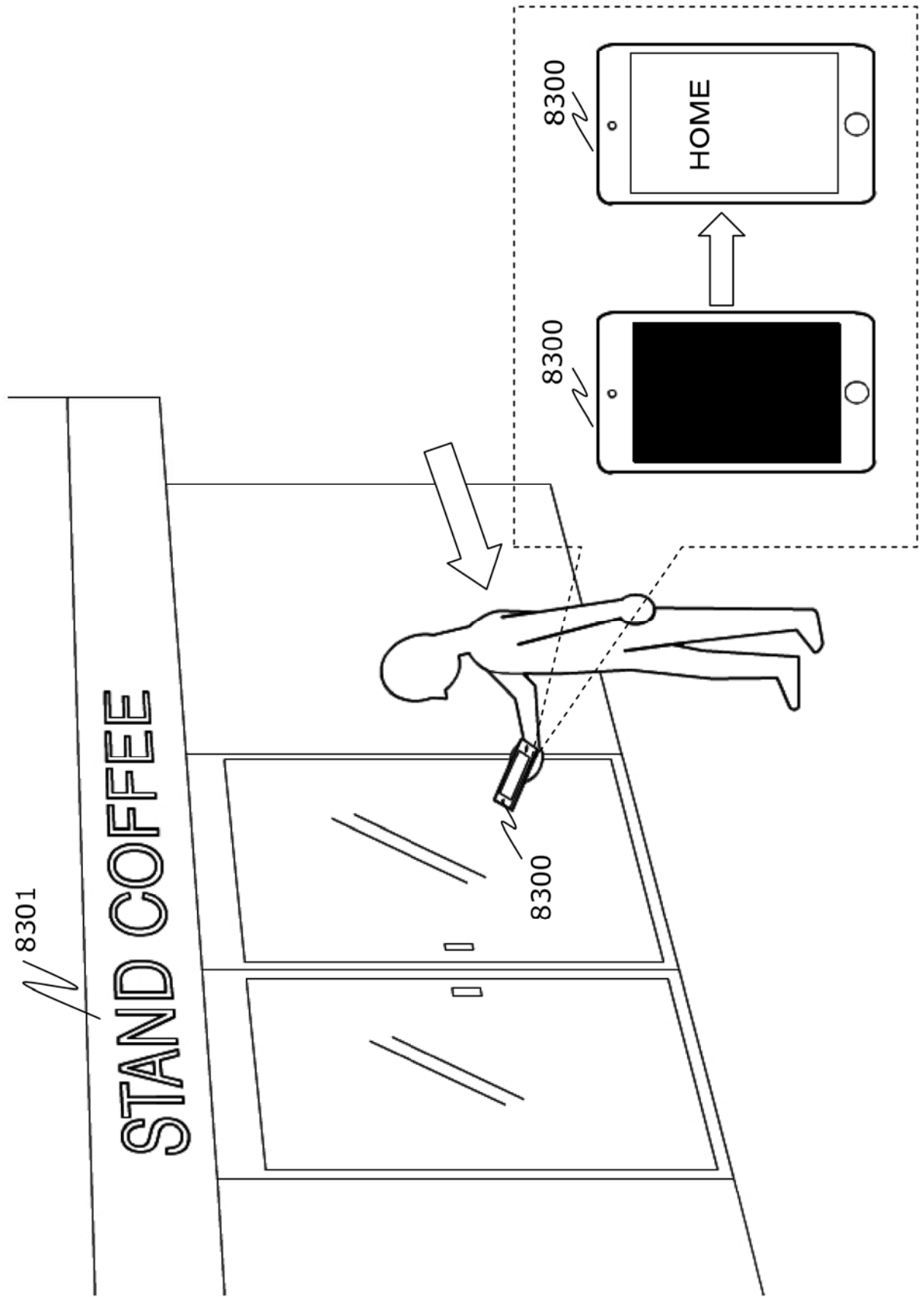


FIG. 411

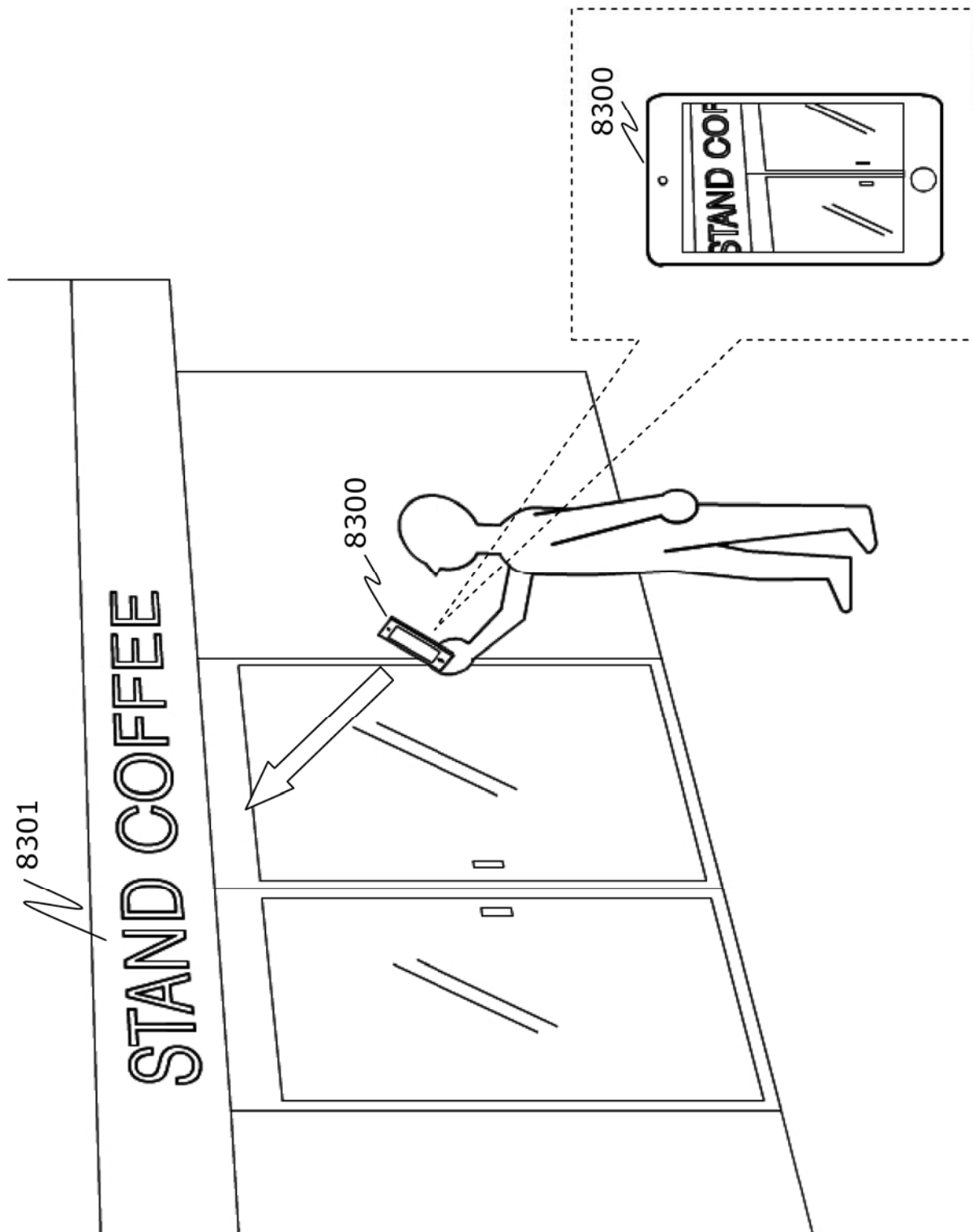


FIG. 412

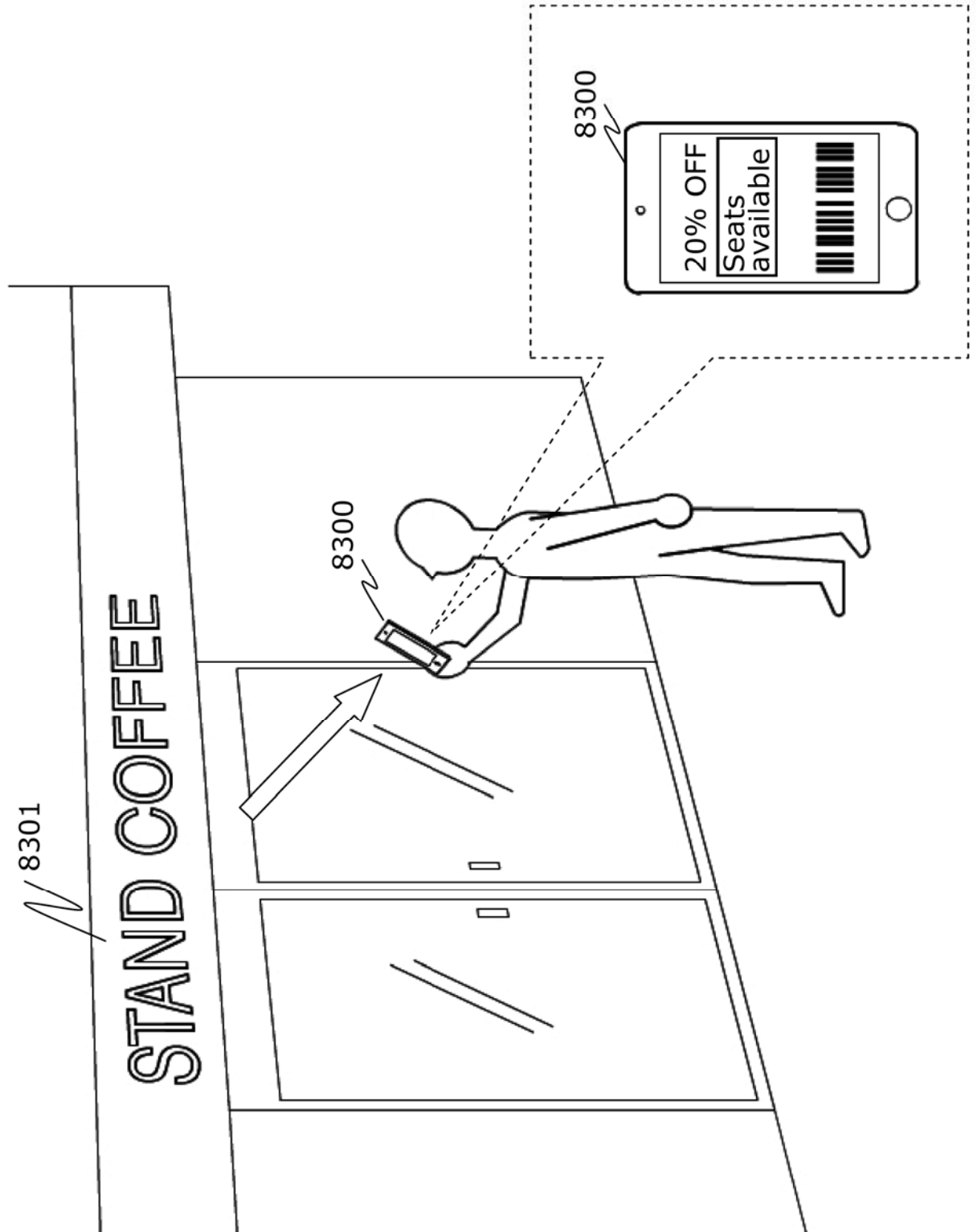


FIG. 413

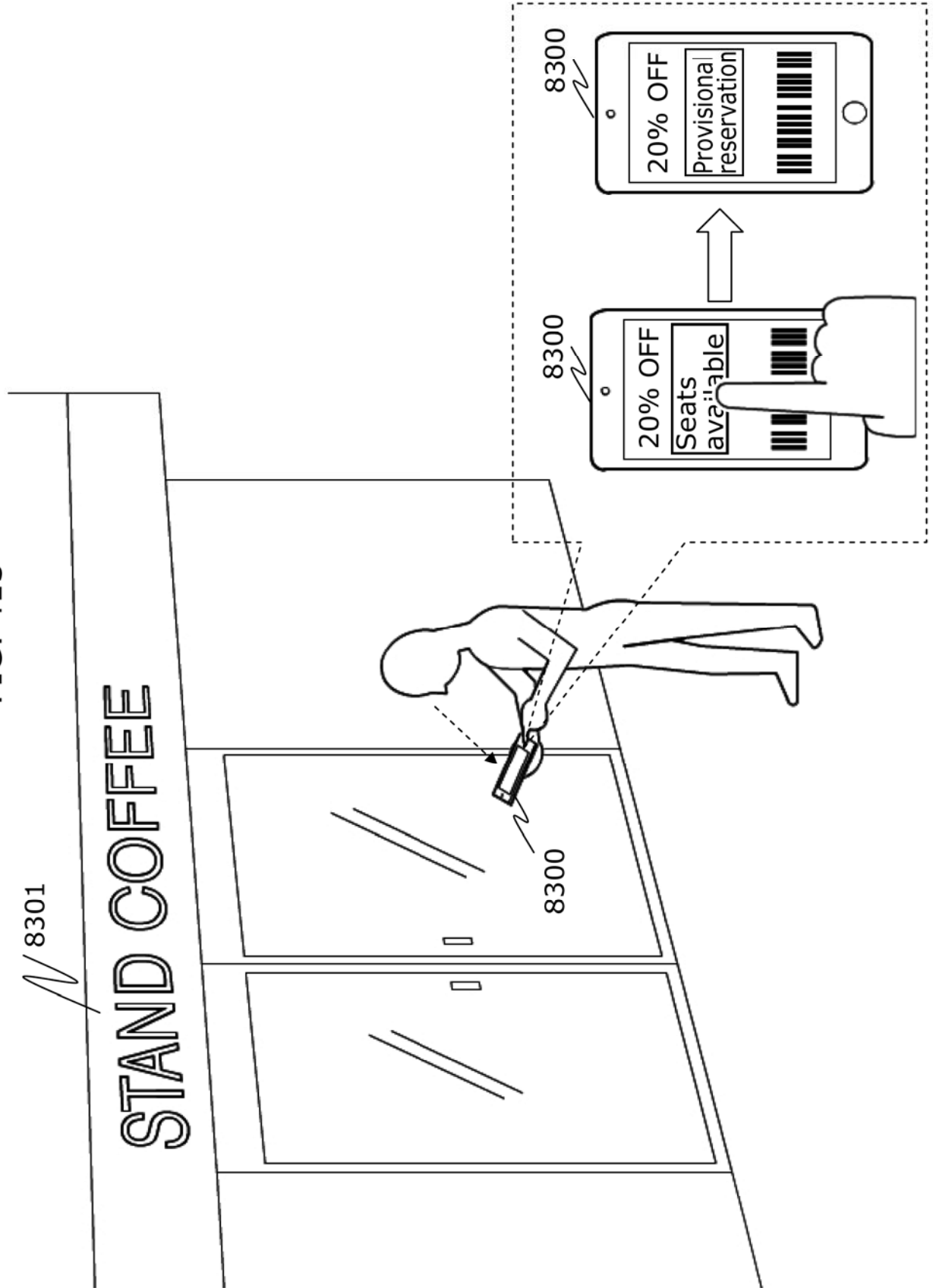


FIG. 414

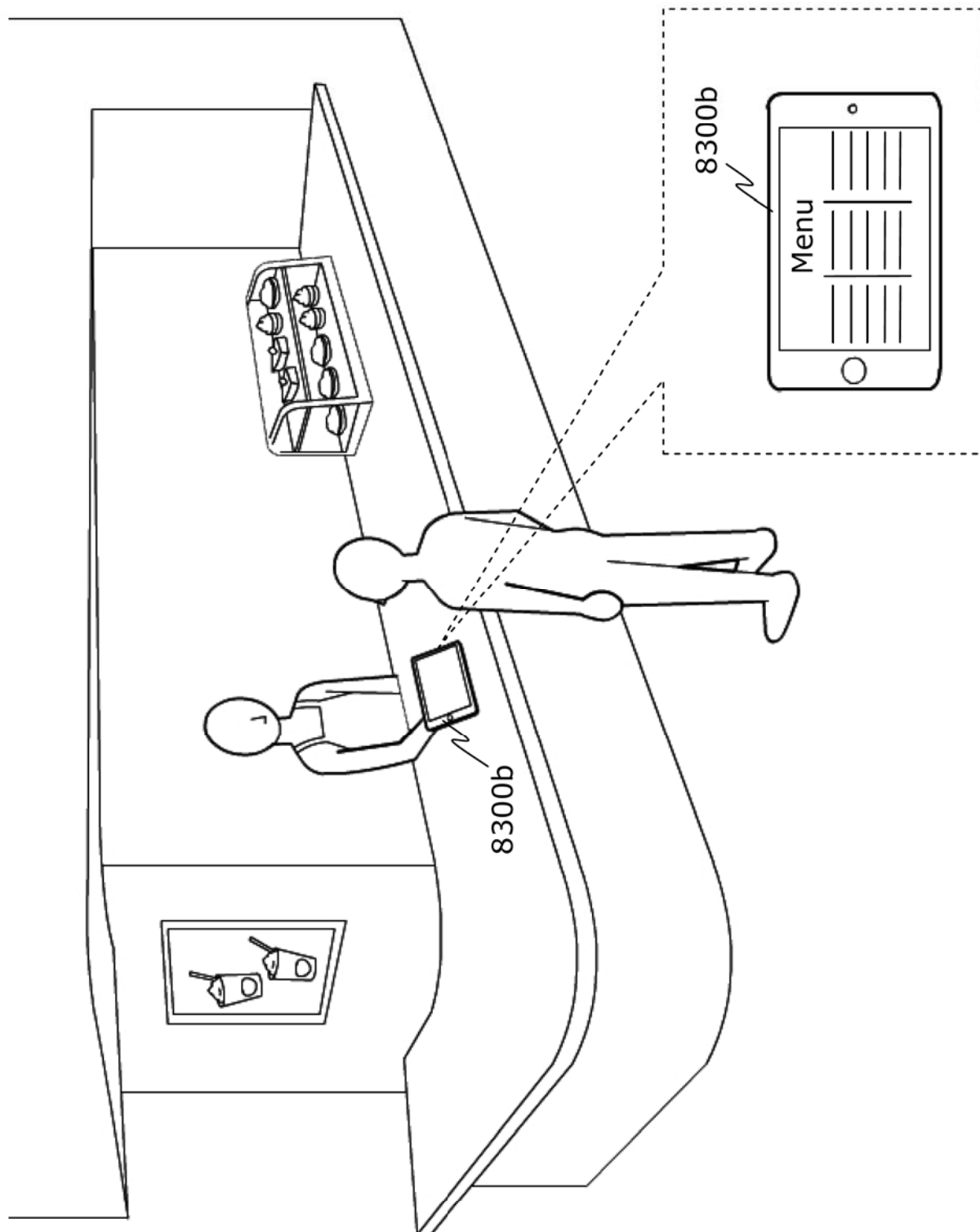


FIG. 415

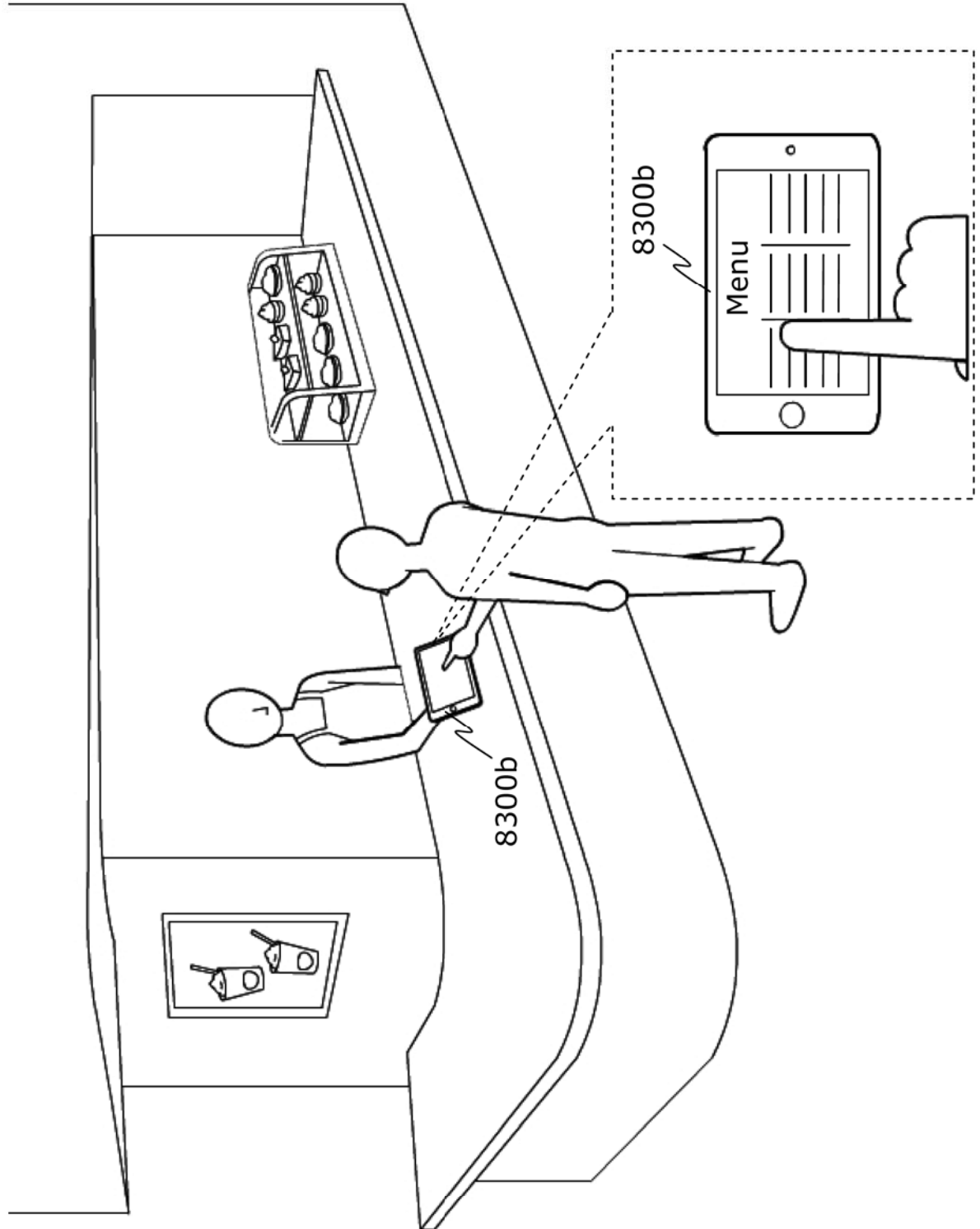


FIG. 416

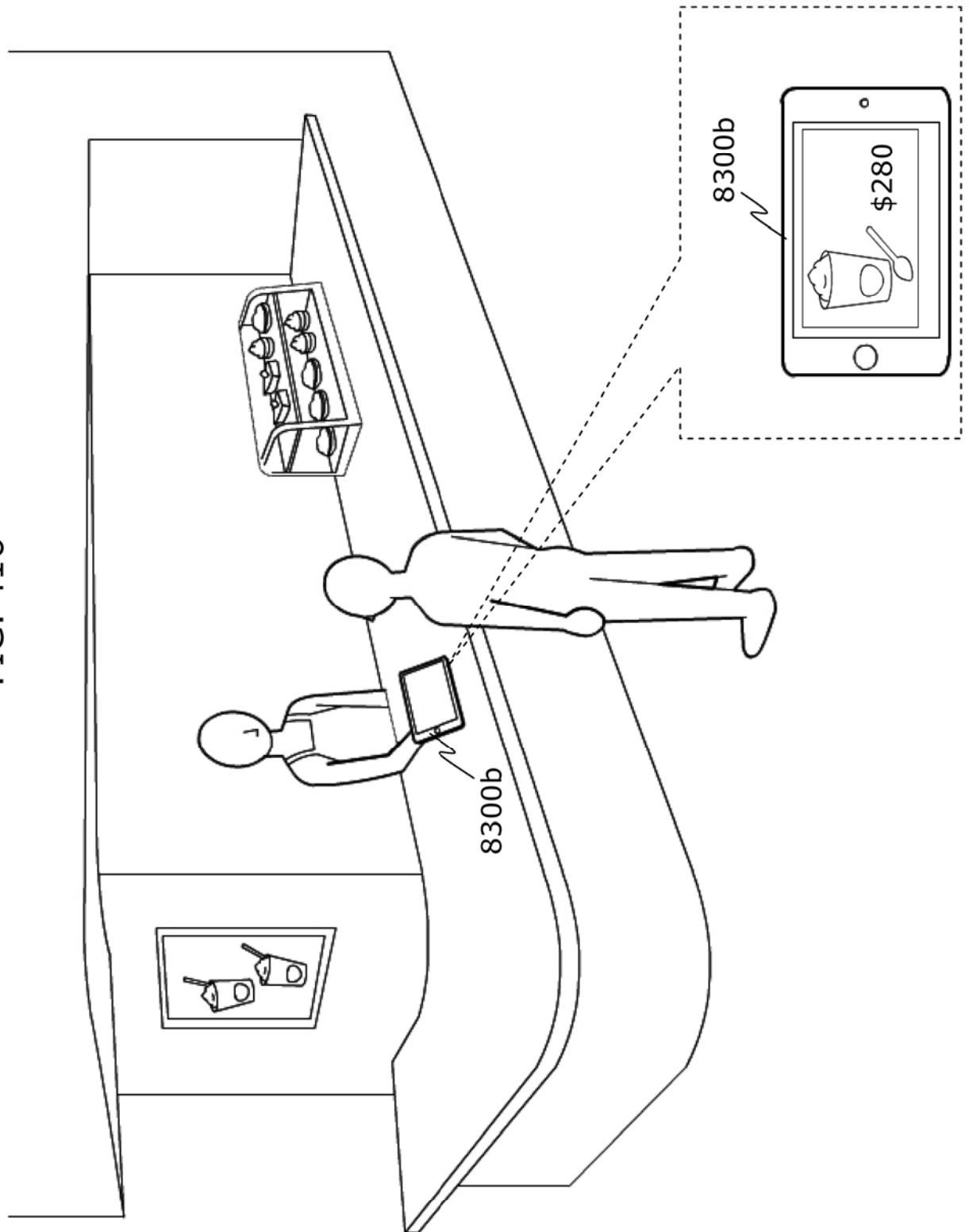


FIG. 417

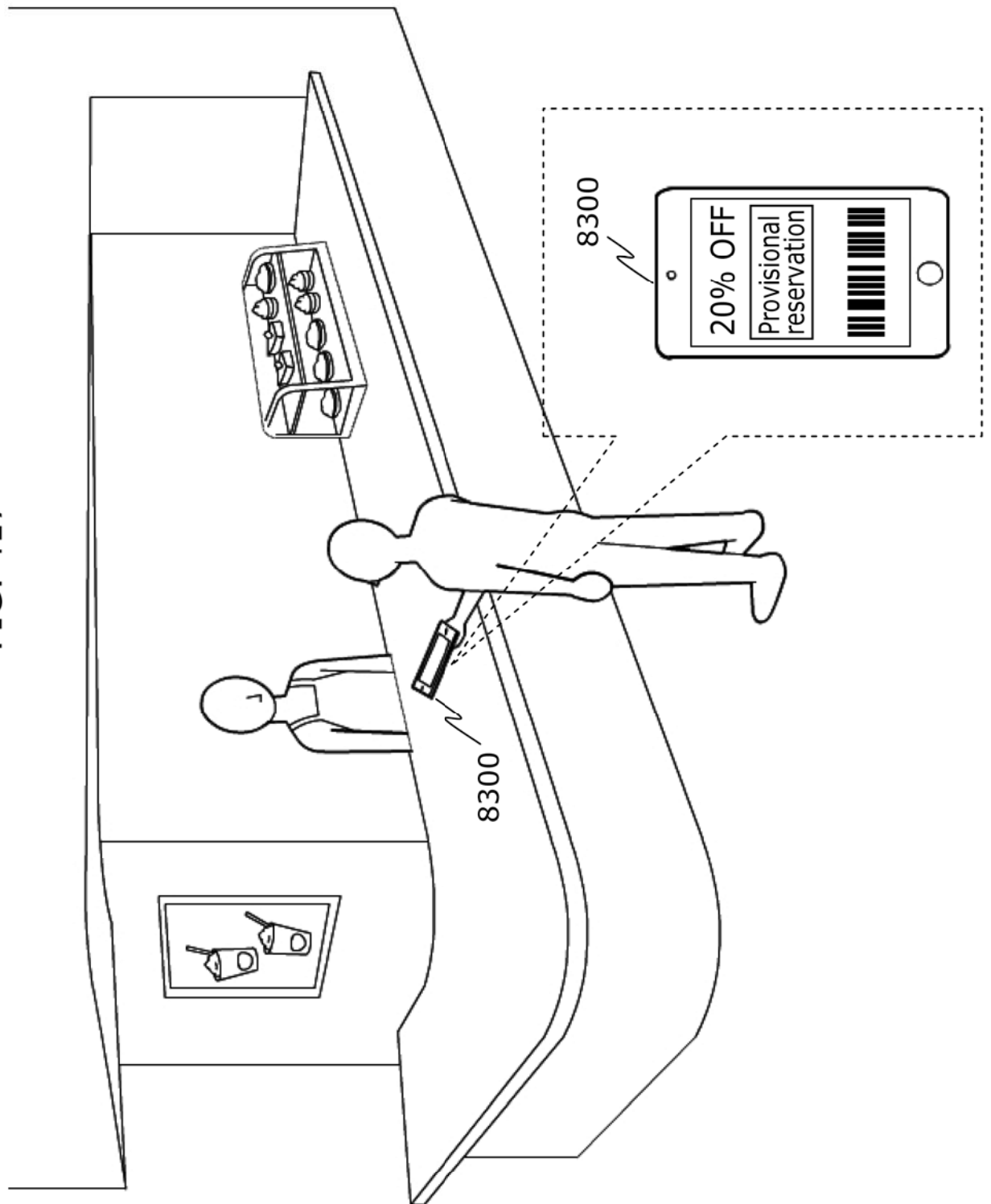


FIG. 418

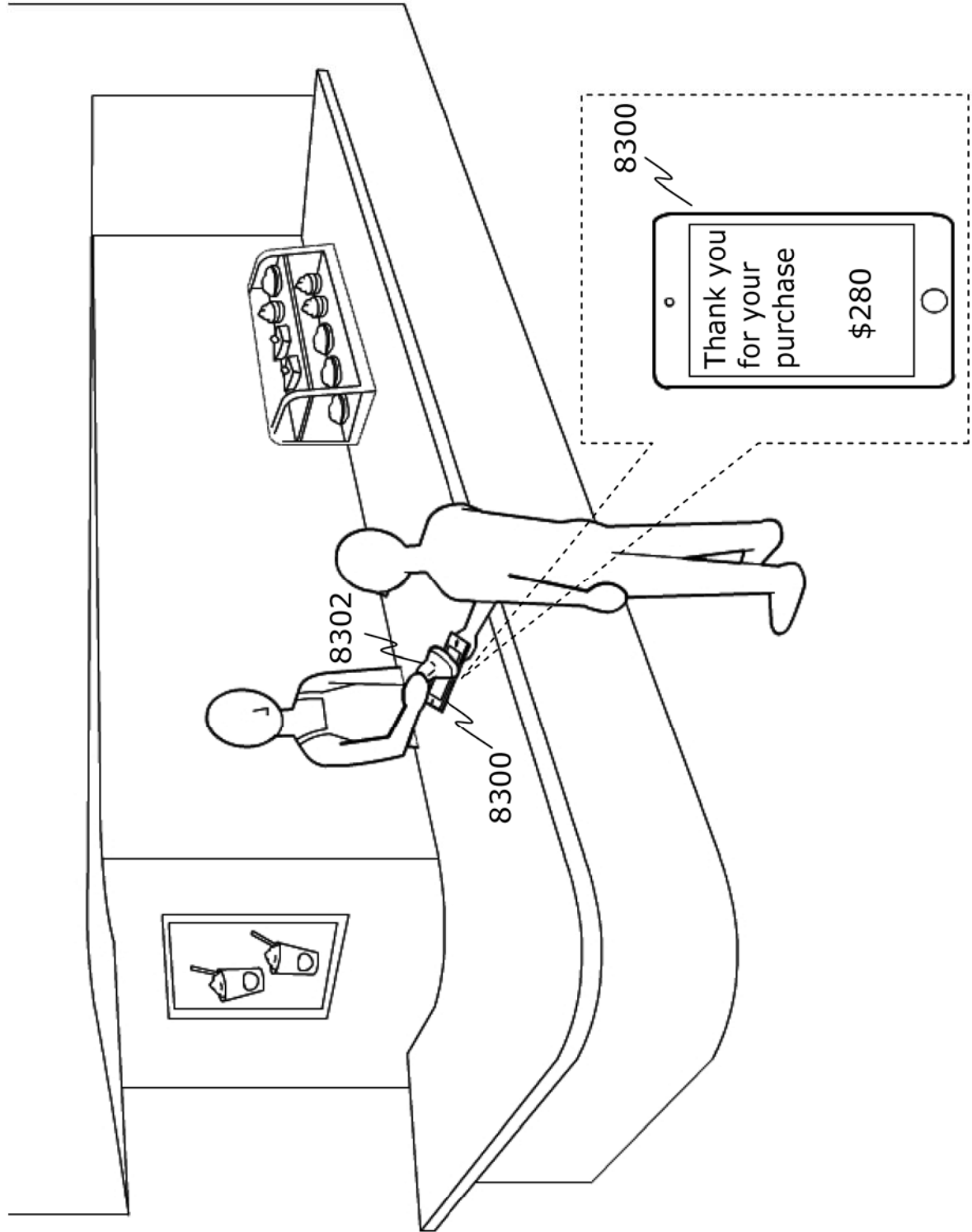


FIG. 419

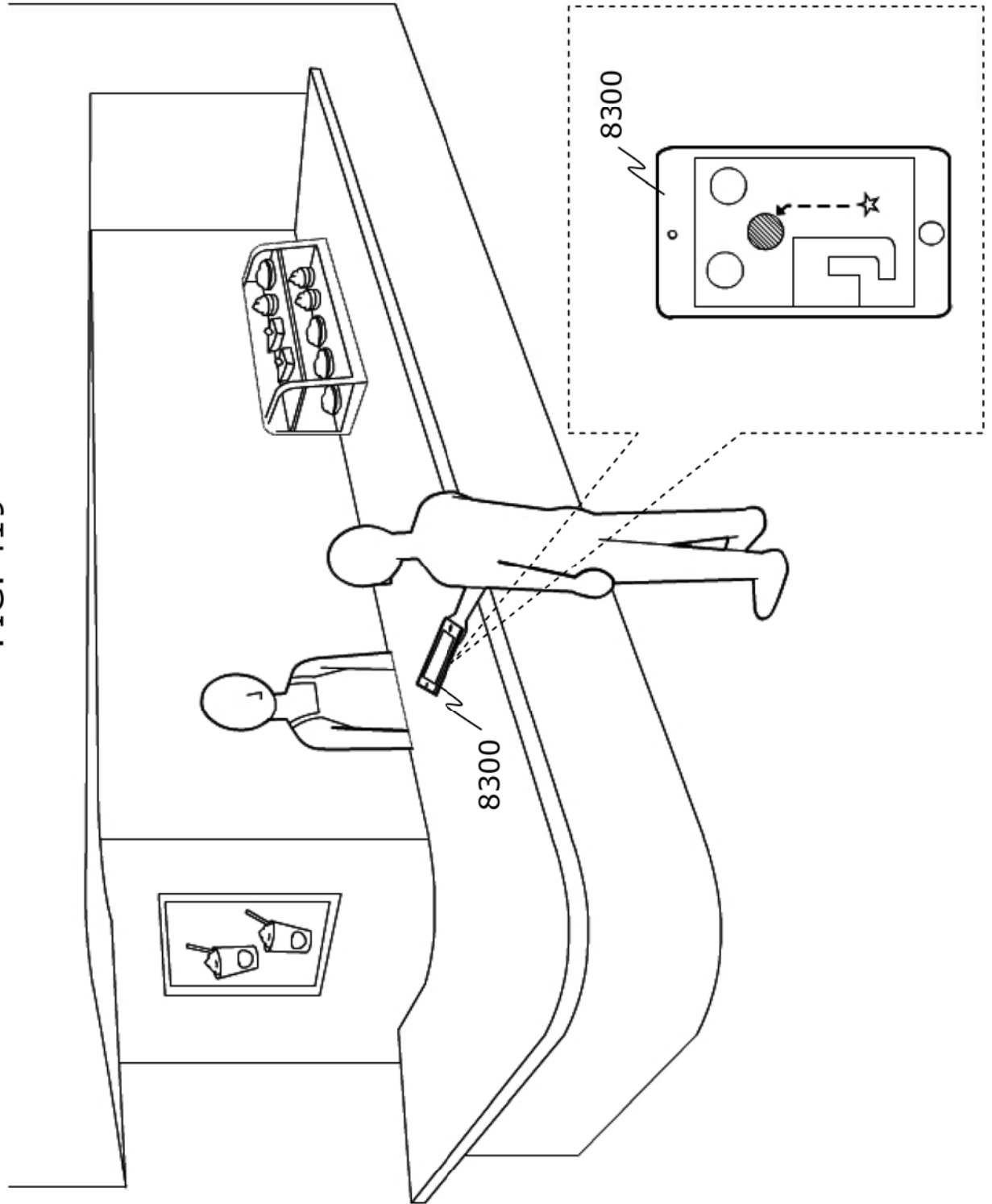


FIG. 420

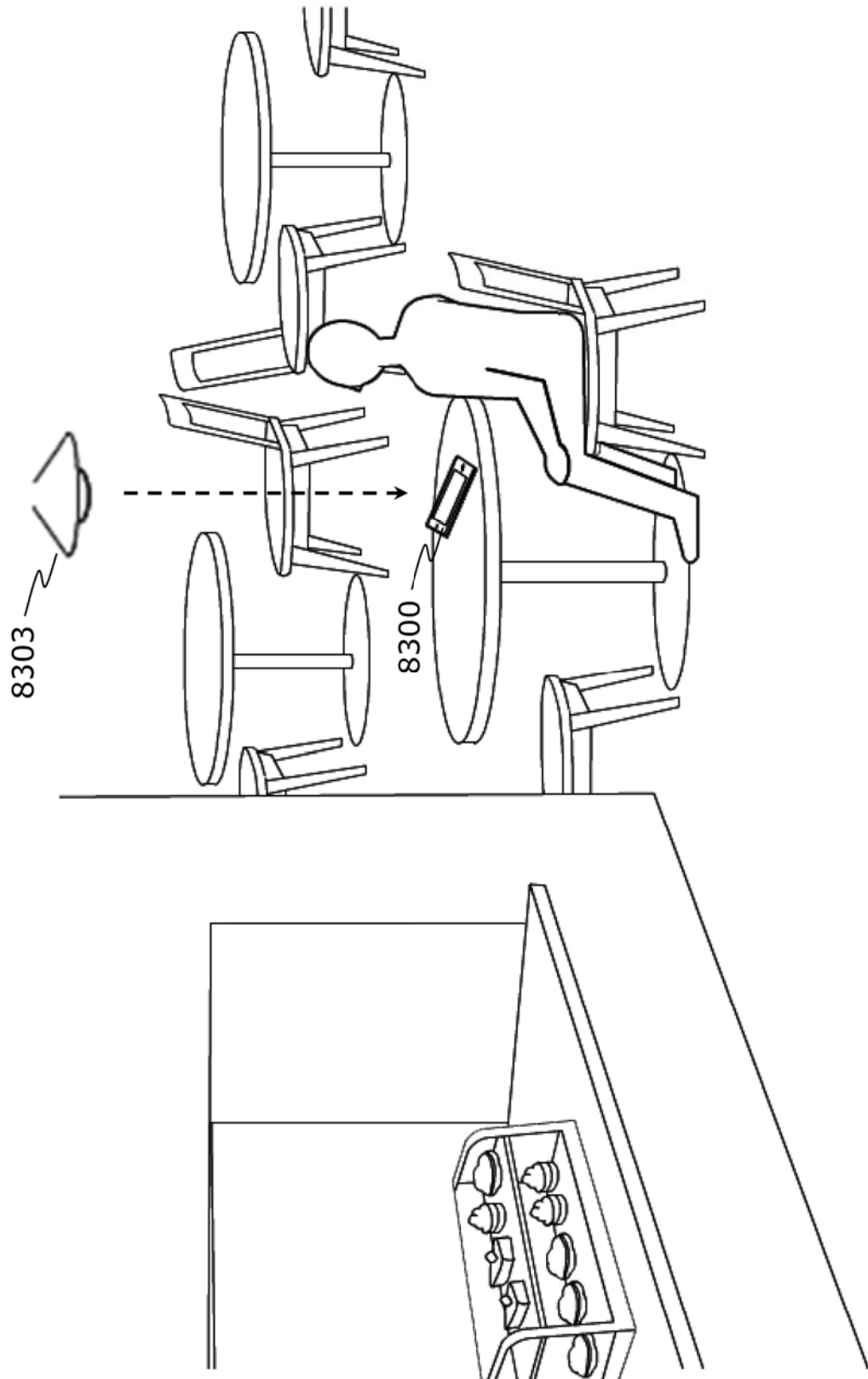


FIG. 421

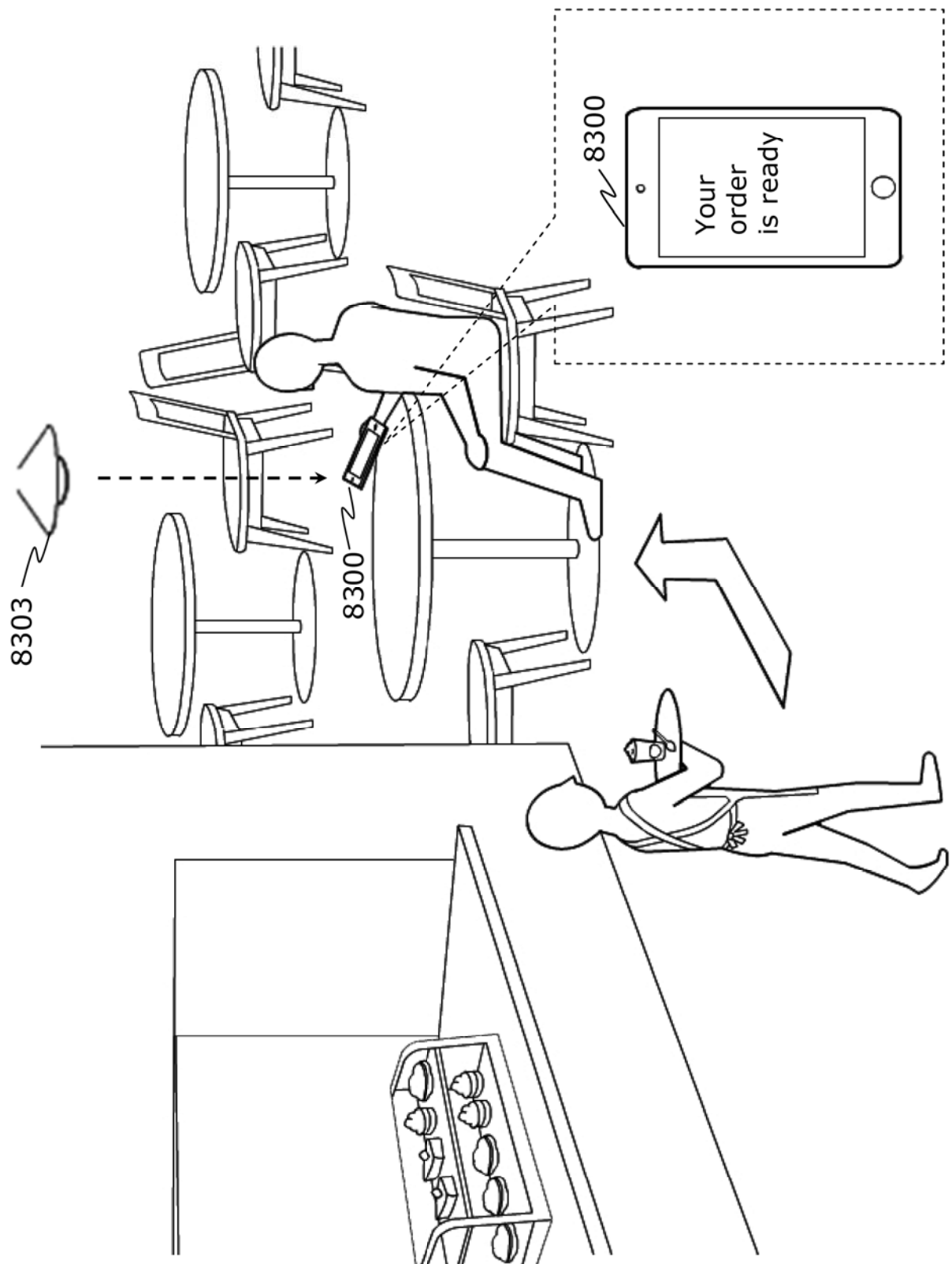


FIG. 422

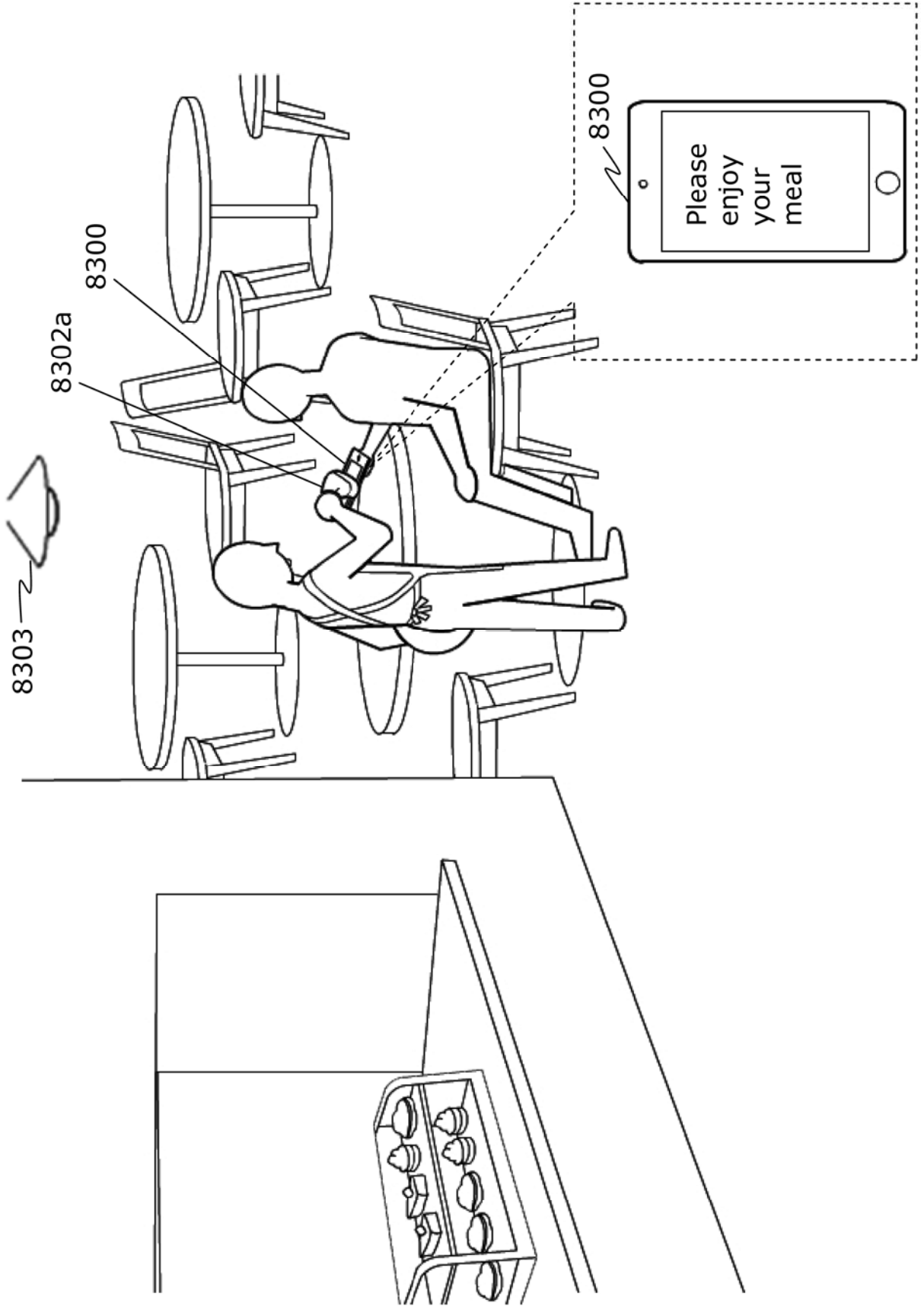


FIG. 423

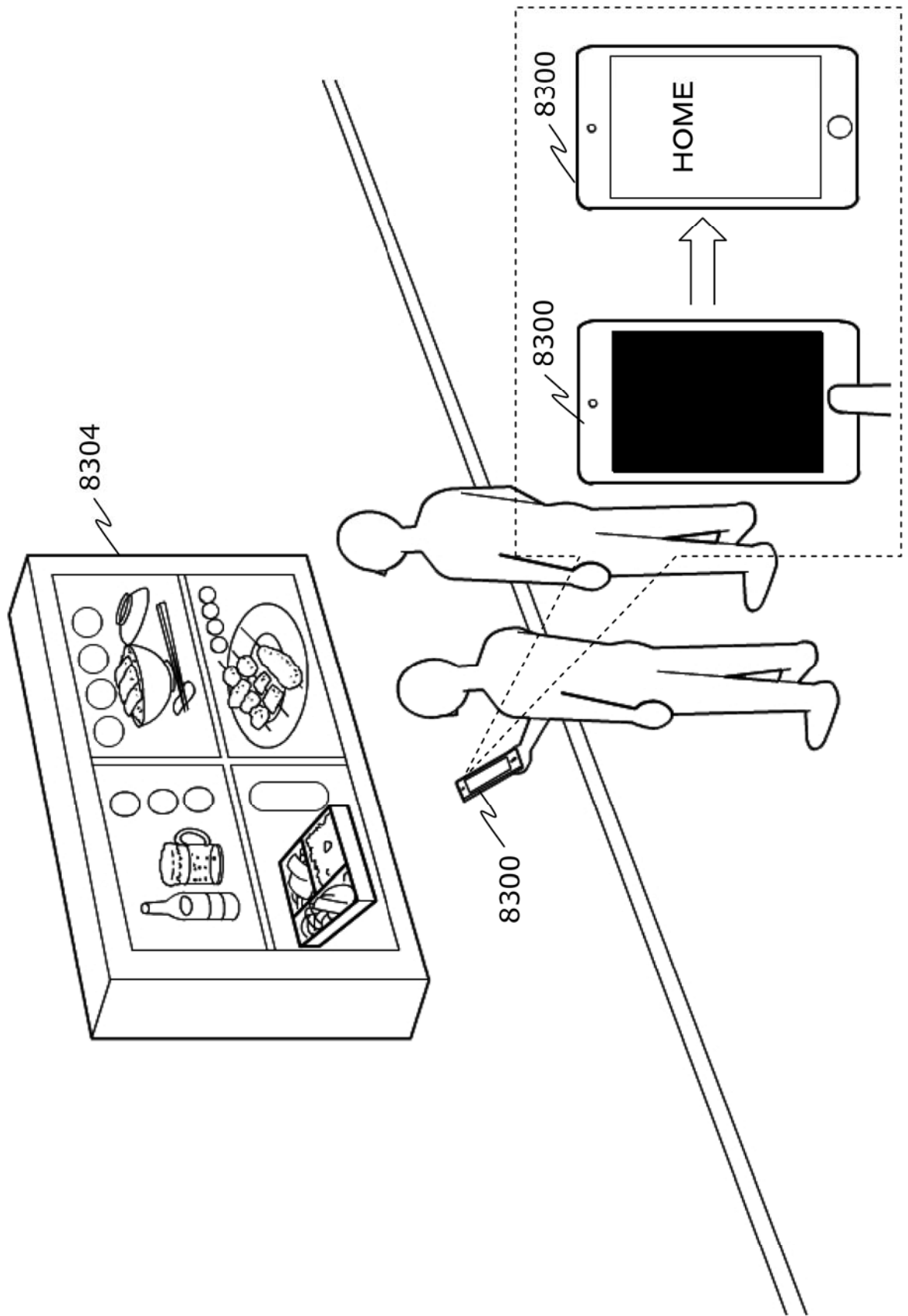


FIG. 424

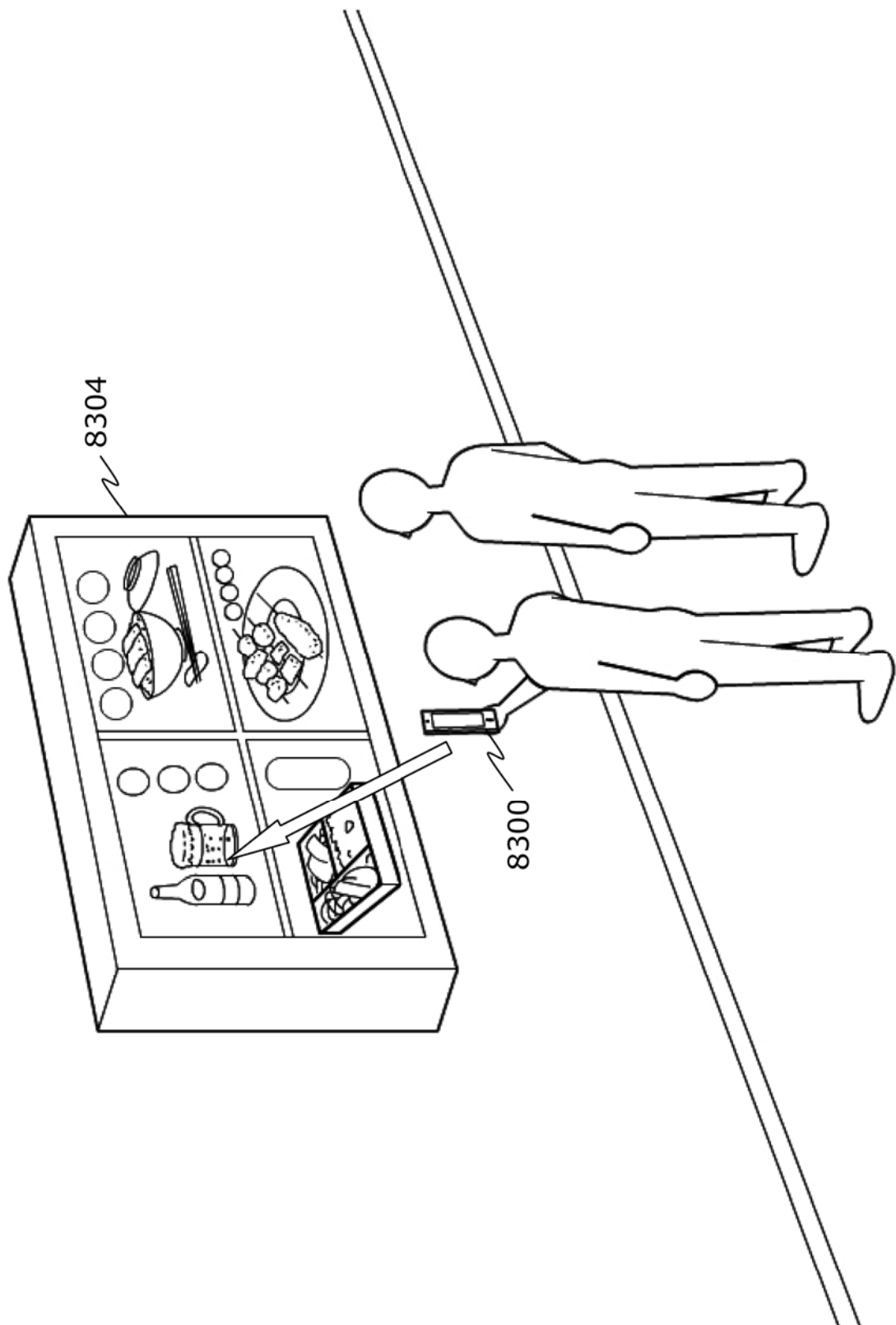


FIG. 425

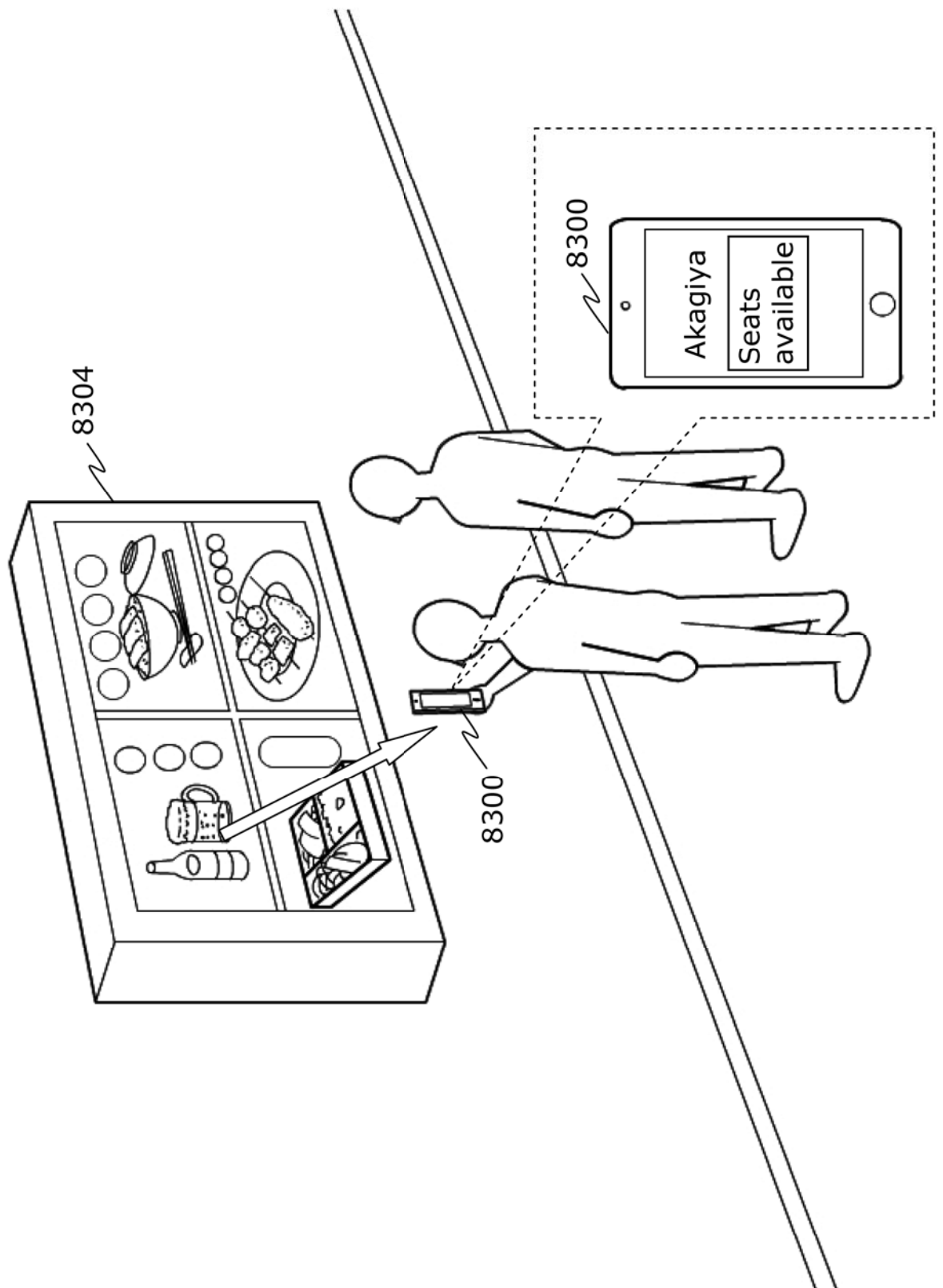


FIG. 426

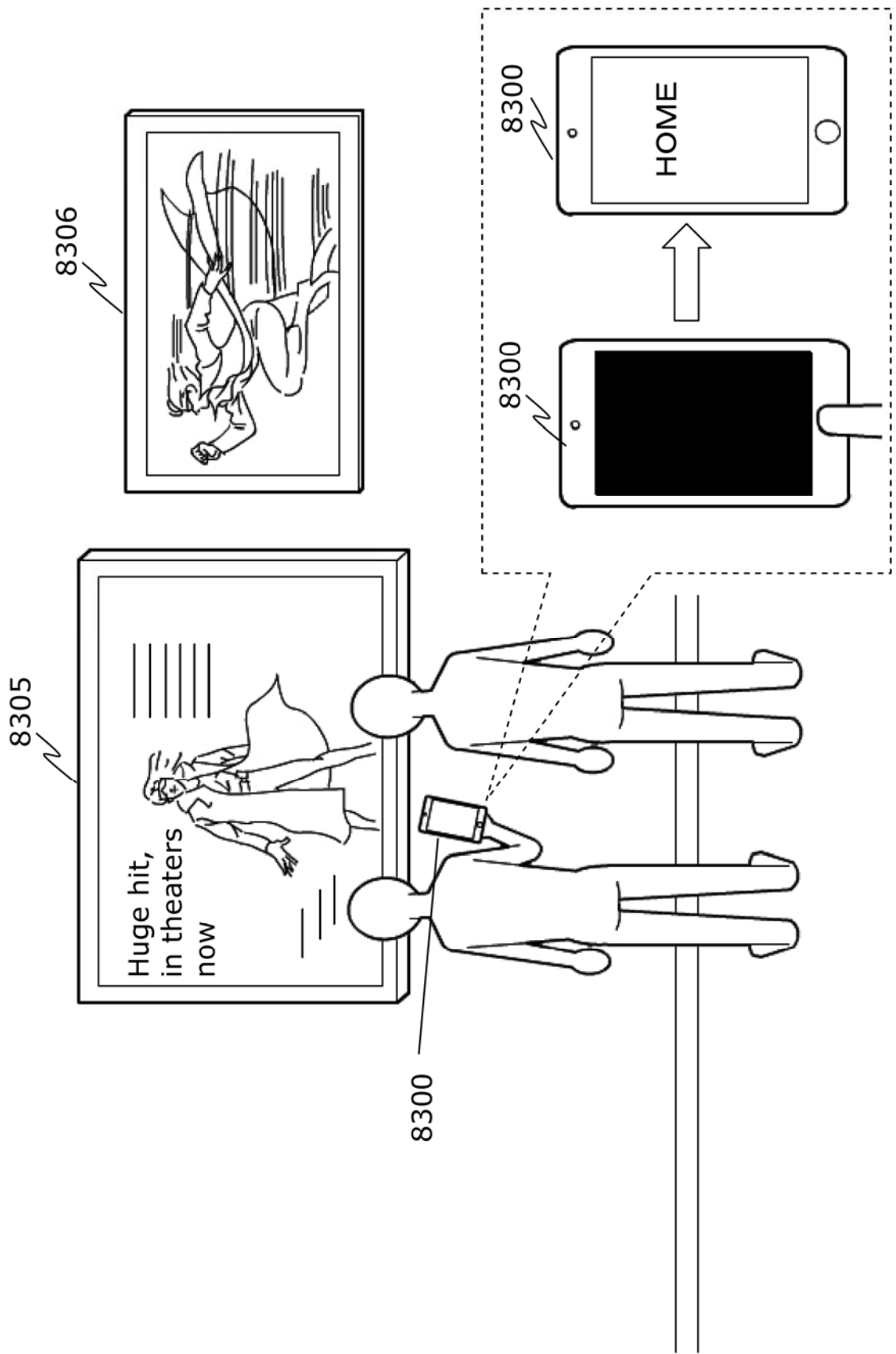


FIG. 427

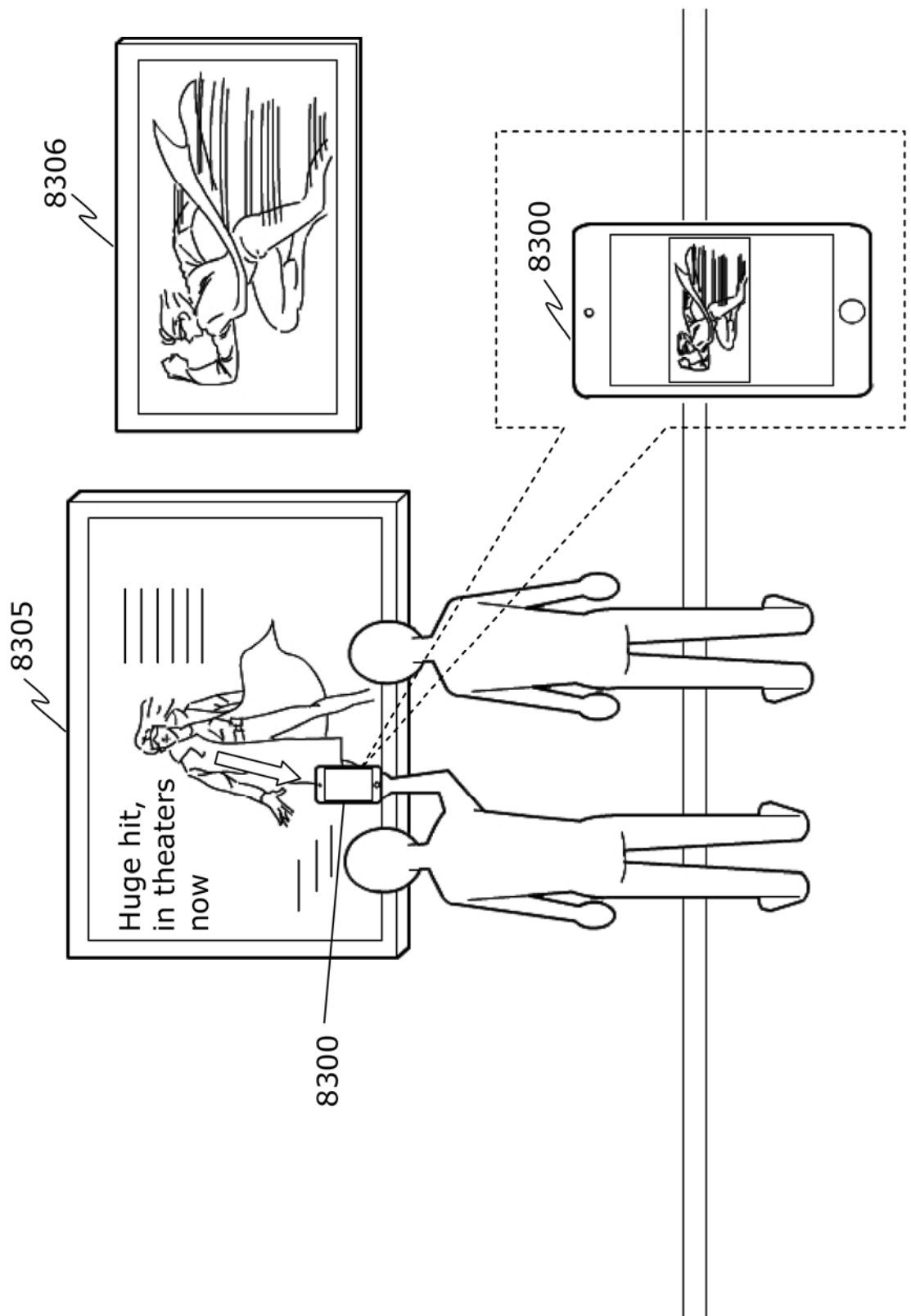


FIG. 428

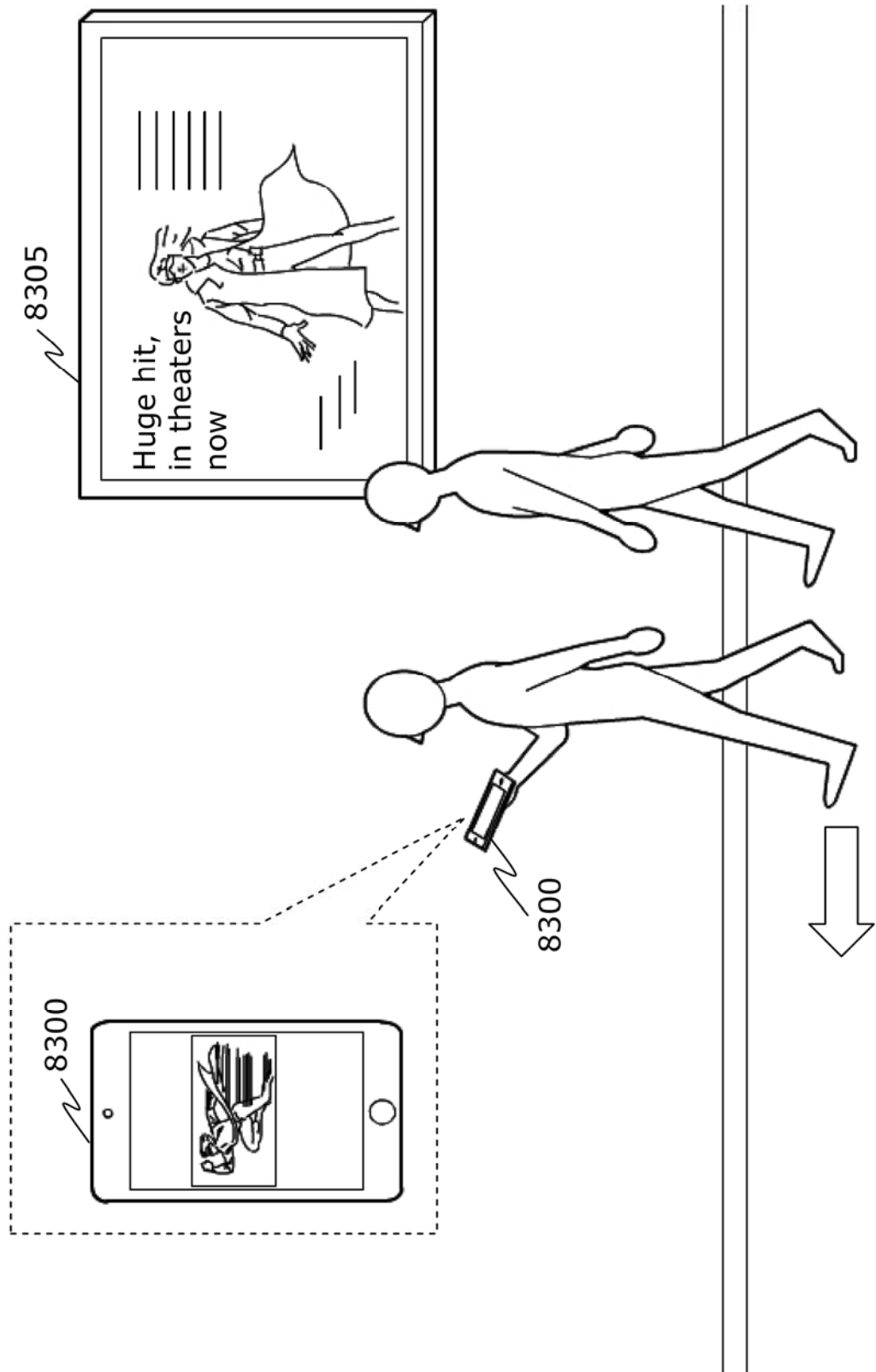


FIG. 429

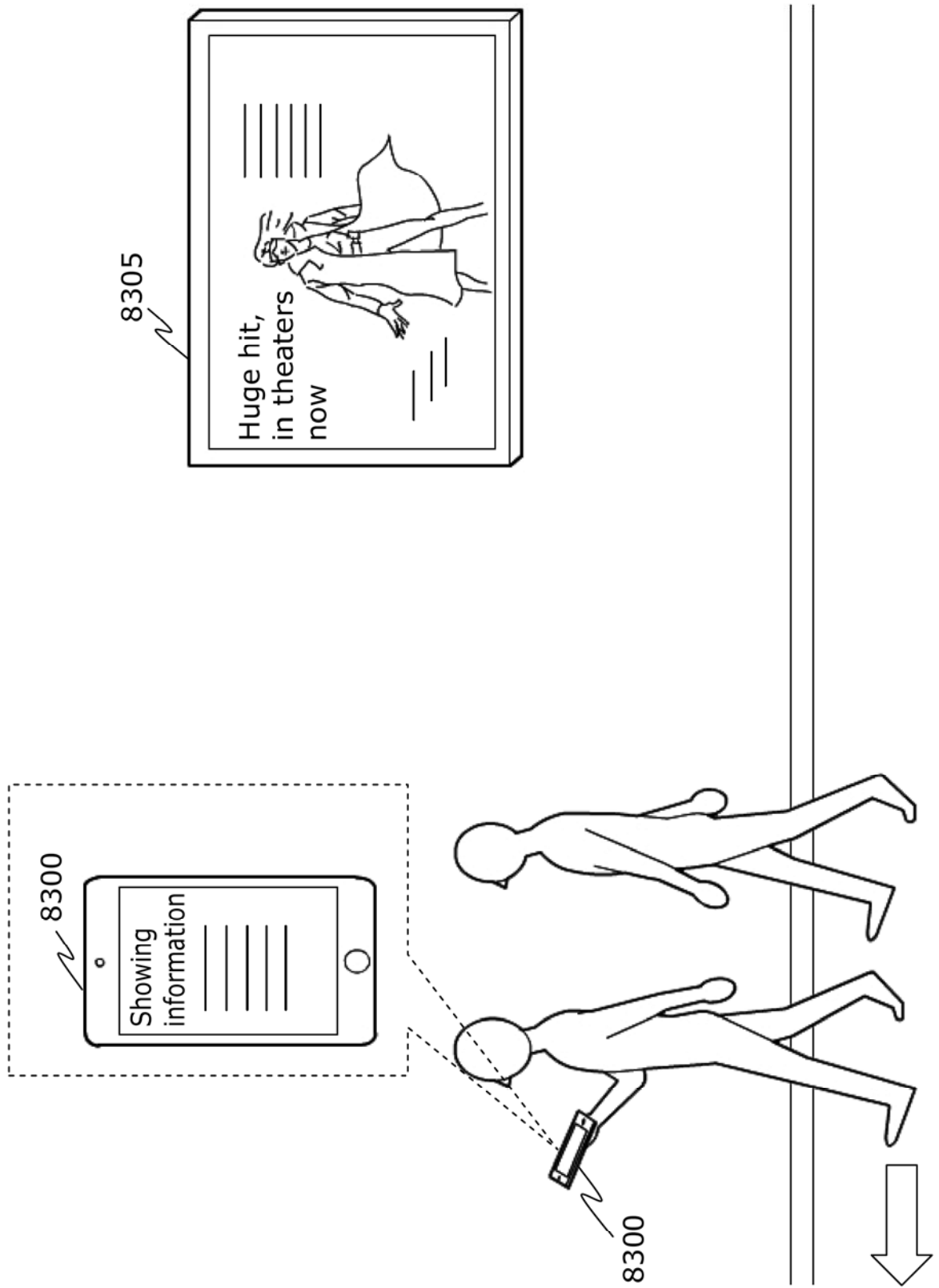


FIG. 430

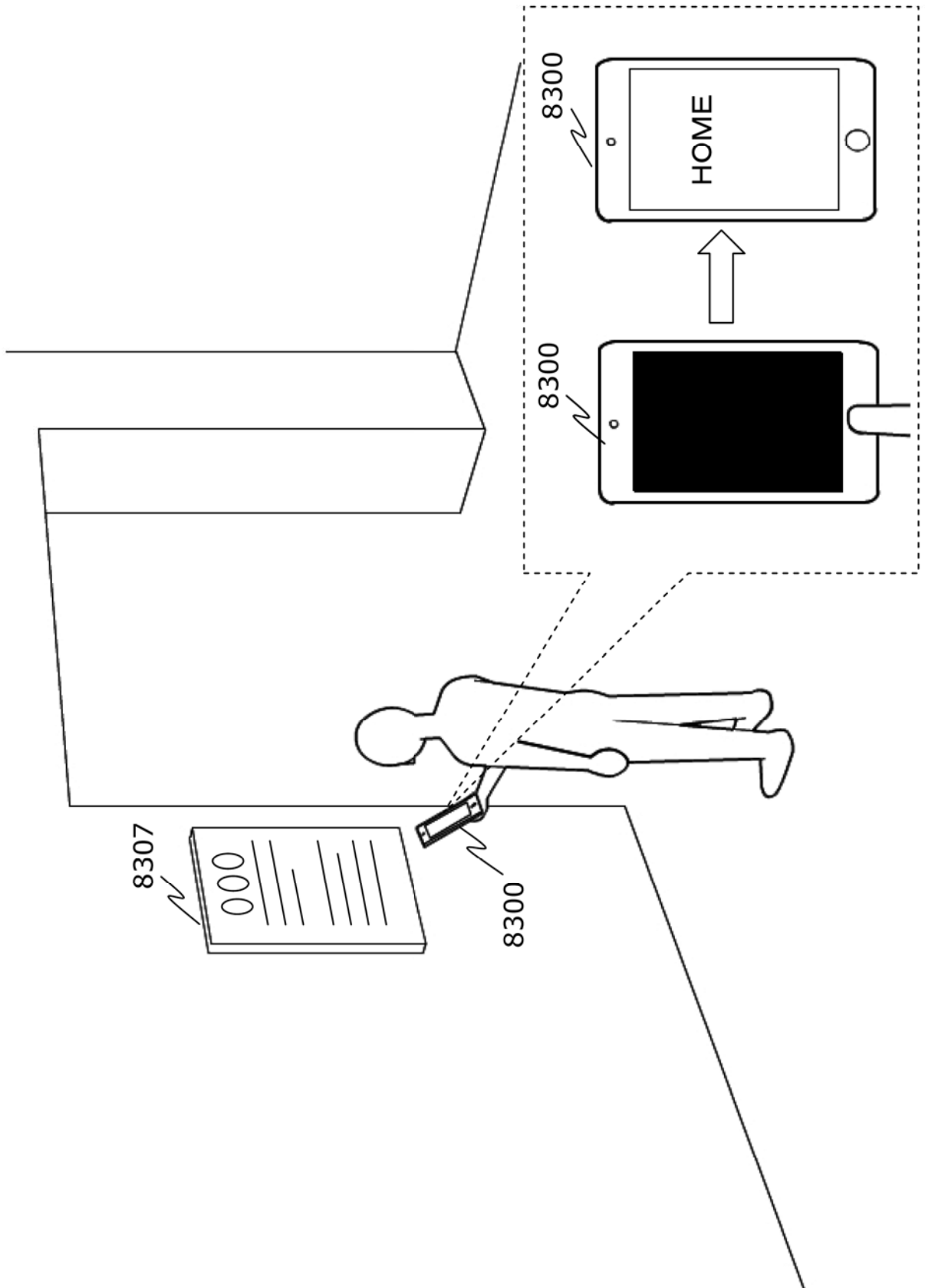


FIG. 431

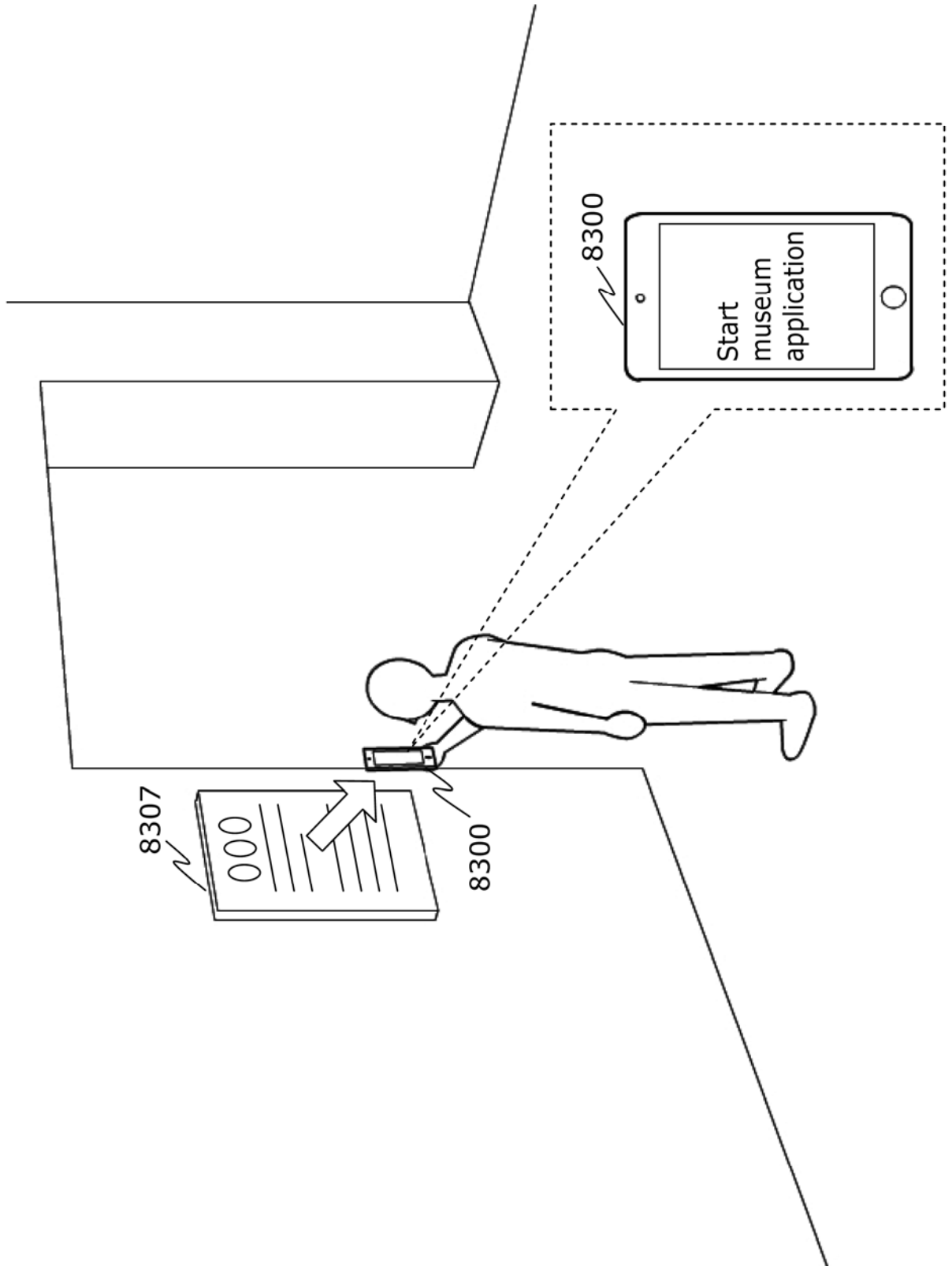


FIG. 432

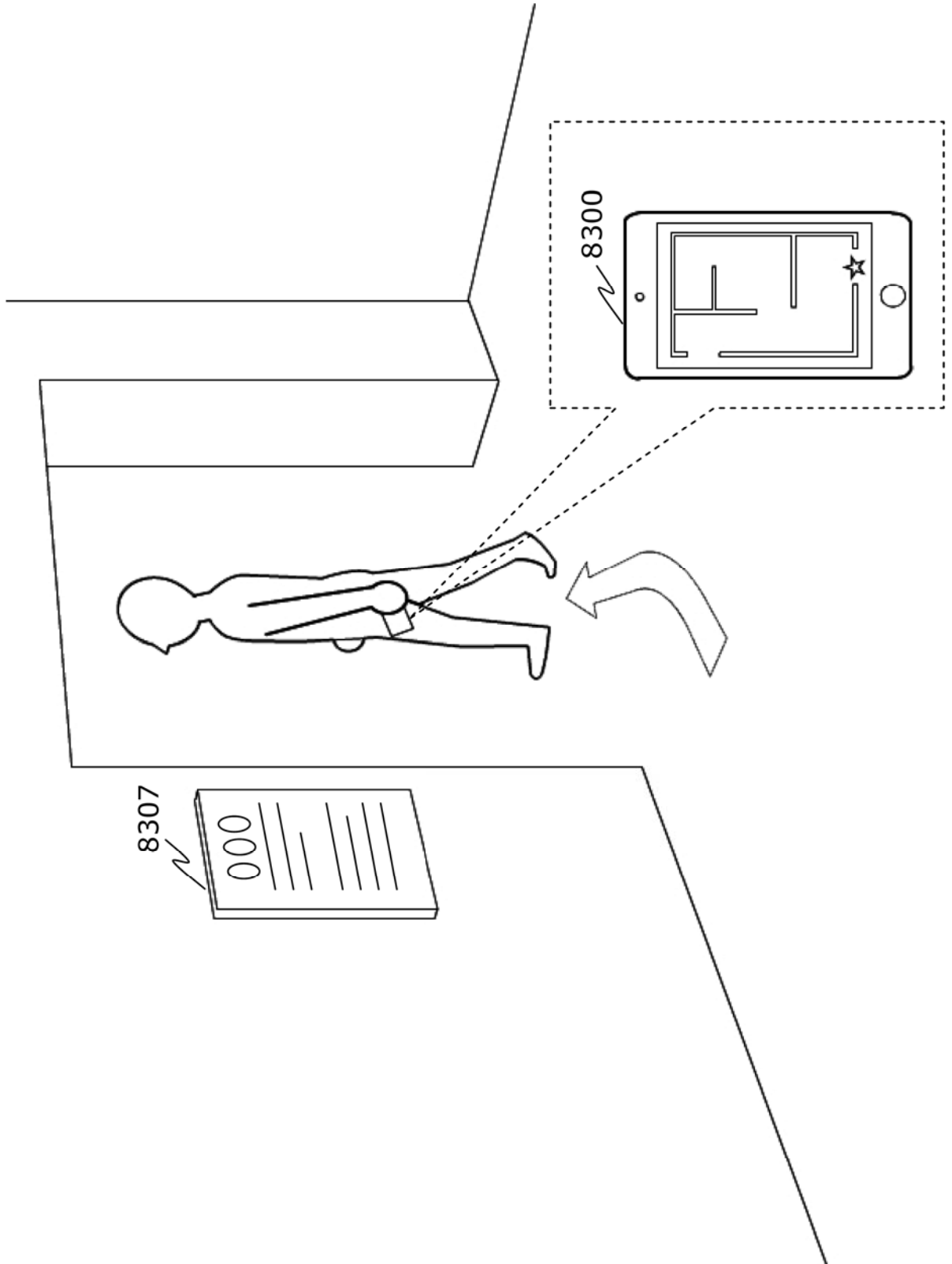


FIG. 433

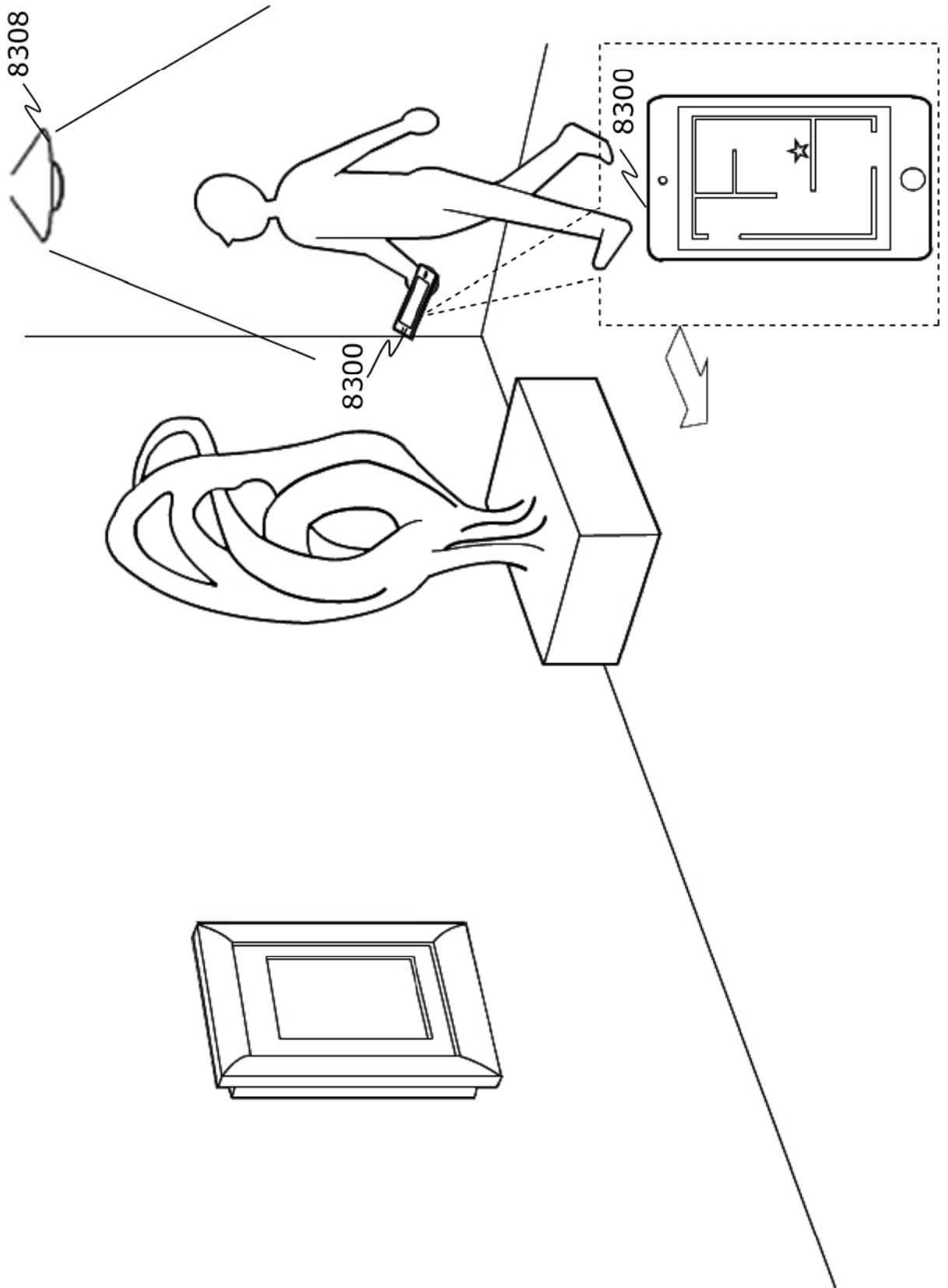


FIG. 434

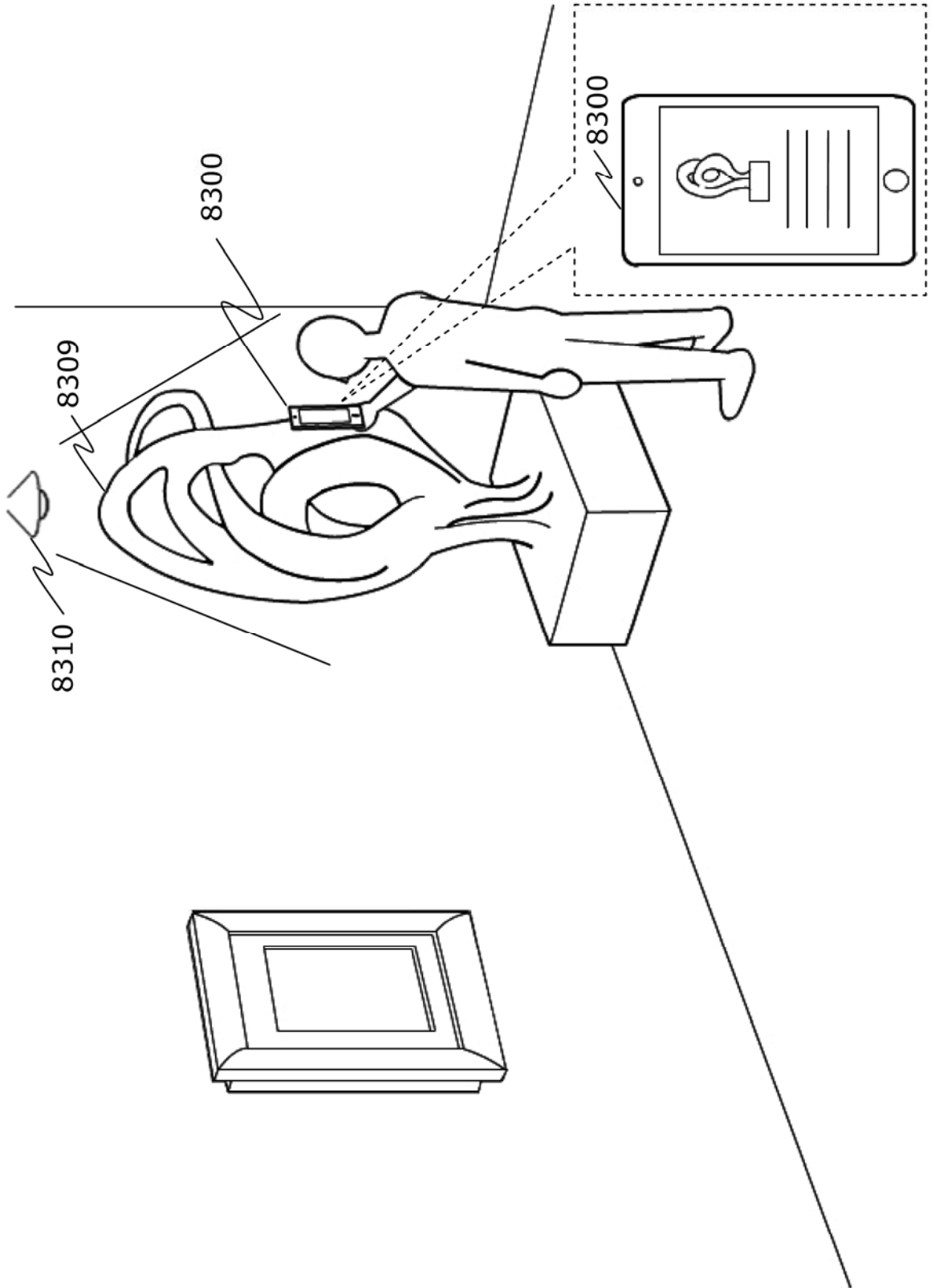


FIG. 435

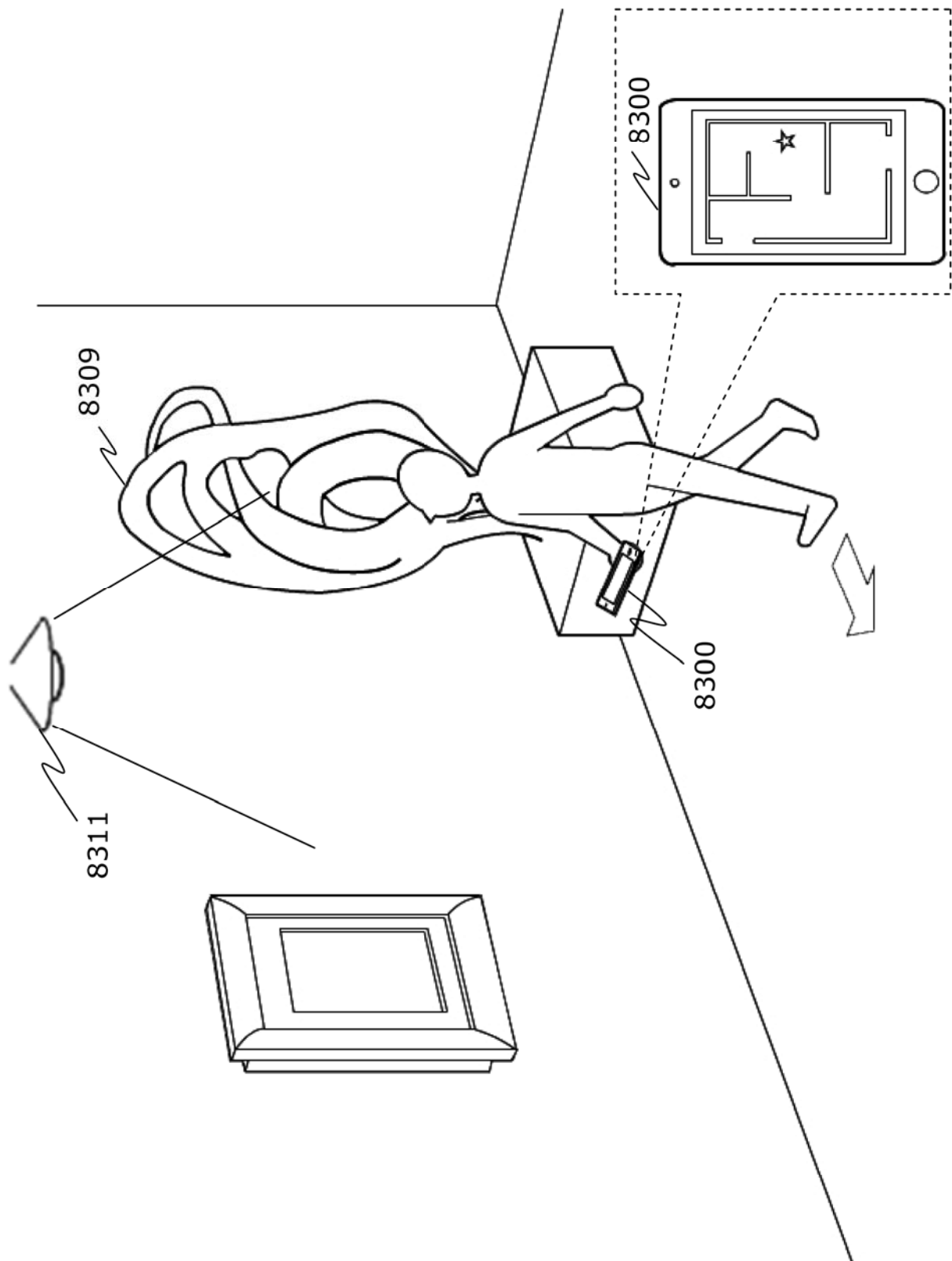


FIG. 436

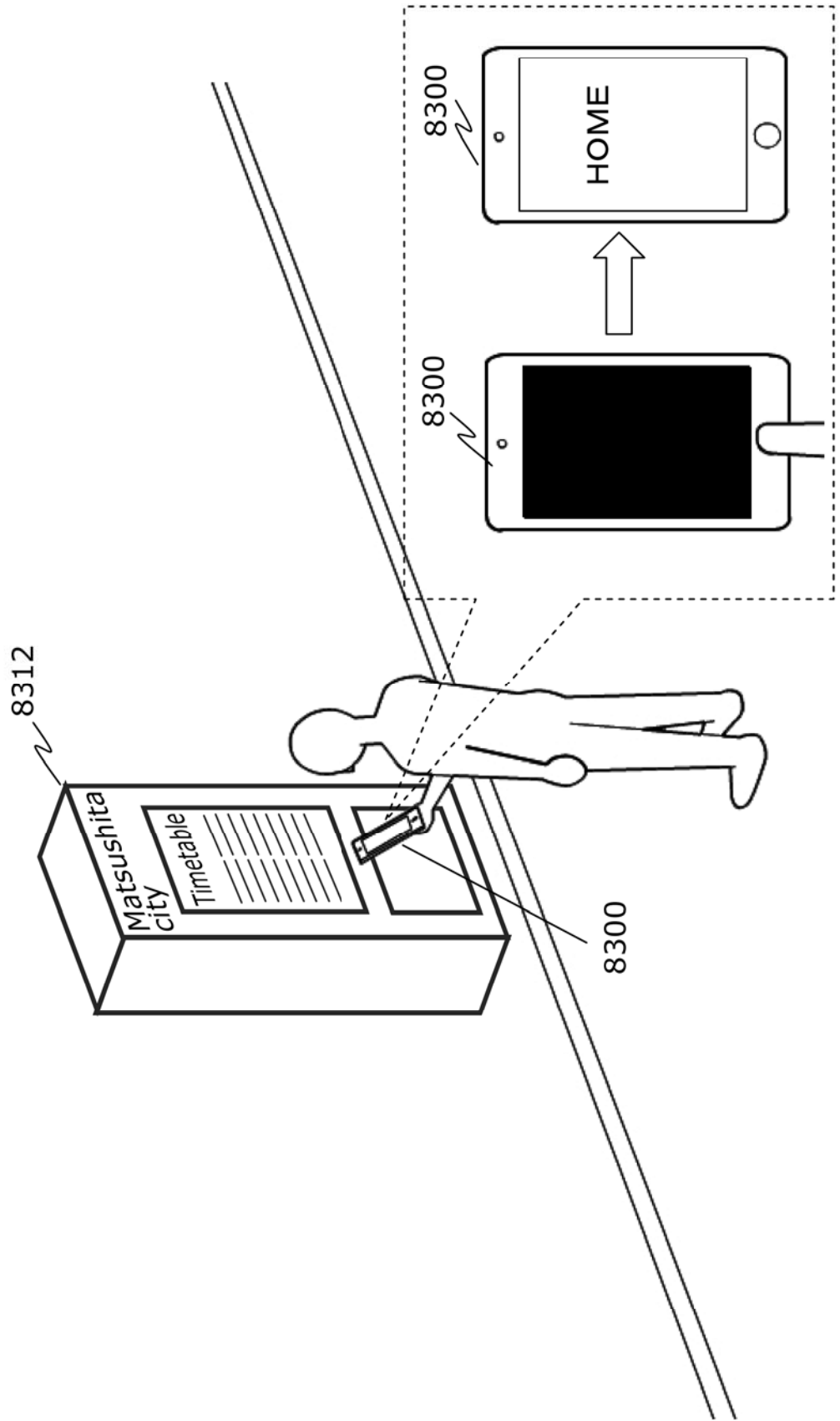


FIG. 437

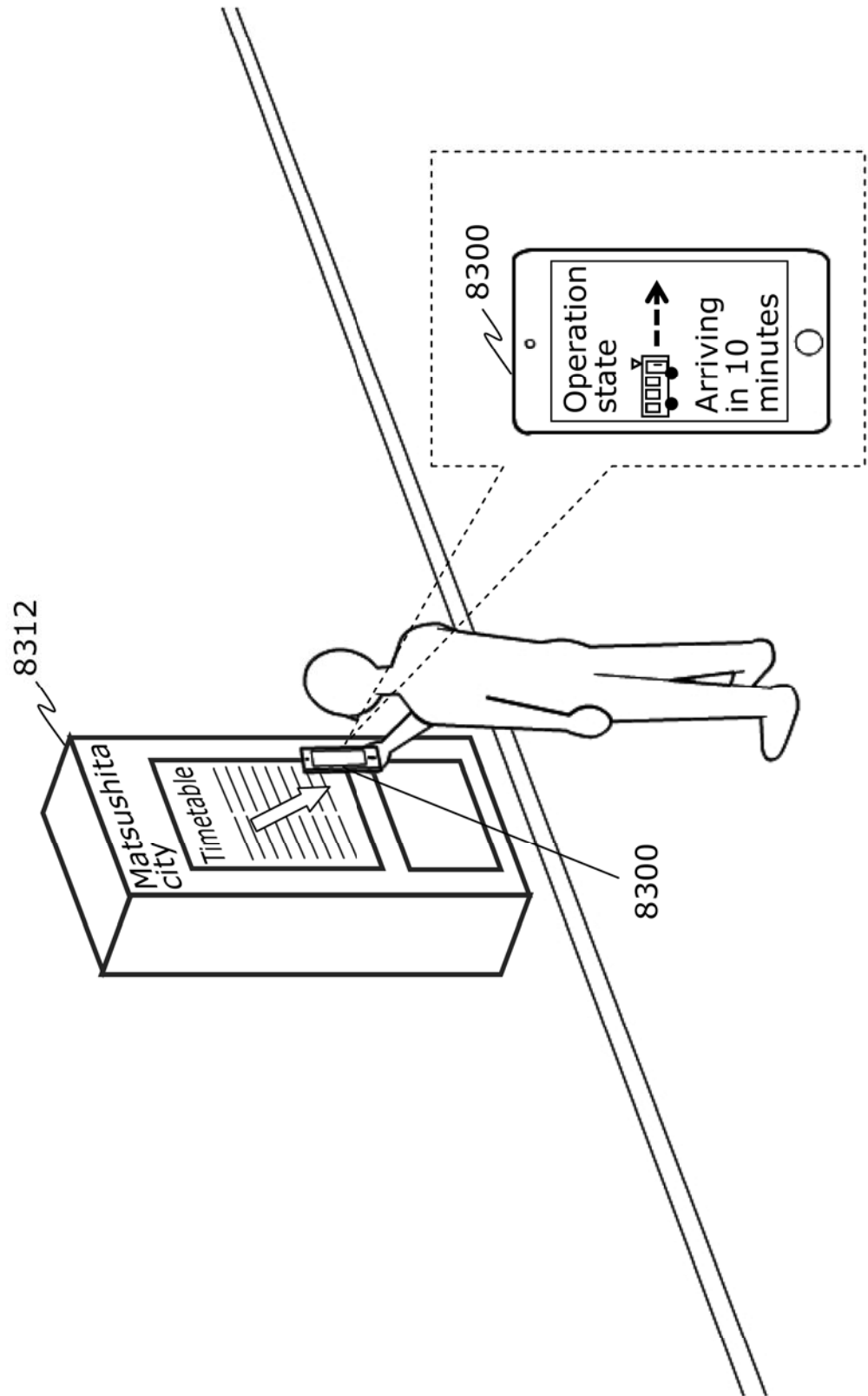


FIG. 438

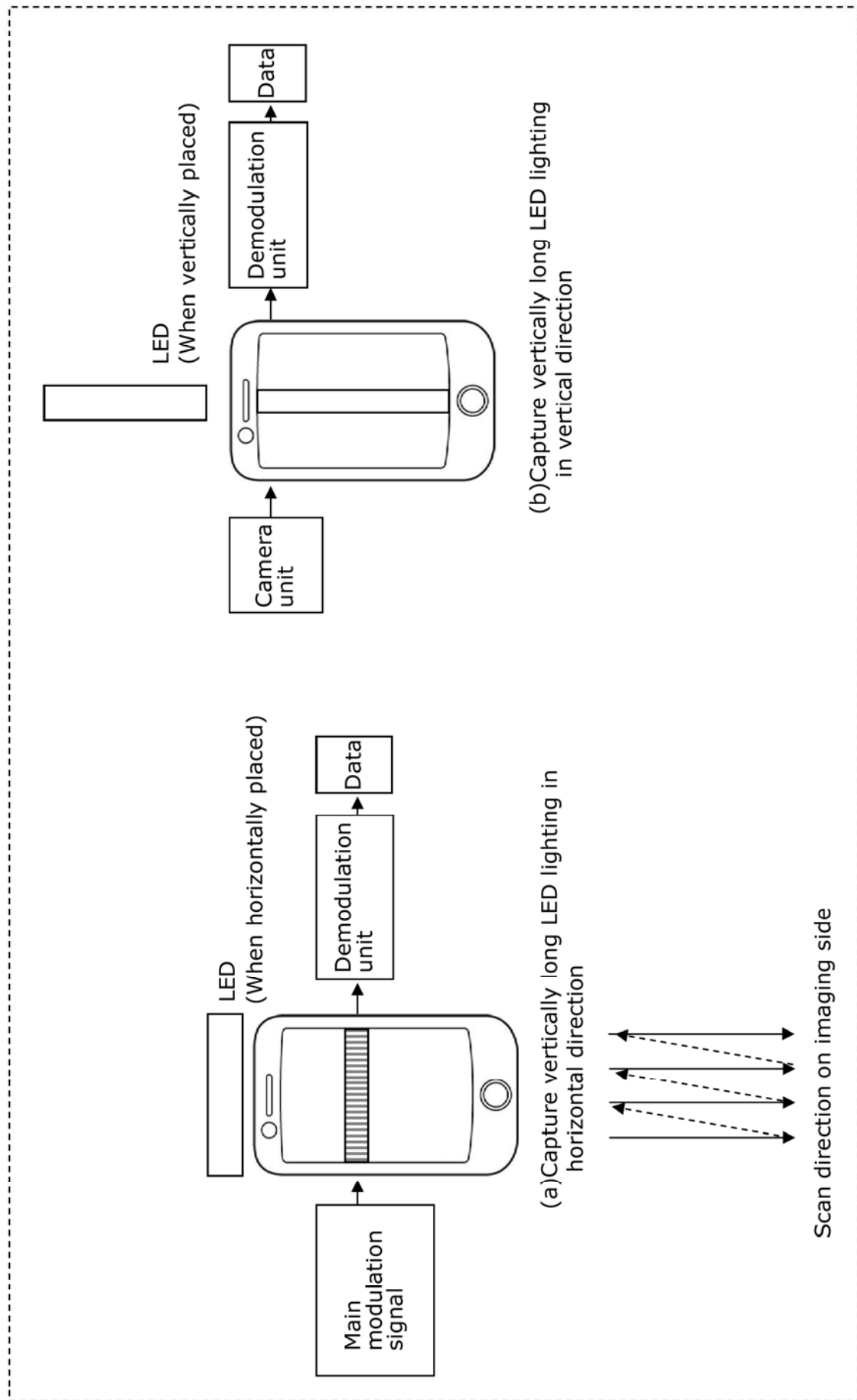


FIG. 439

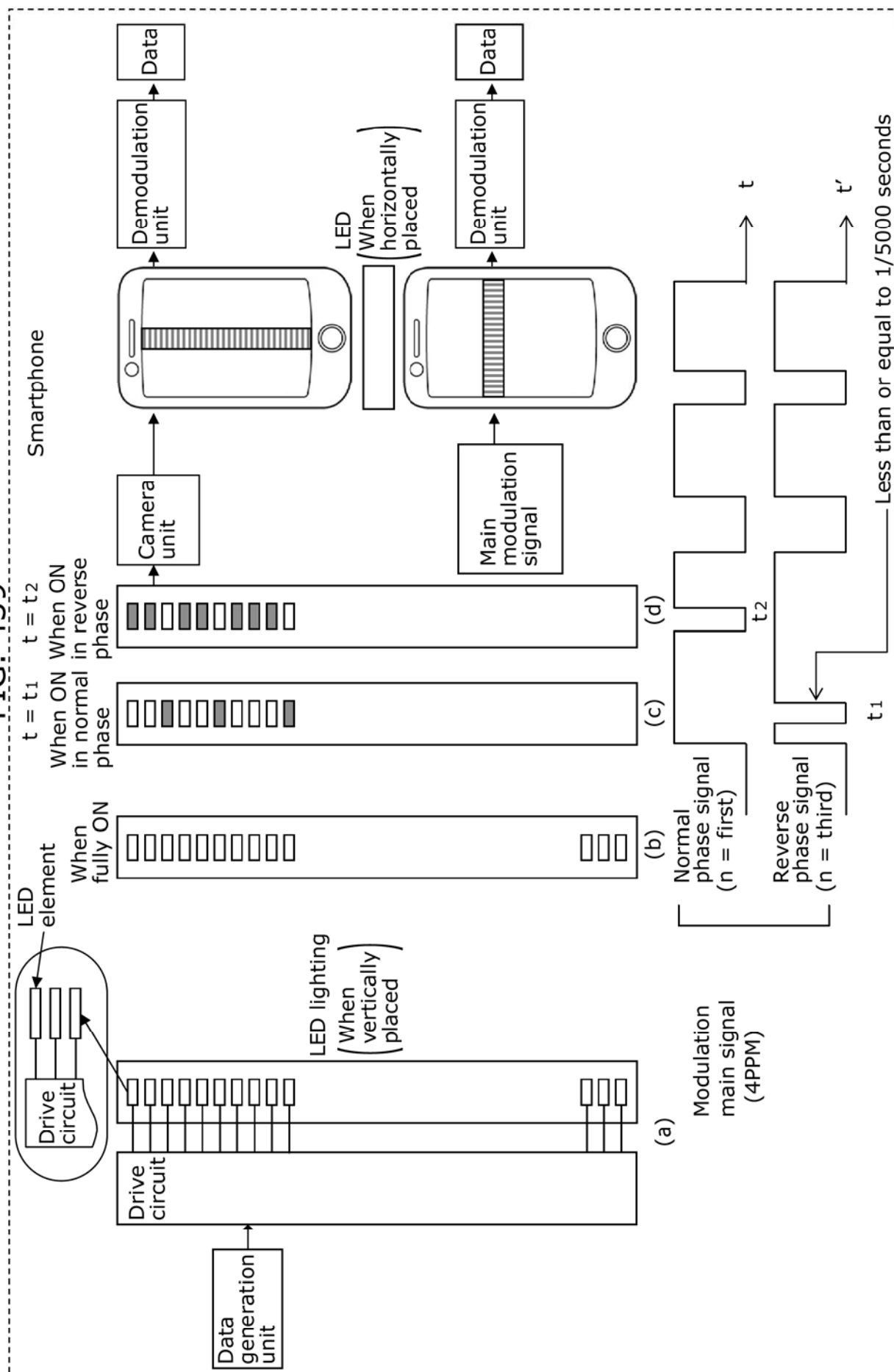


FIG. 440

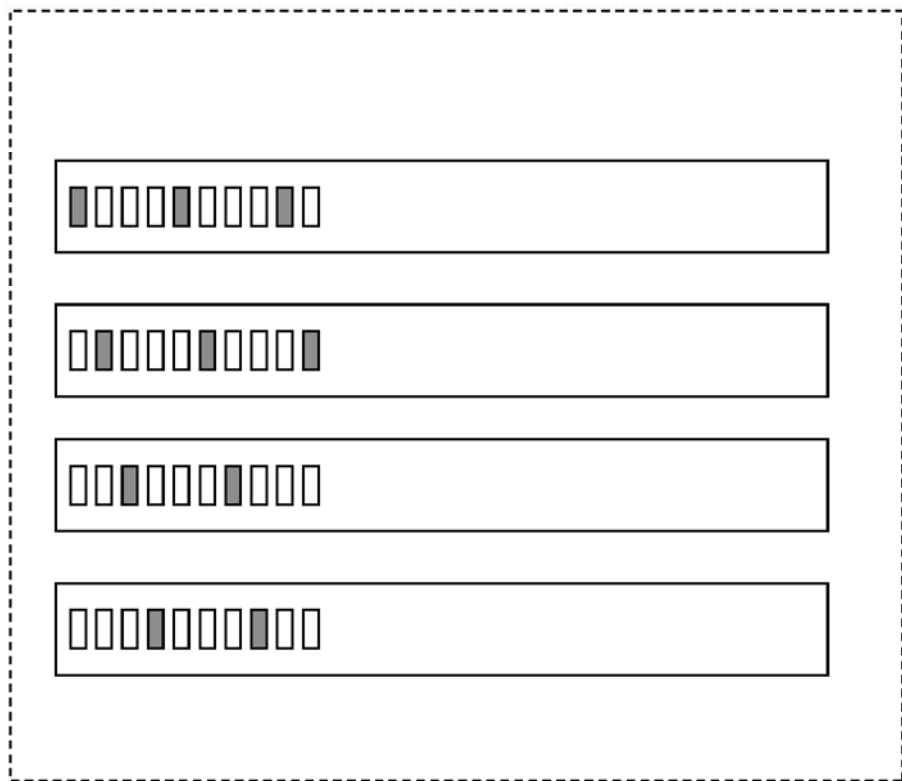


FIG. 441

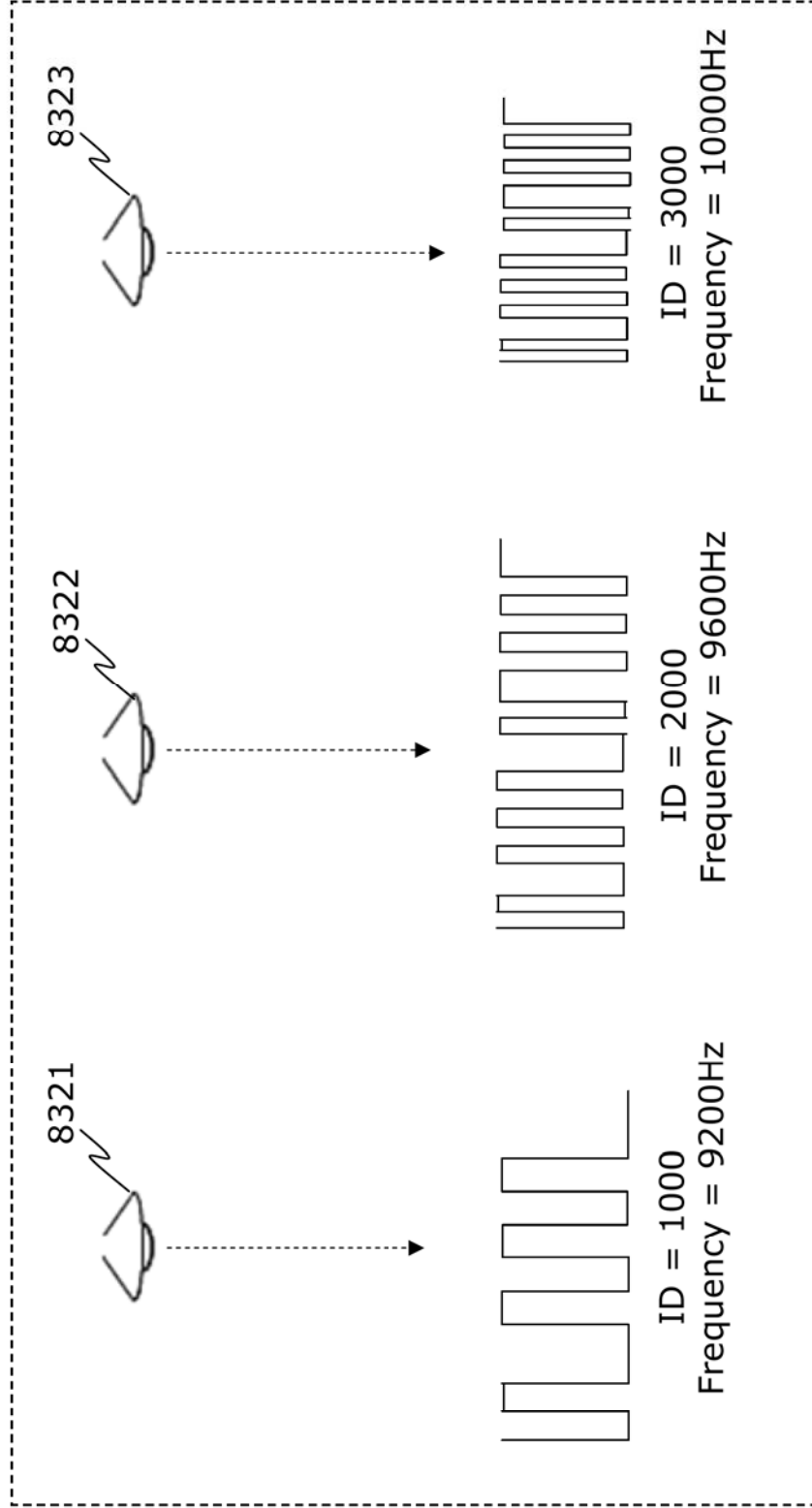


FIG. 442

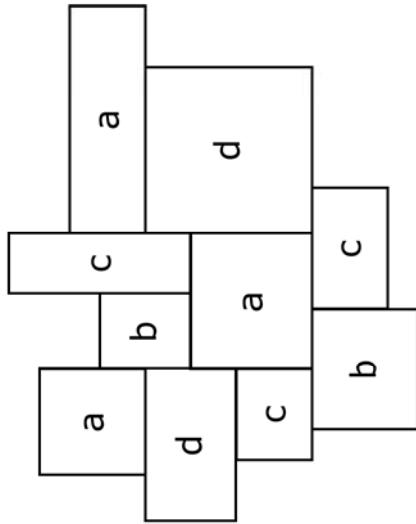


FIG. 443

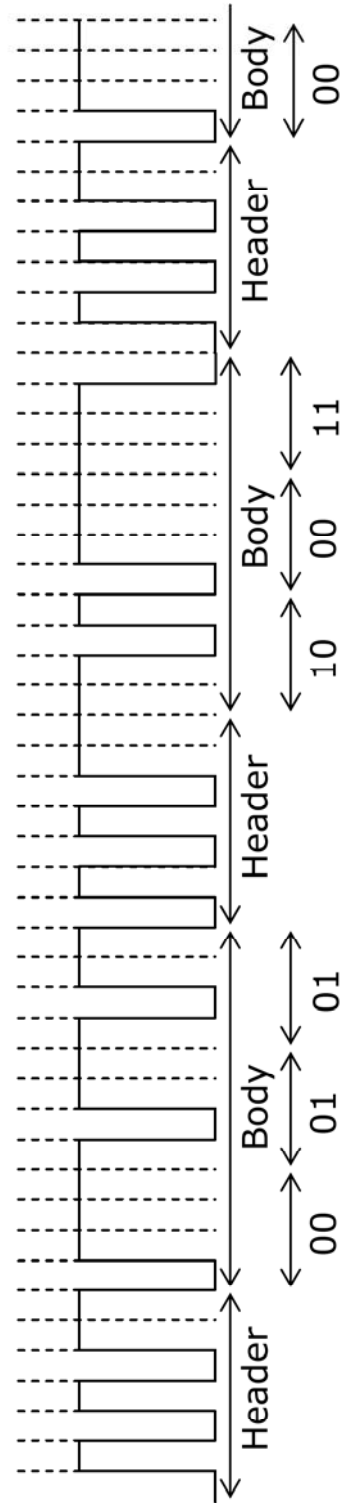


FIG. 444

ID	100	110
Frequency	2 kHz	1 kHz
Signal	1002 ₂	1101 ₁

FIG. 445

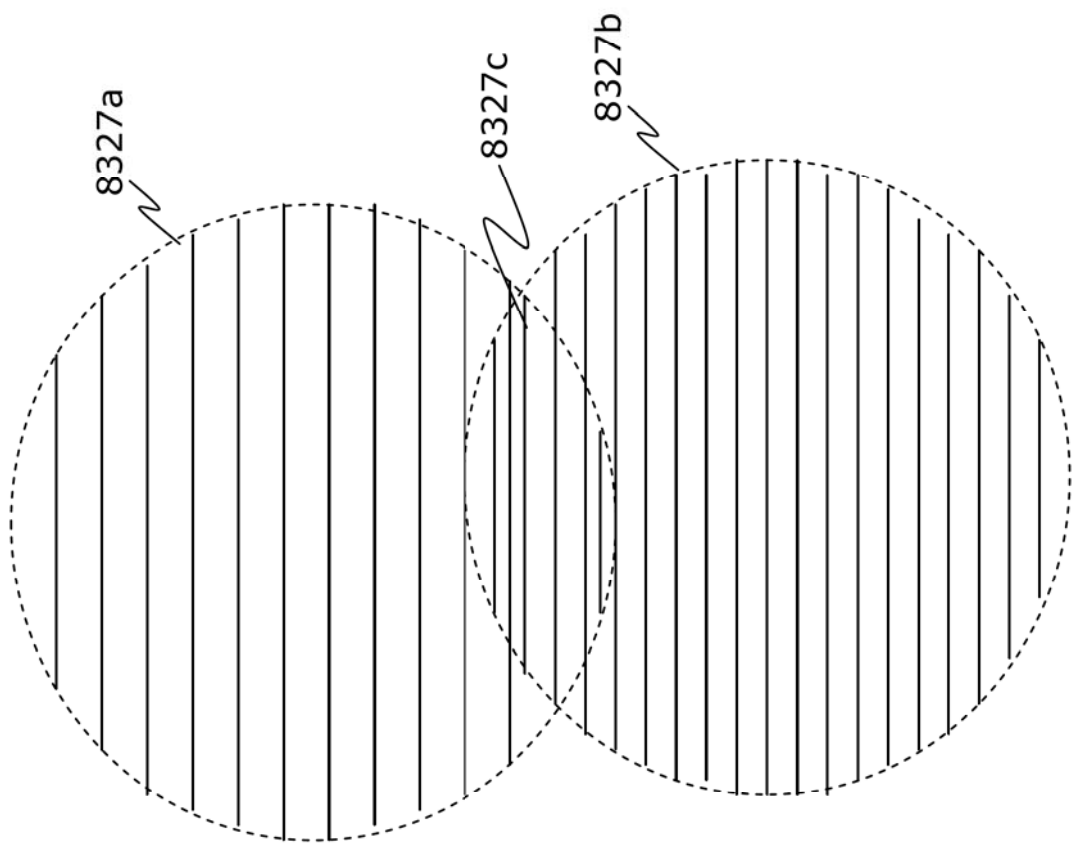


FIG. 446

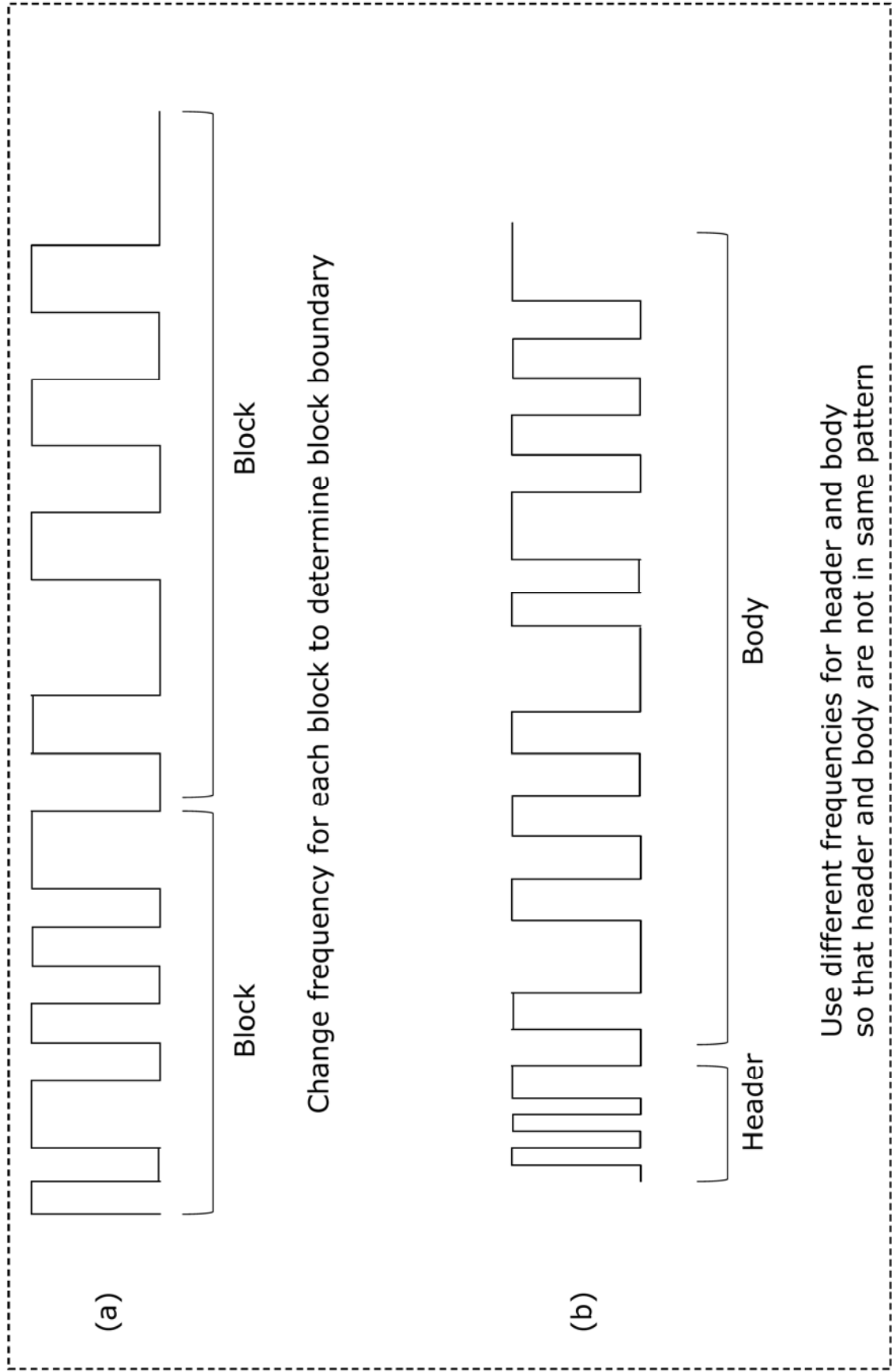


FIG. 447

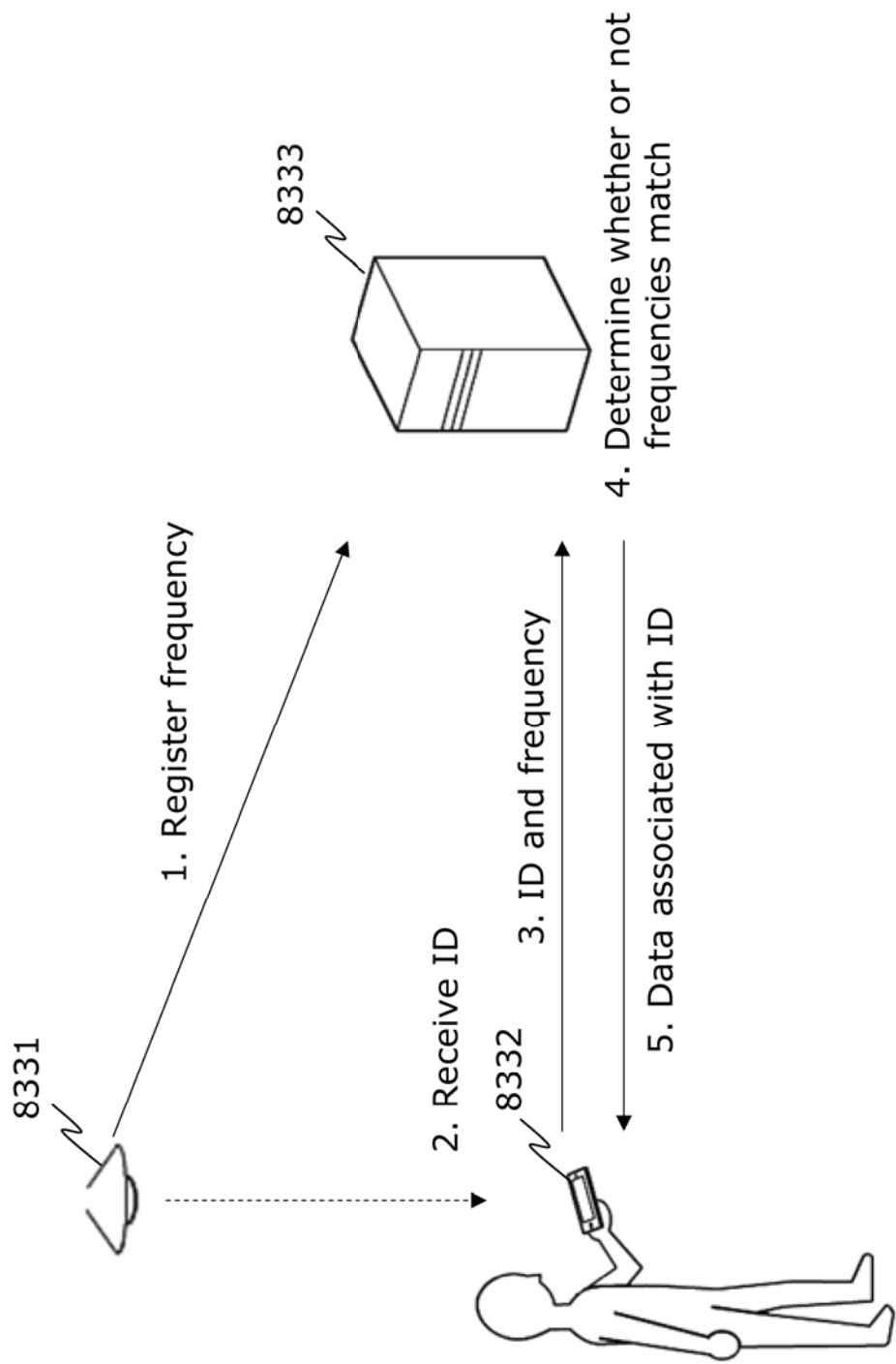


FIG. 448

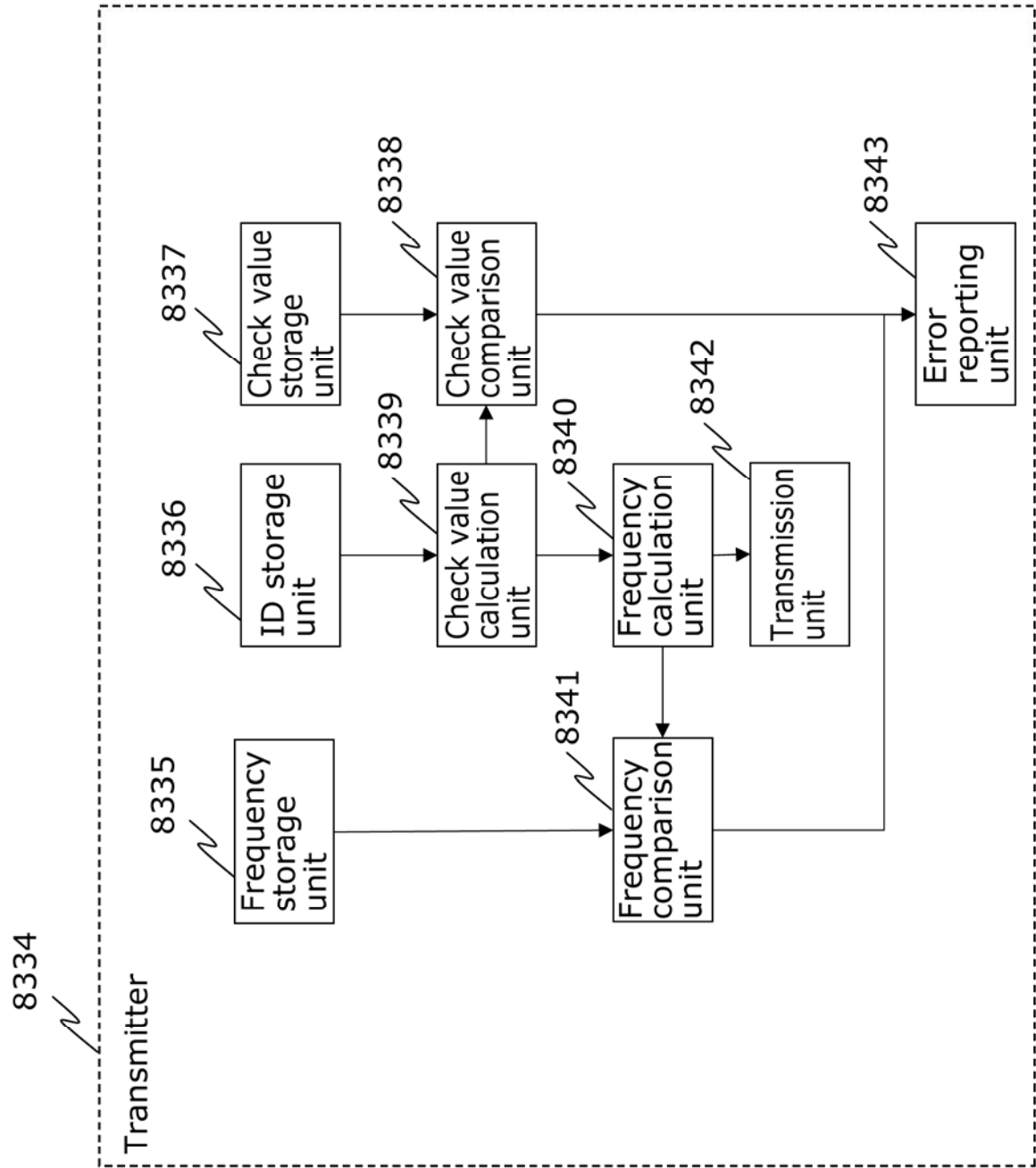


FIG. 449

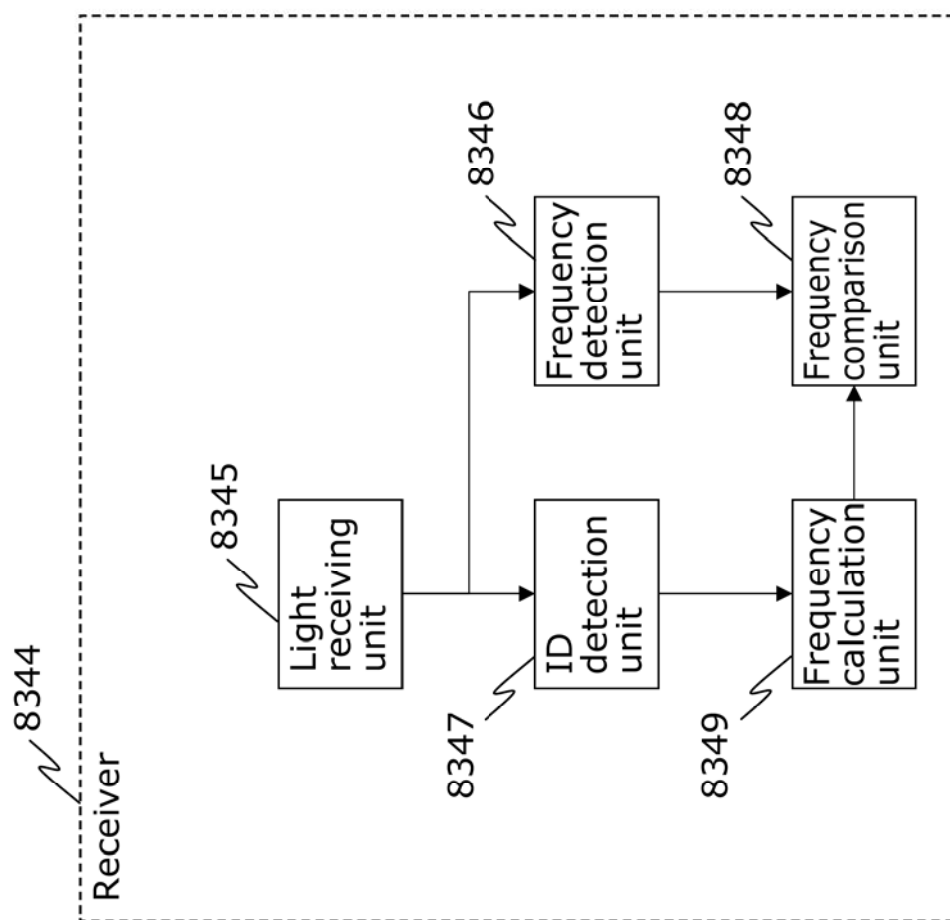


FIG. 450

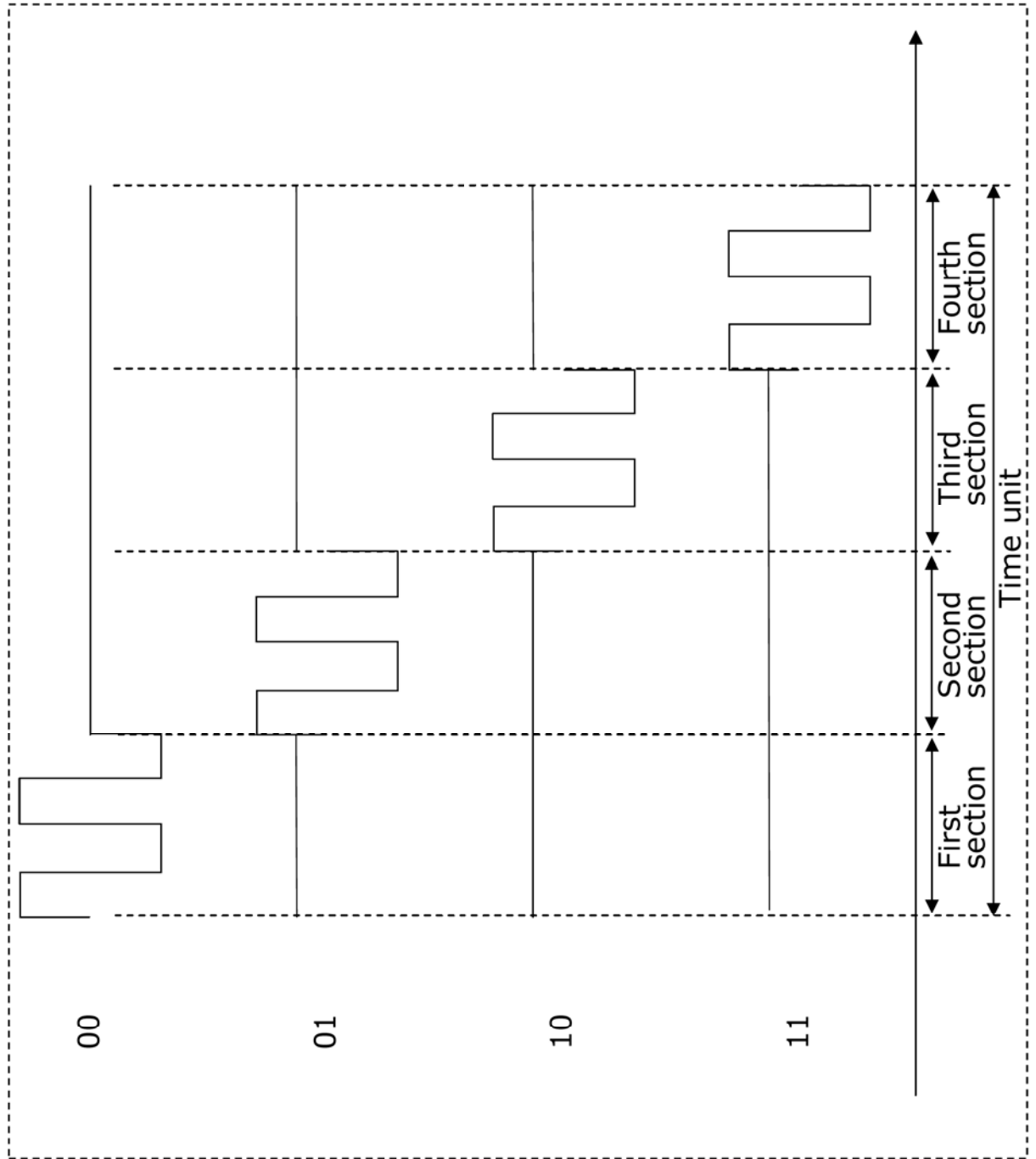


FIG. 451

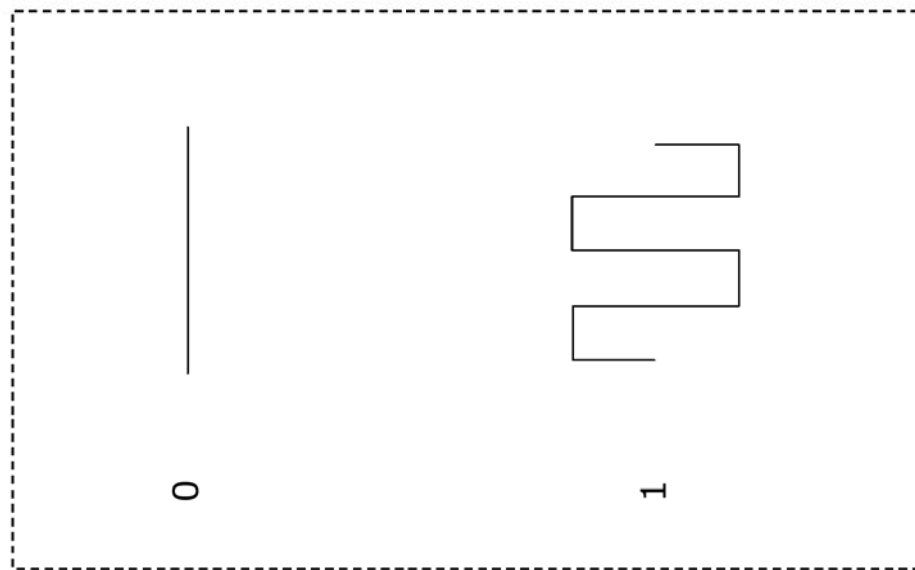


FIG. 452

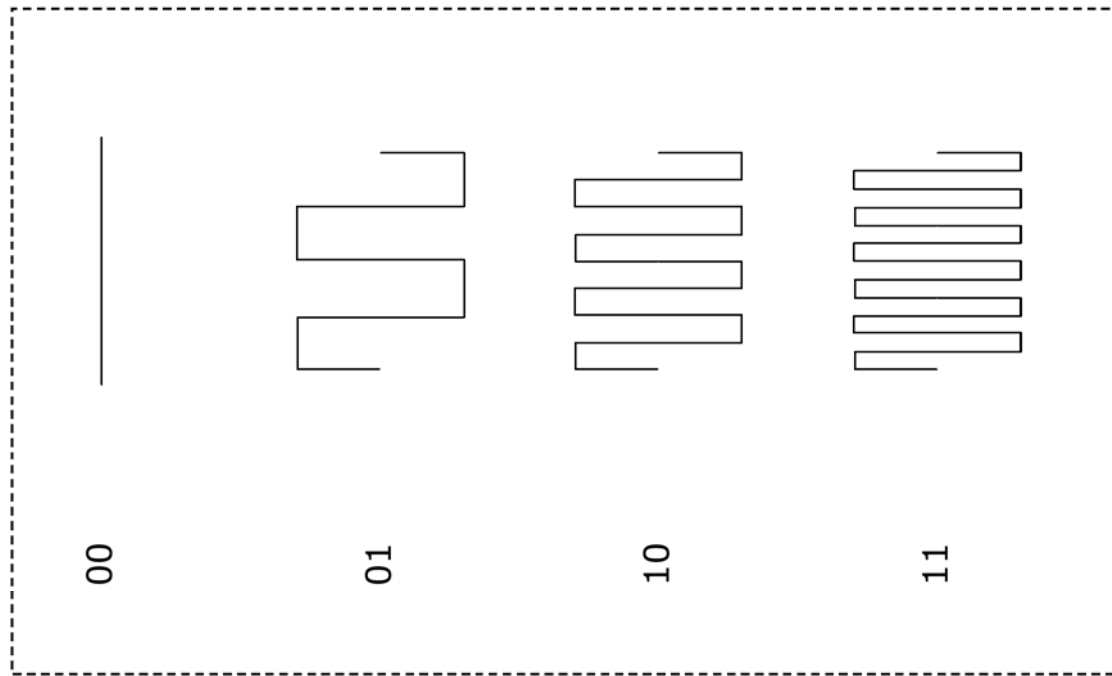


FIG. 453

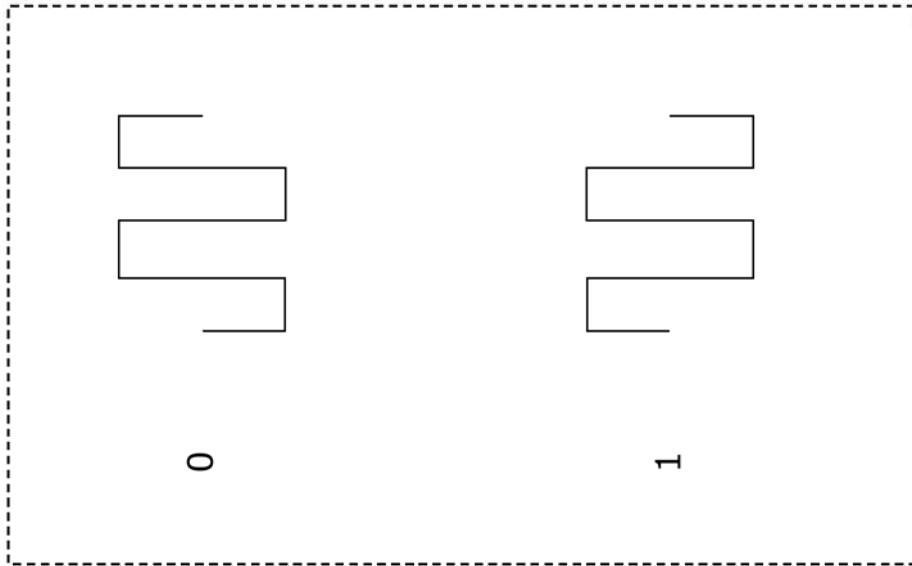


FIG. 455

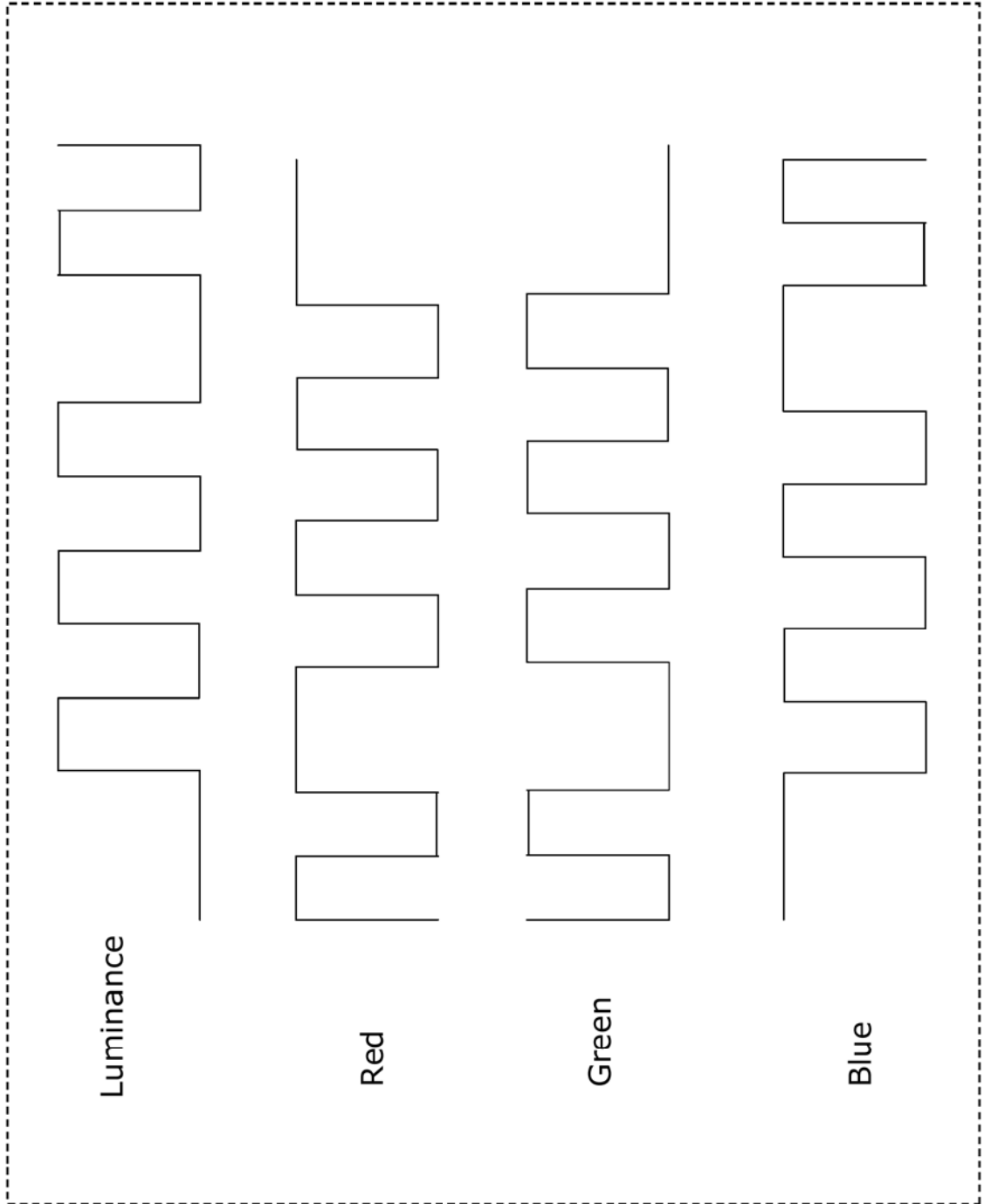


FIG. 456

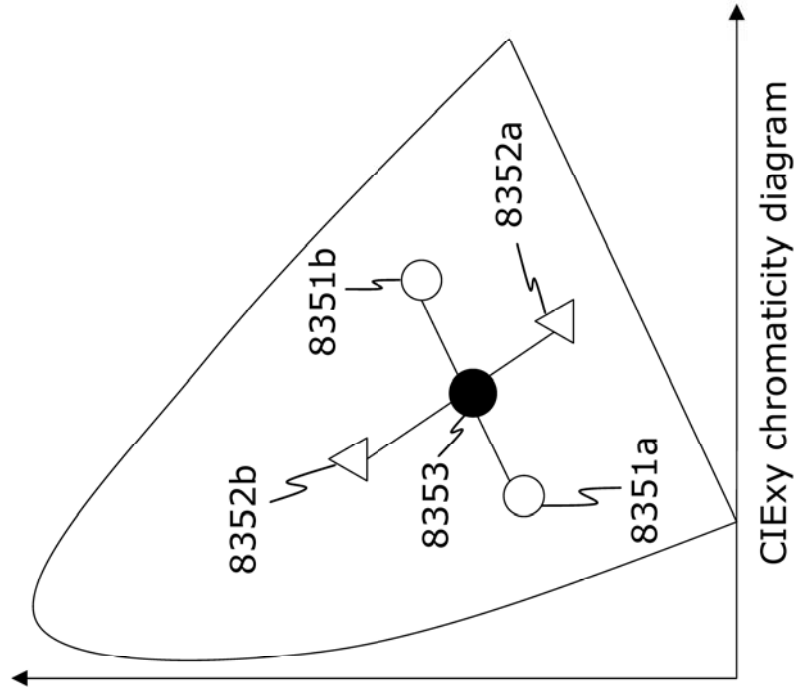


FIG. 457

Example 1 Example 2

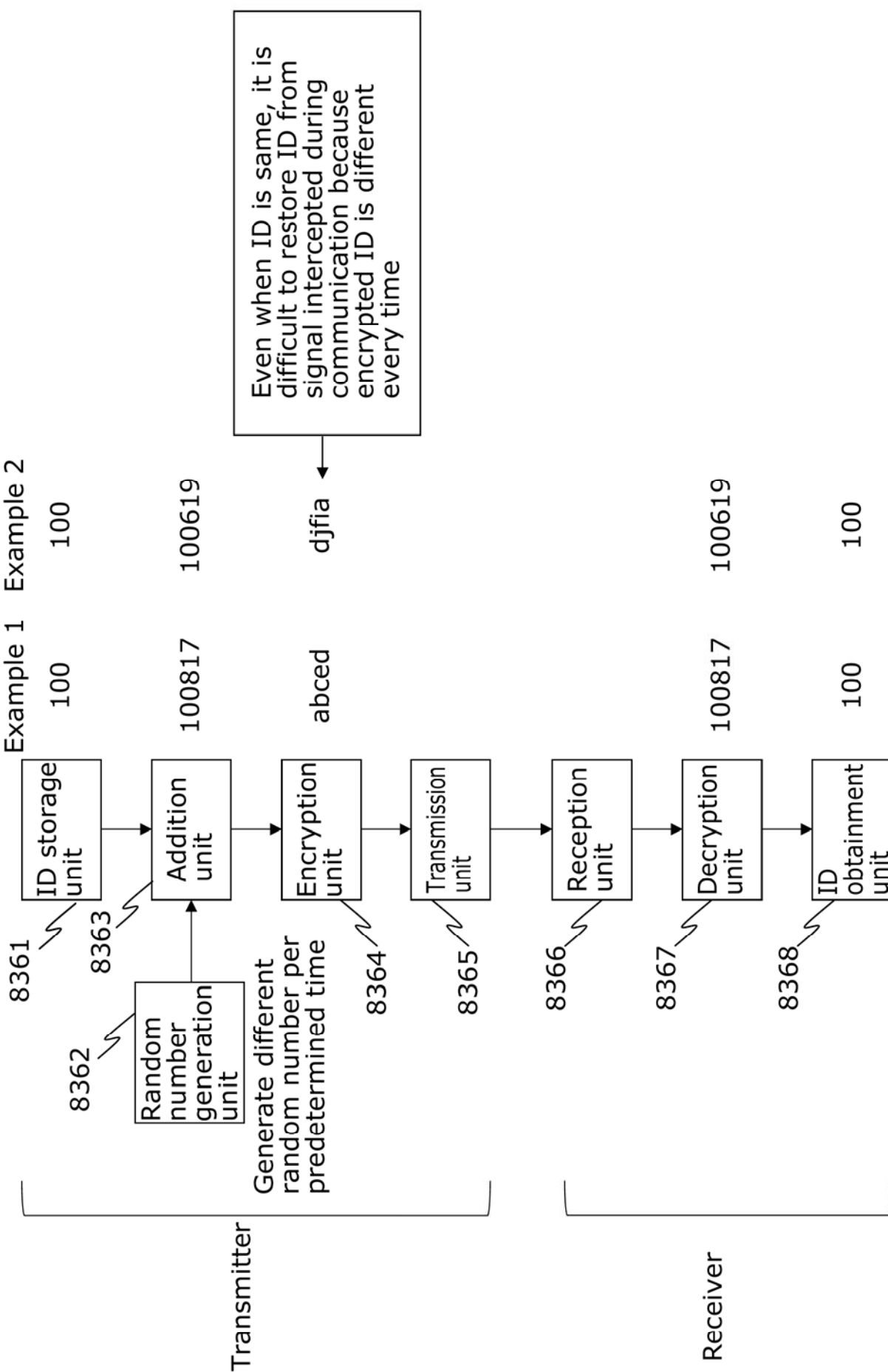


FIG. 458

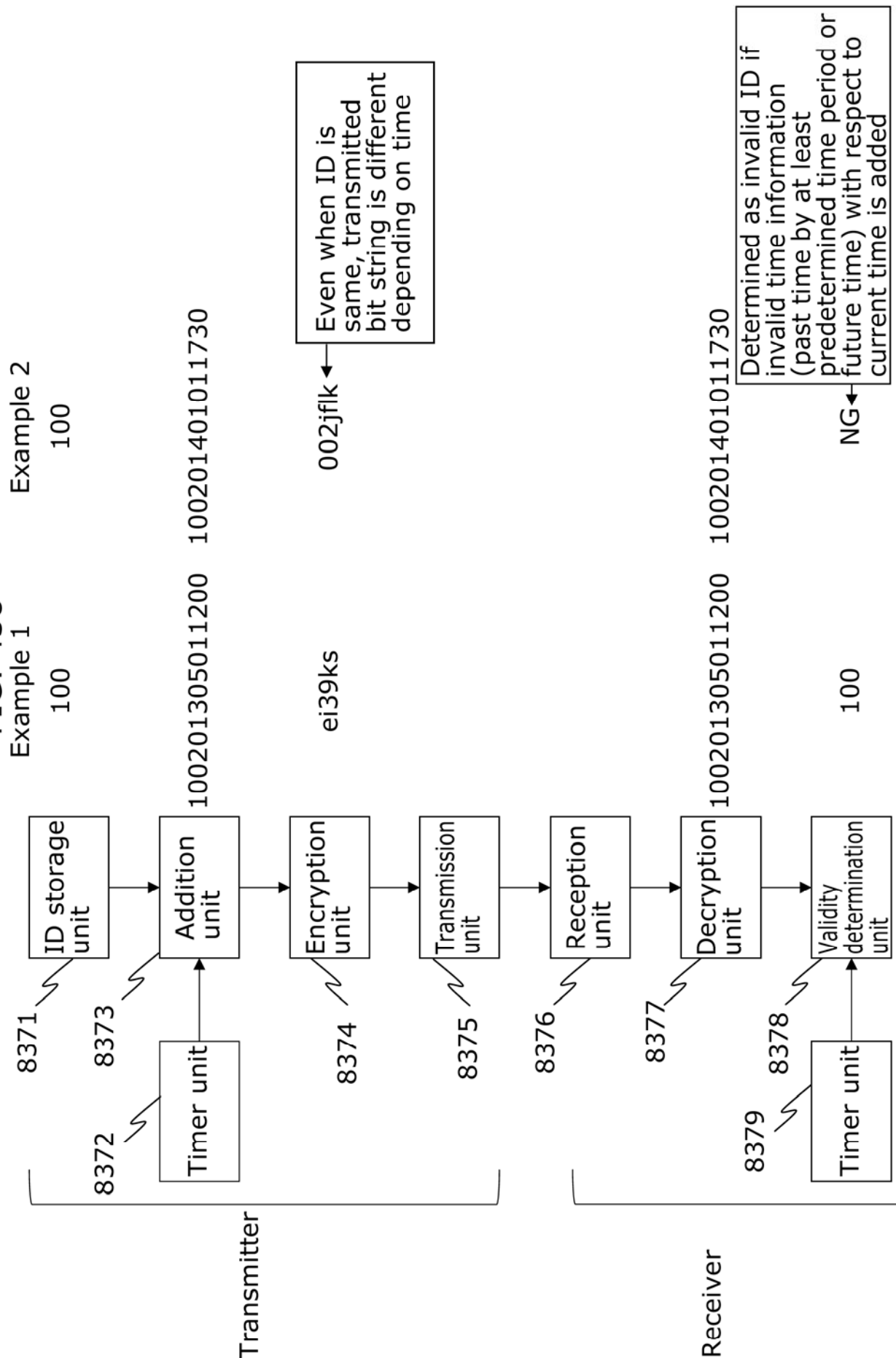


FIG. 459

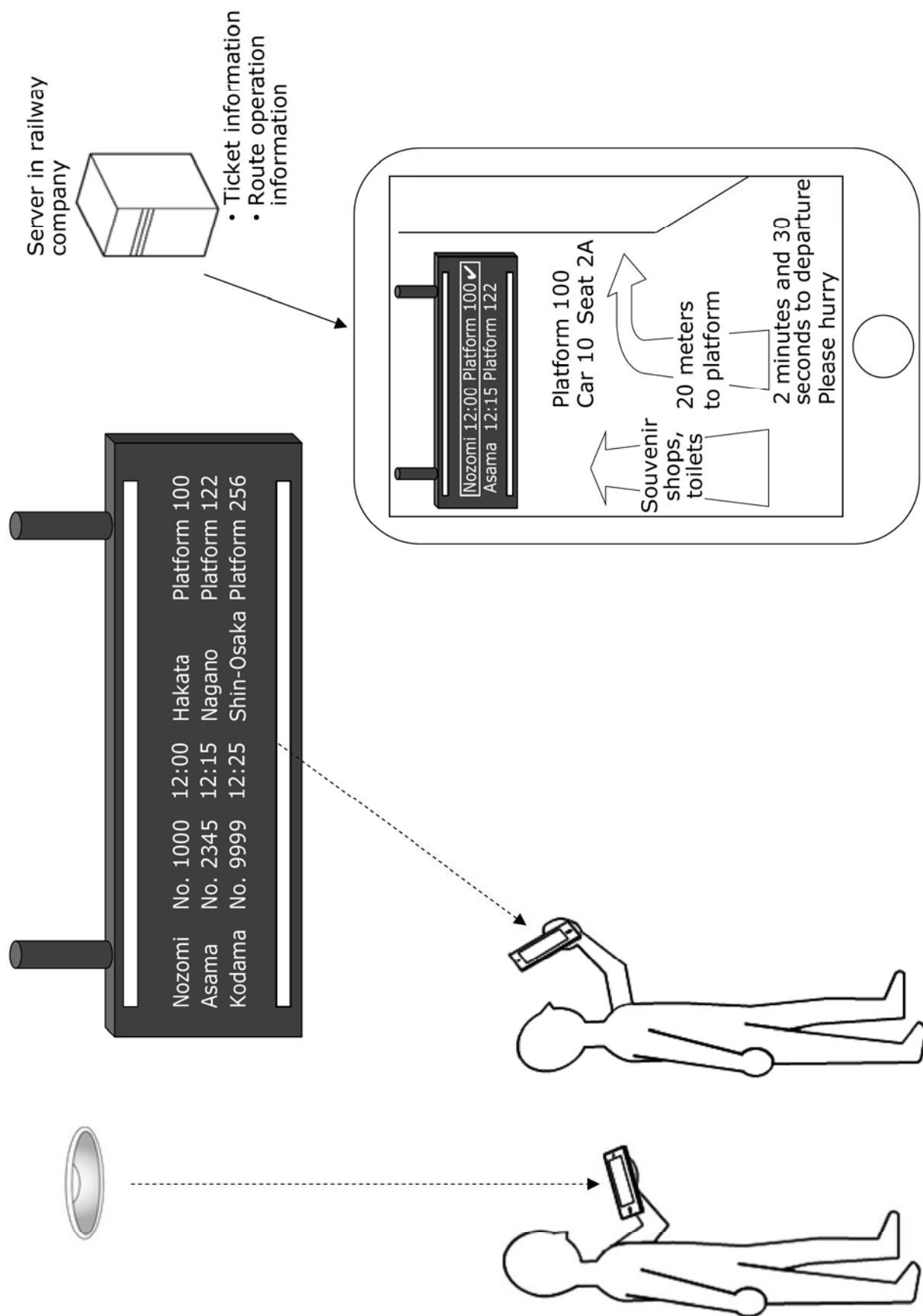


FIG. 460

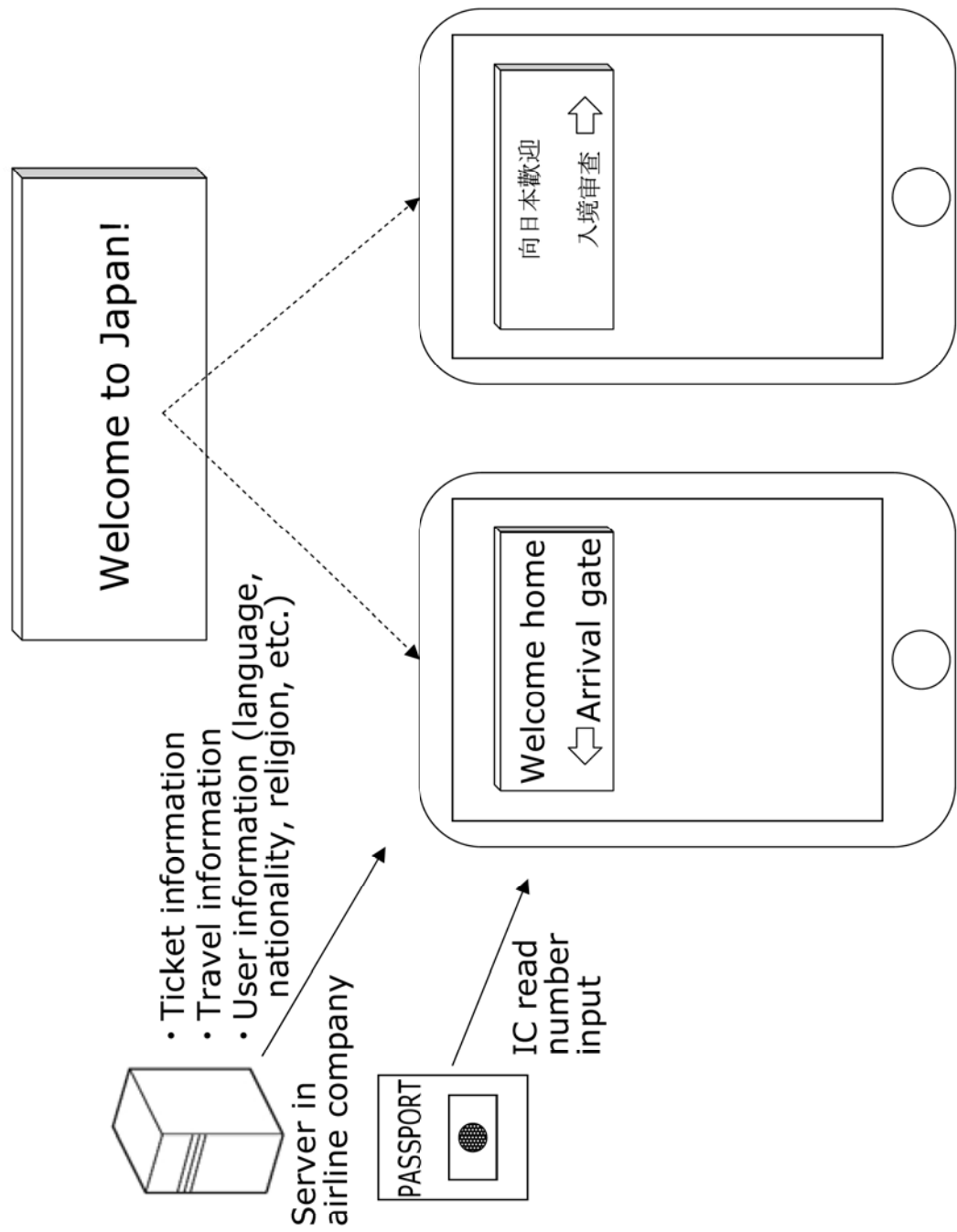


FIG. 461

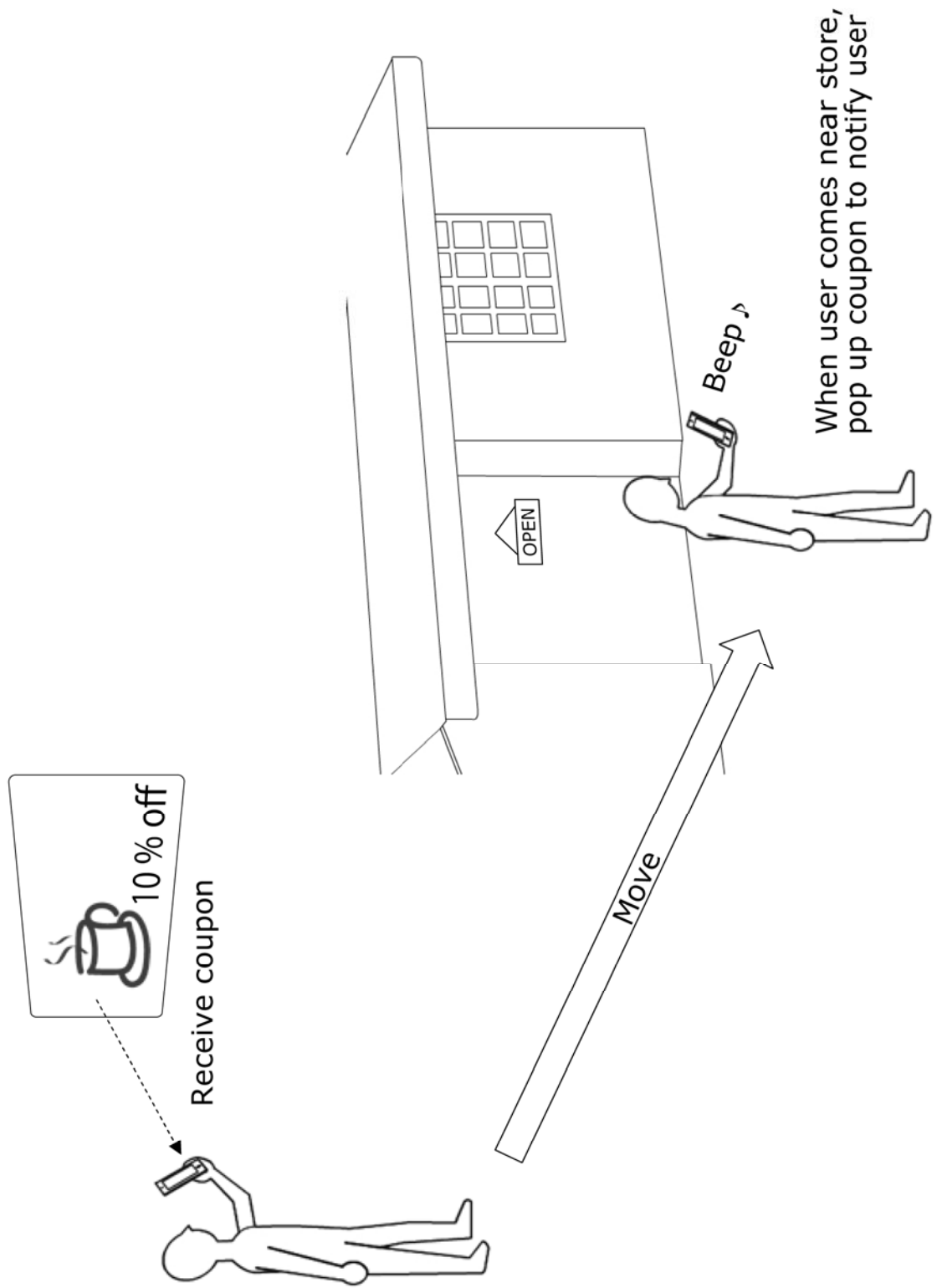


FIG. 462

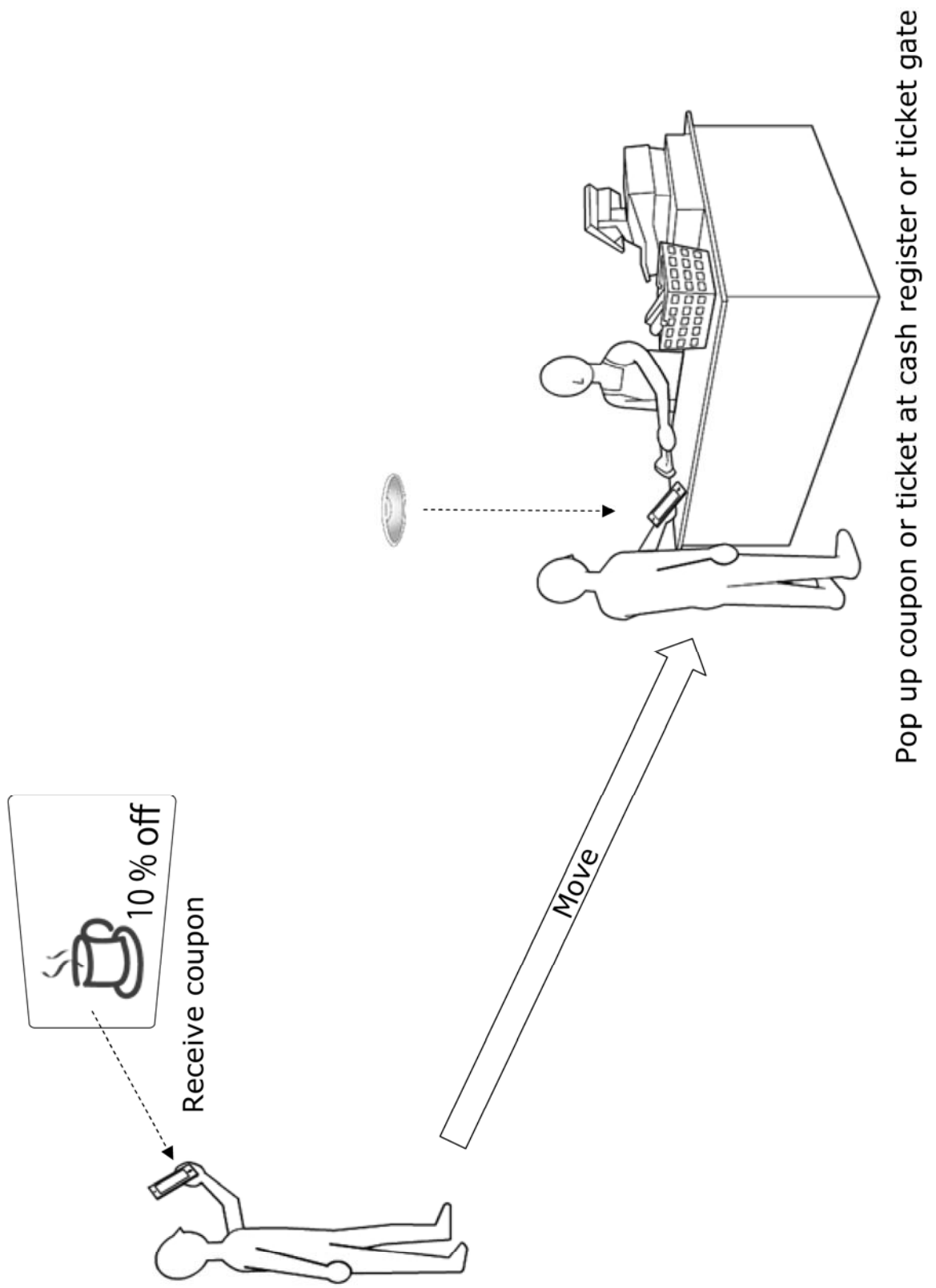


FIG. 463

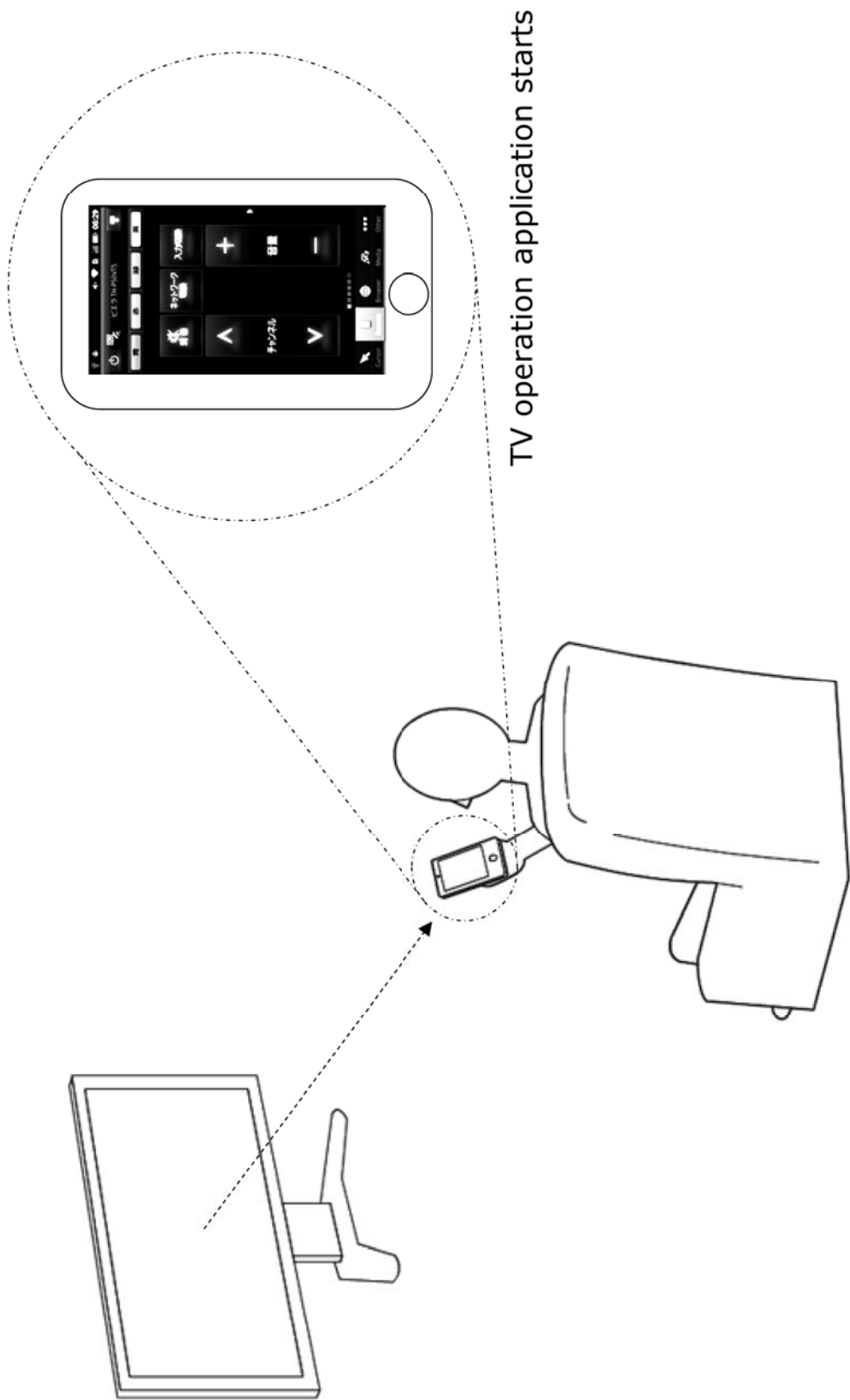


FIG. 464

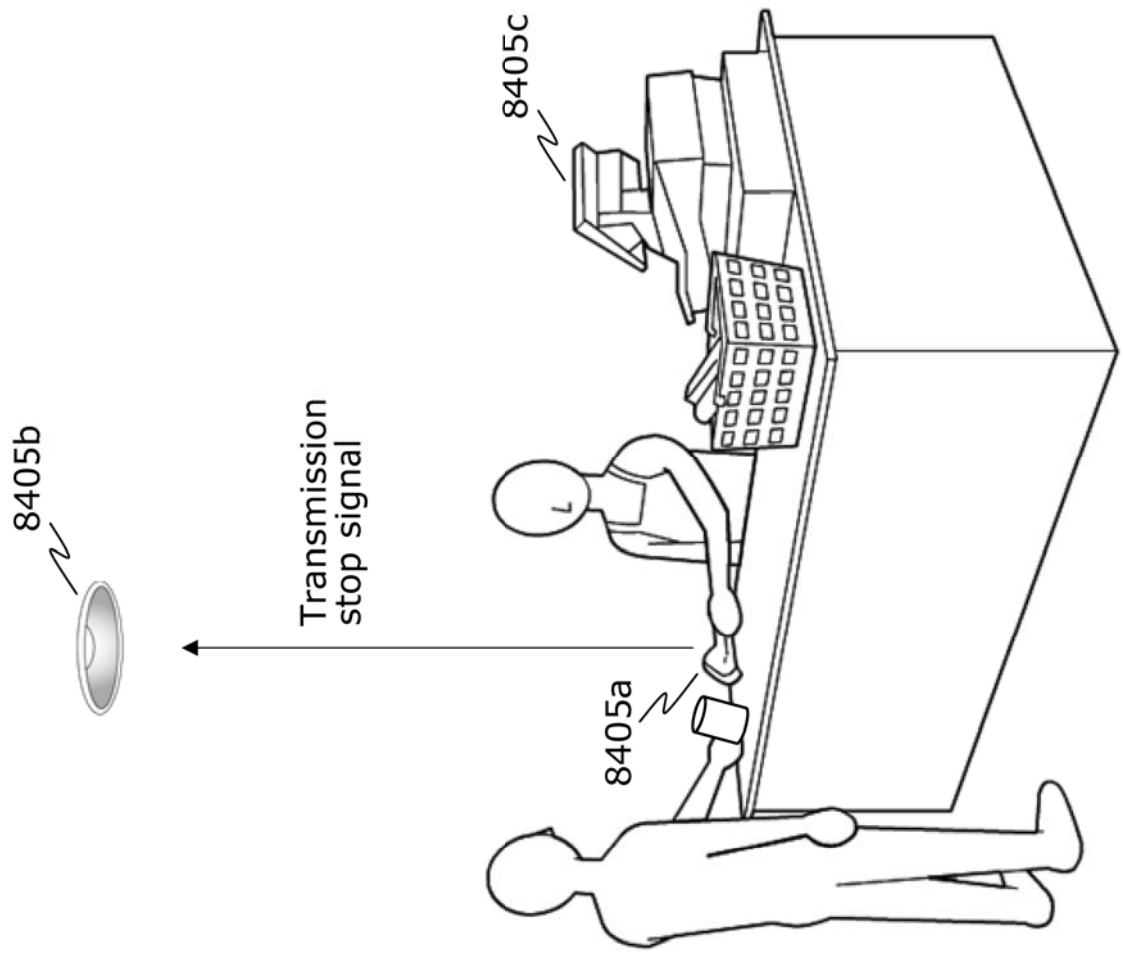


FIG. 465

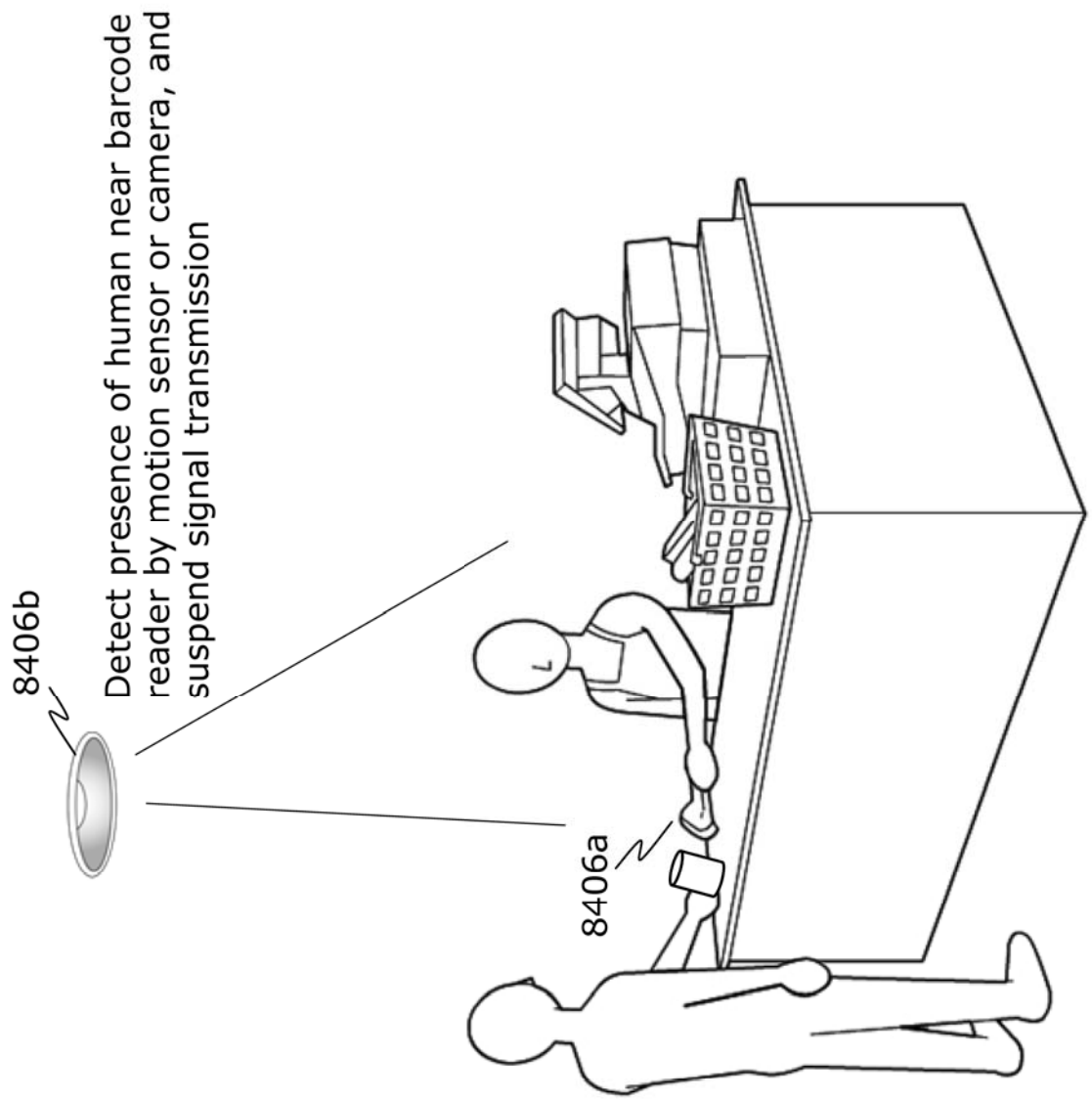


FIG. 466

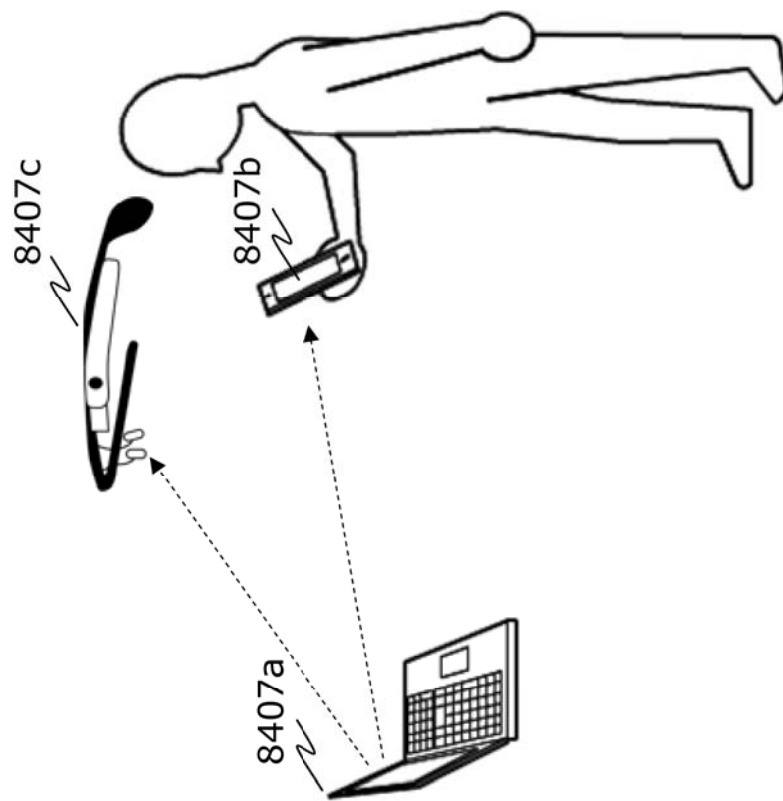
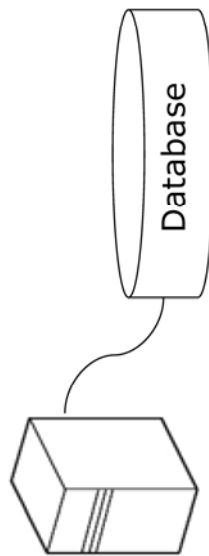


FIG. 467



ID	Data	Condition	Number of accesses	Number of successful accesses
1000	http://~~~	From 2013/10/10 09:00 to 2013/10/25 20:00	1234	567
2000	"Hello world"	Number of successful accesses is less than or equal to 100	153	100
3000	10% off	Female only	9999	666
4000	Position data (east longitude, north latitude, altitude, floor number, room number, etc.)	None	2	2

(a) ID-data table

ID	User ID	Time	Ancillary information	Whether or not data is provided
1000	35393	2013/10/25 19:11	Male, age 20, student ...	☐ / http://~~~
1000	49282	2013/10/25 19:57	Female, age 30, housewife ...	☐ / http://~~~
1000	222	2013/10/25 20:15	Male, age 40, civil servant ...	x / "Error"
2000	30455	2013/10/27 12:12	Female, age 50, unemployed ...	☐ / "Hello world"

(b) Access log table

FIG. 468

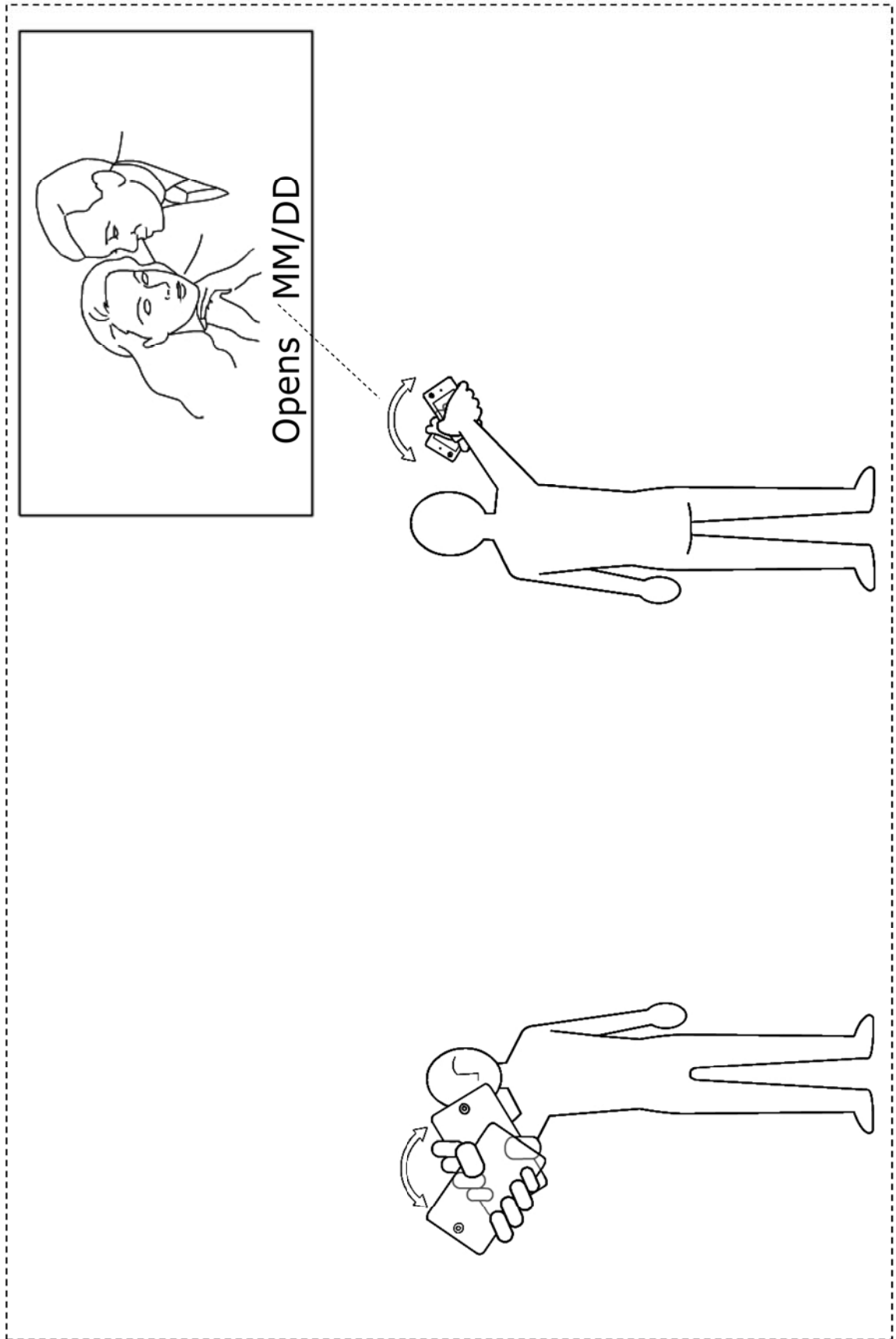


FIG. 469

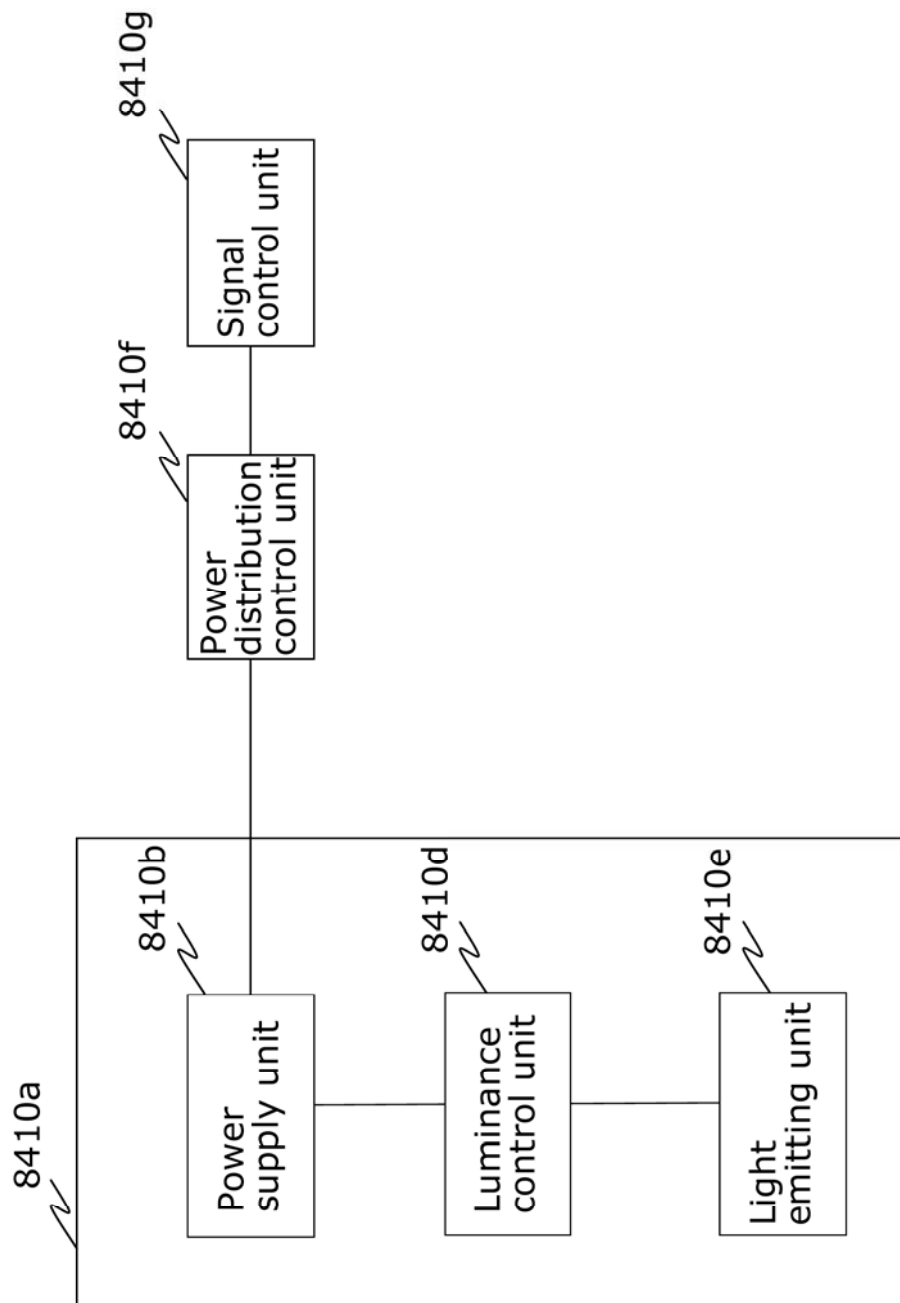


FIG. 470

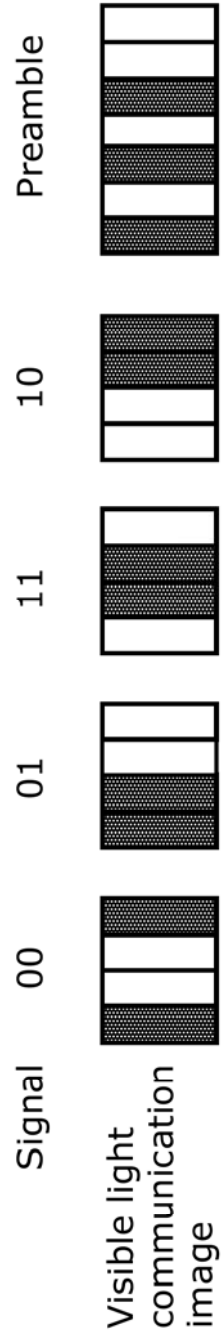


FIG. 471

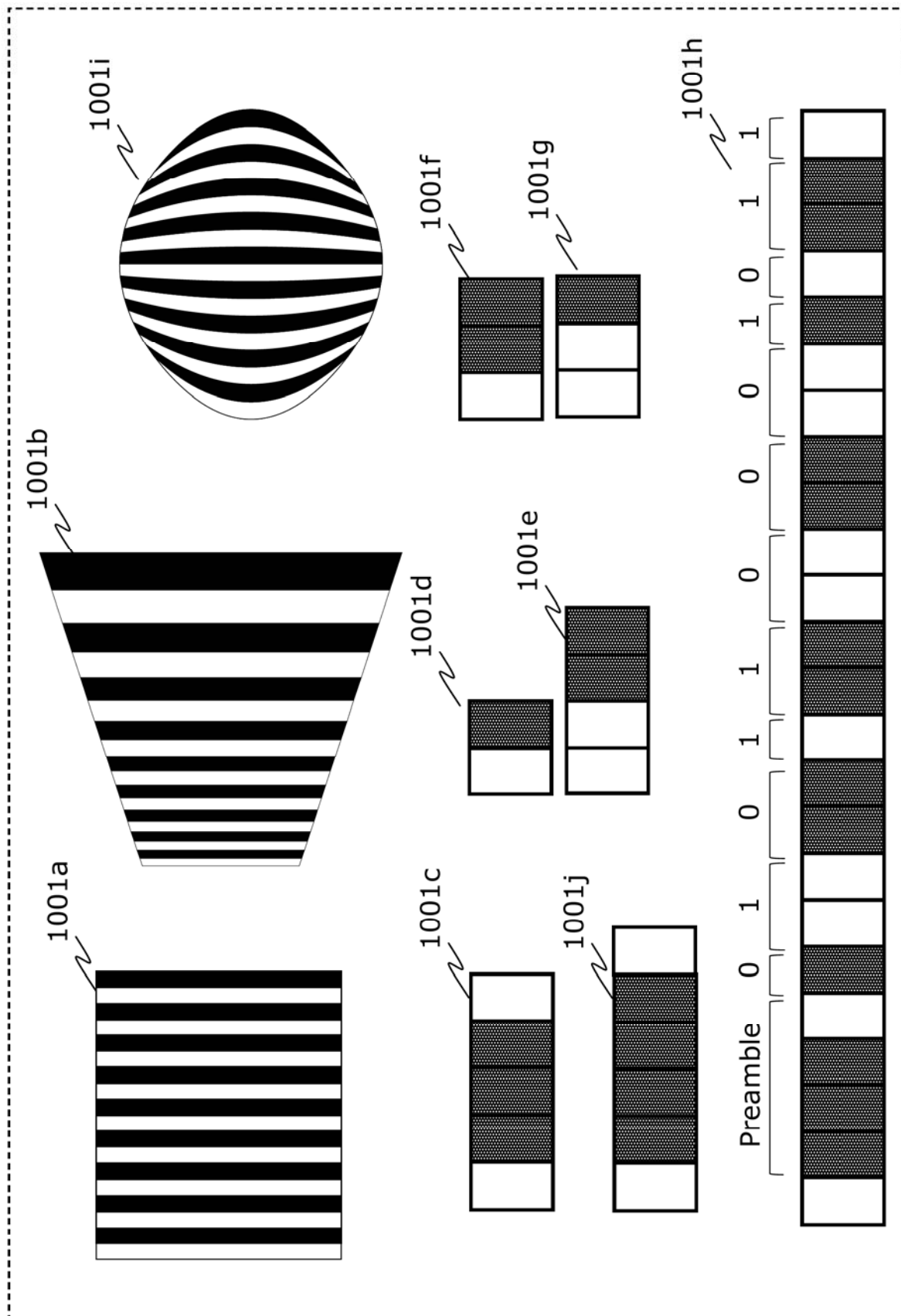


FIG. 472

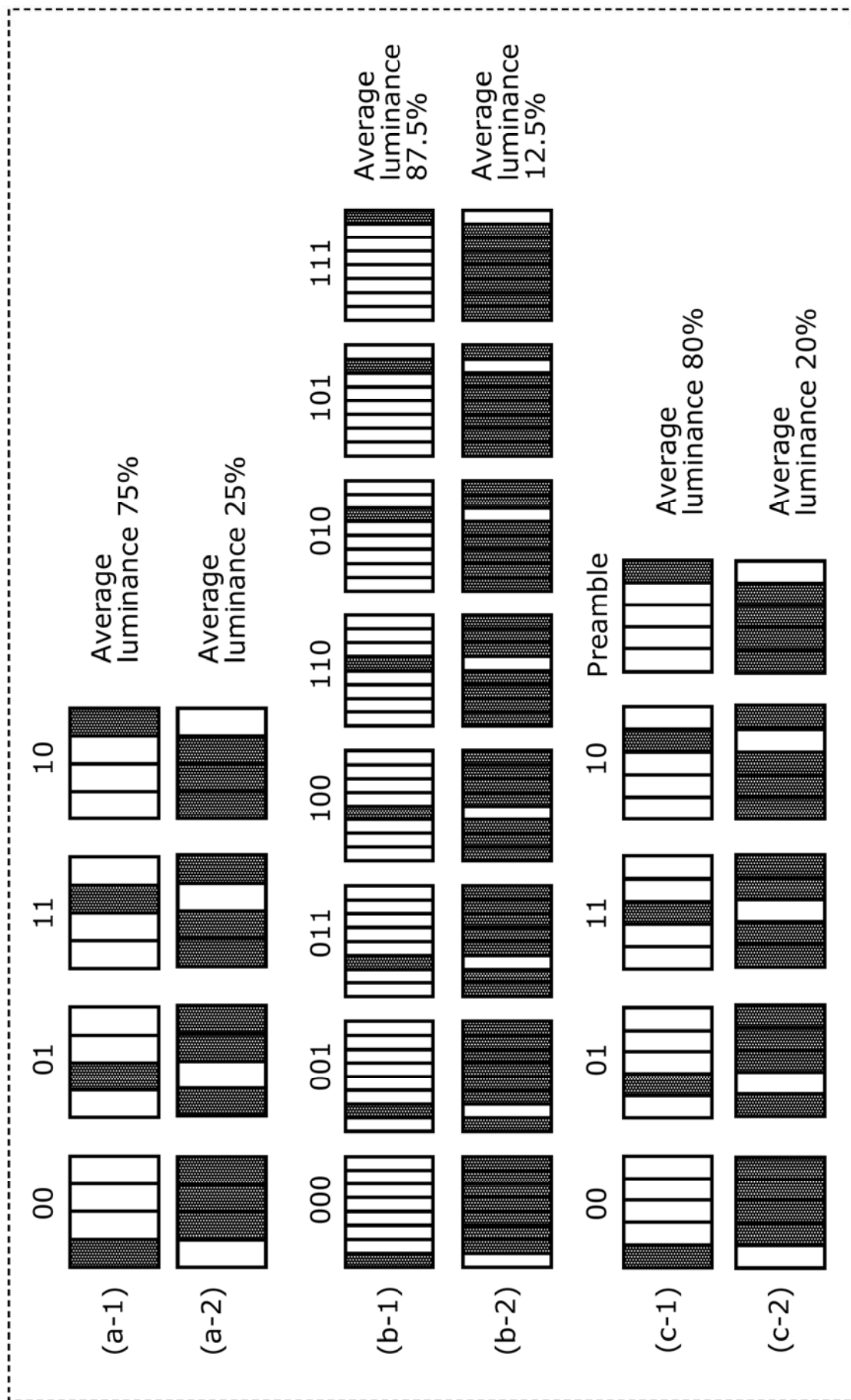


FIG. 473

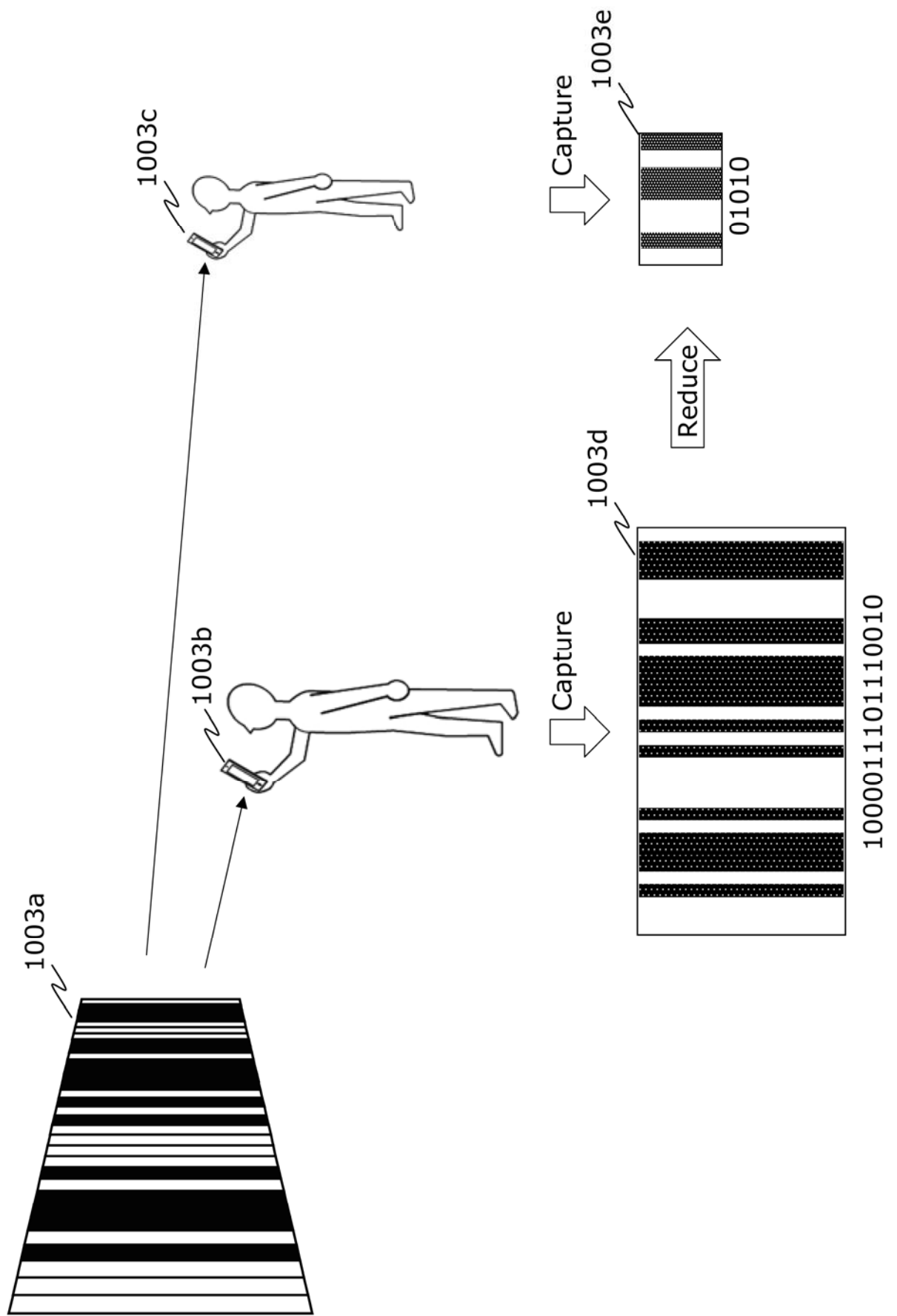


FIG. 474

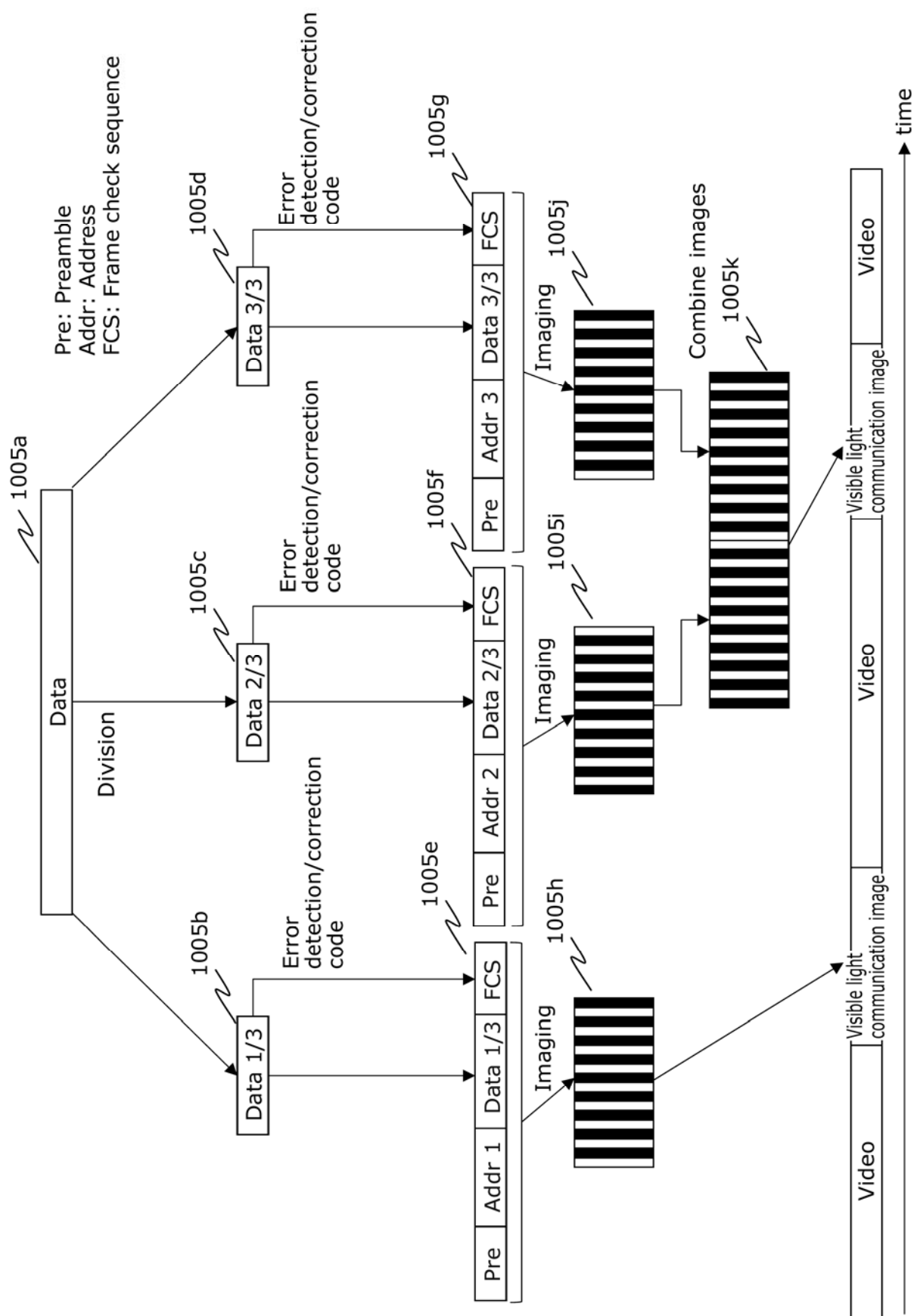


FIG. 475

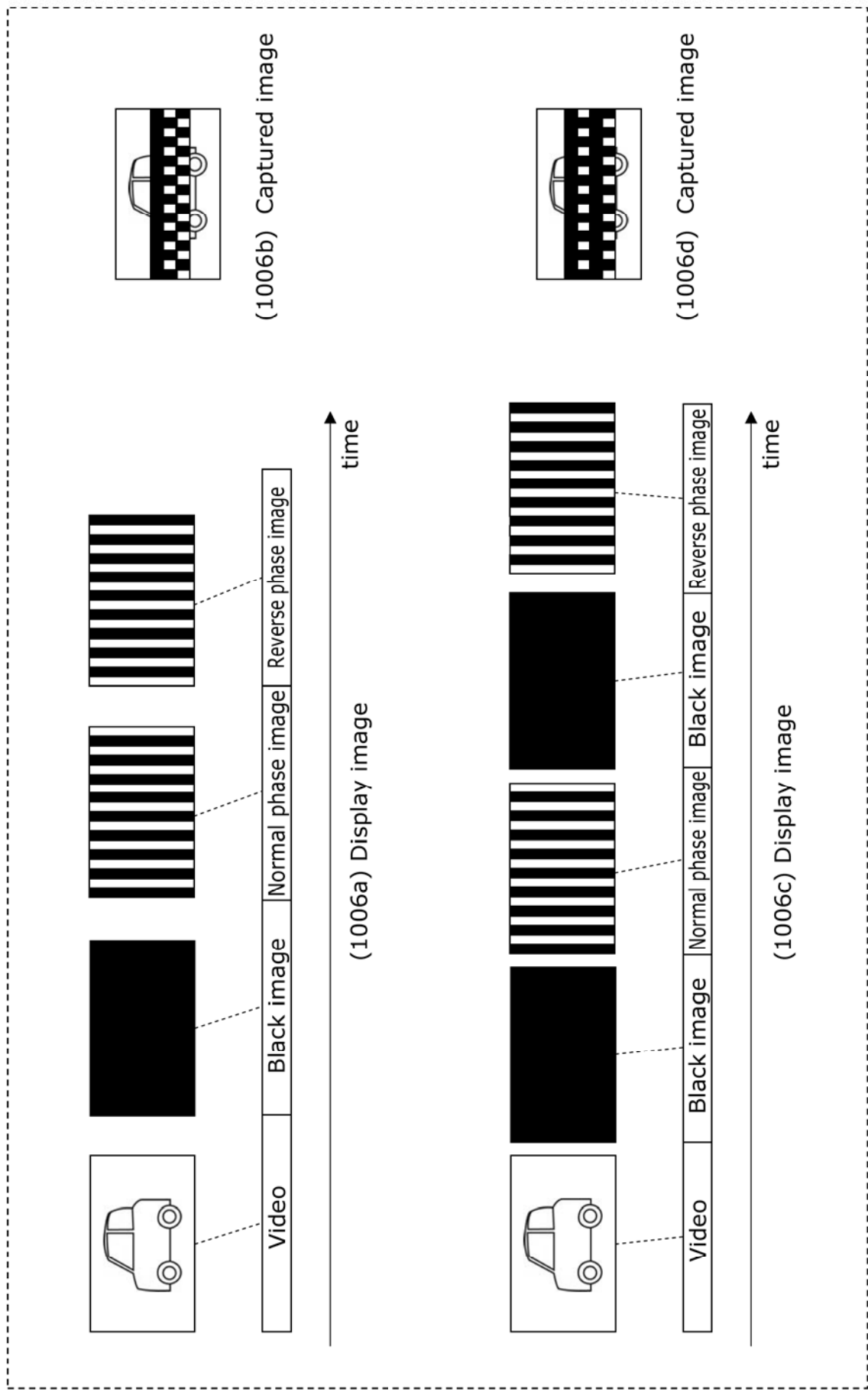


FIG. 476

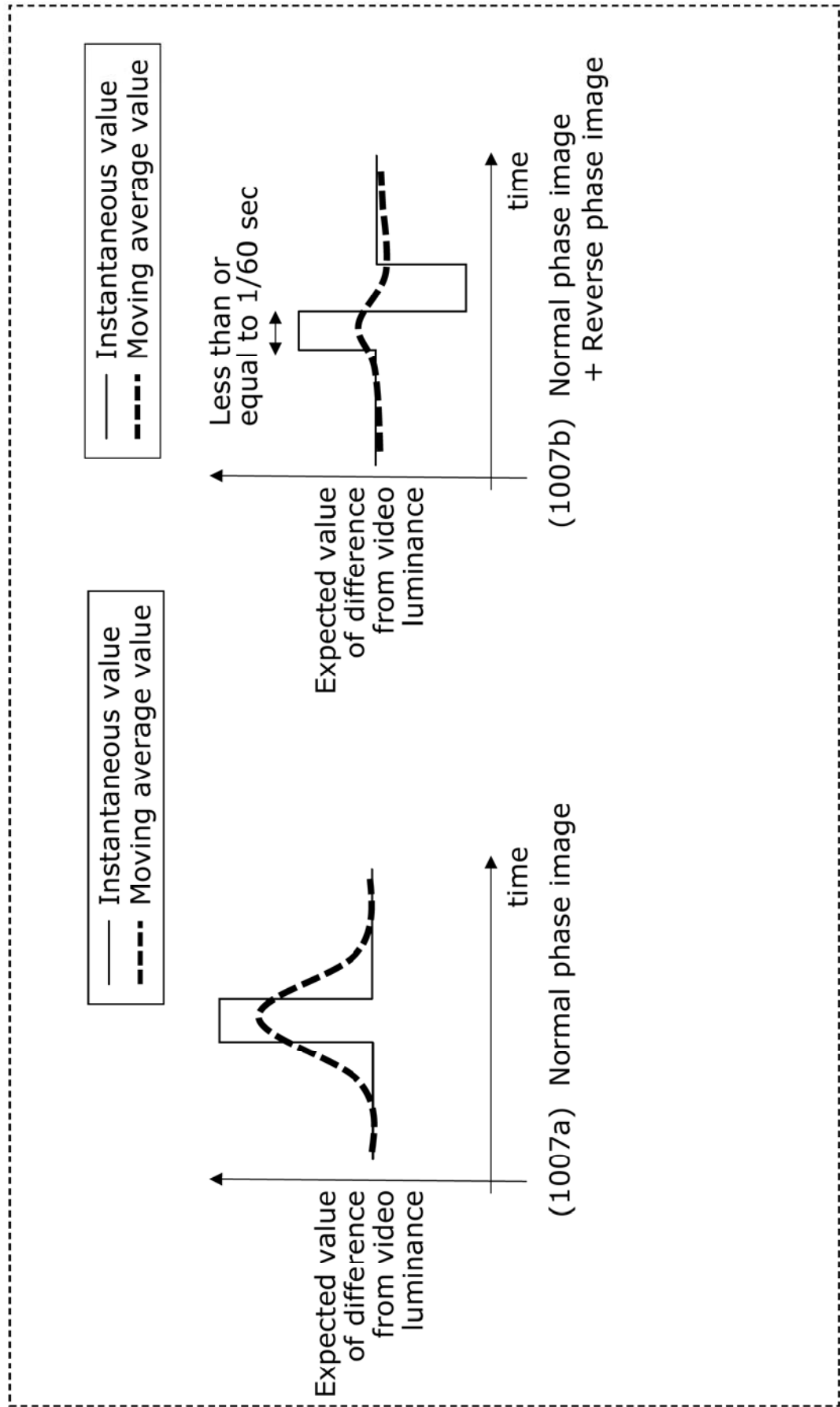


FIG. 477

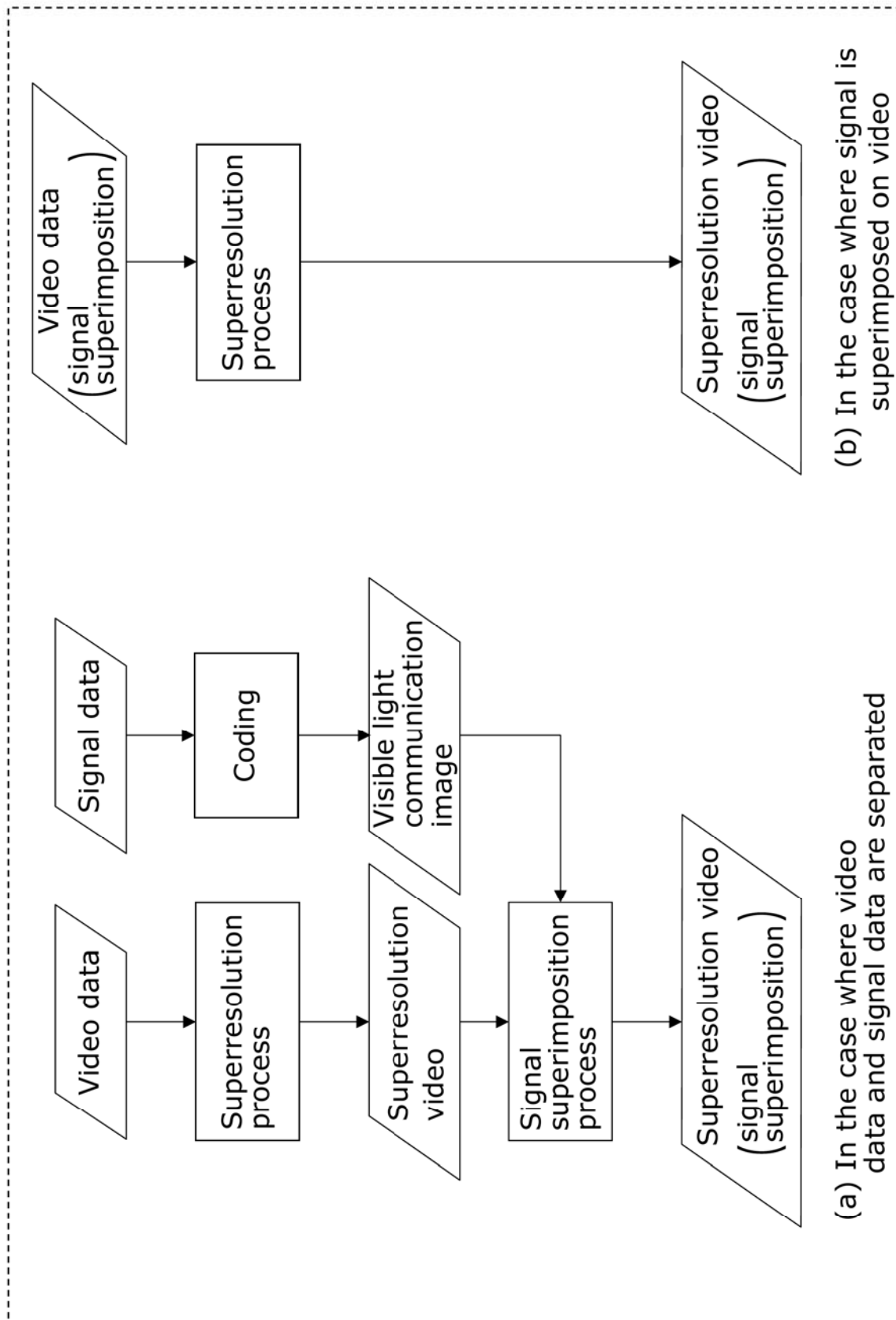


FIG. 478

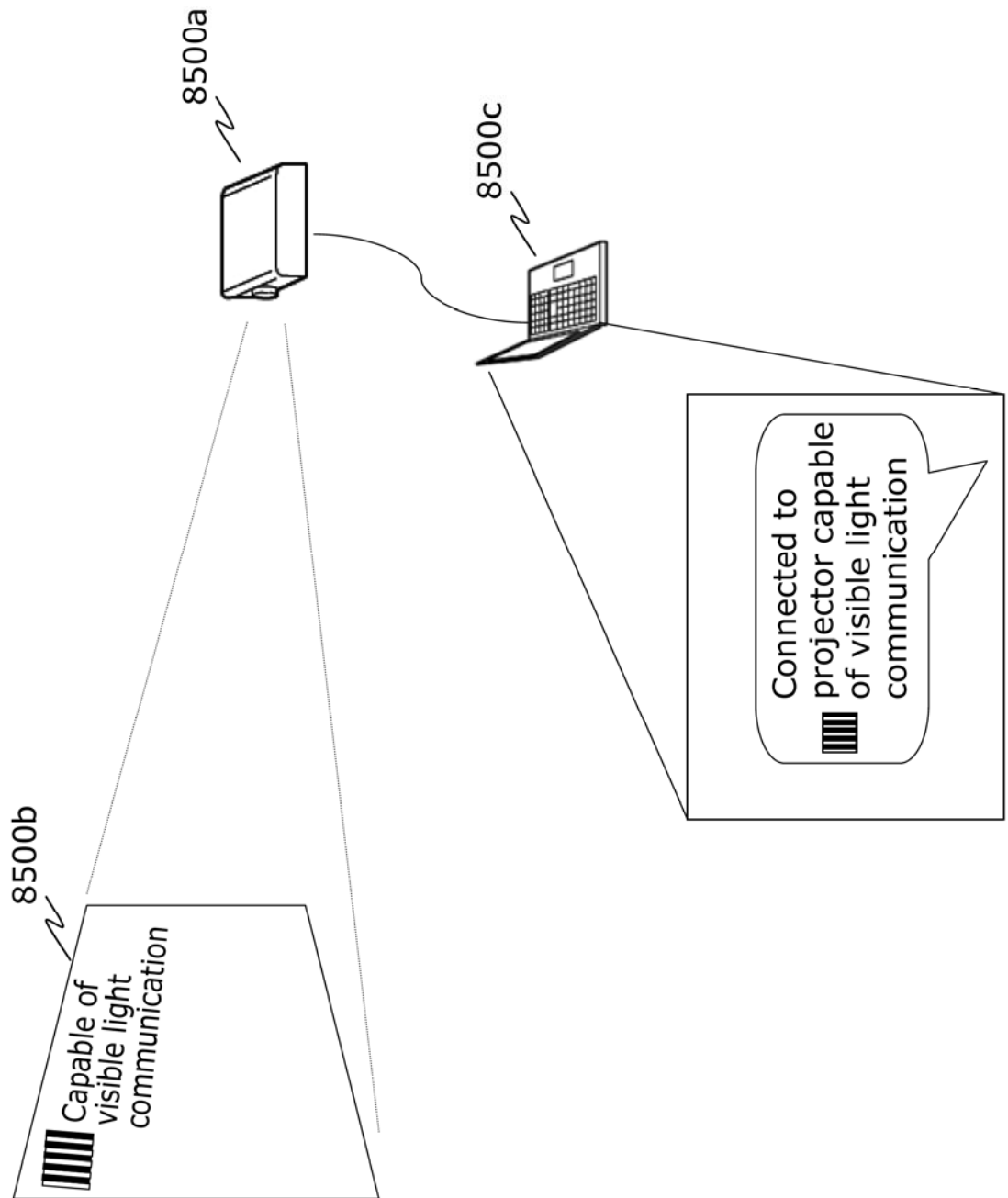


FIG. 479

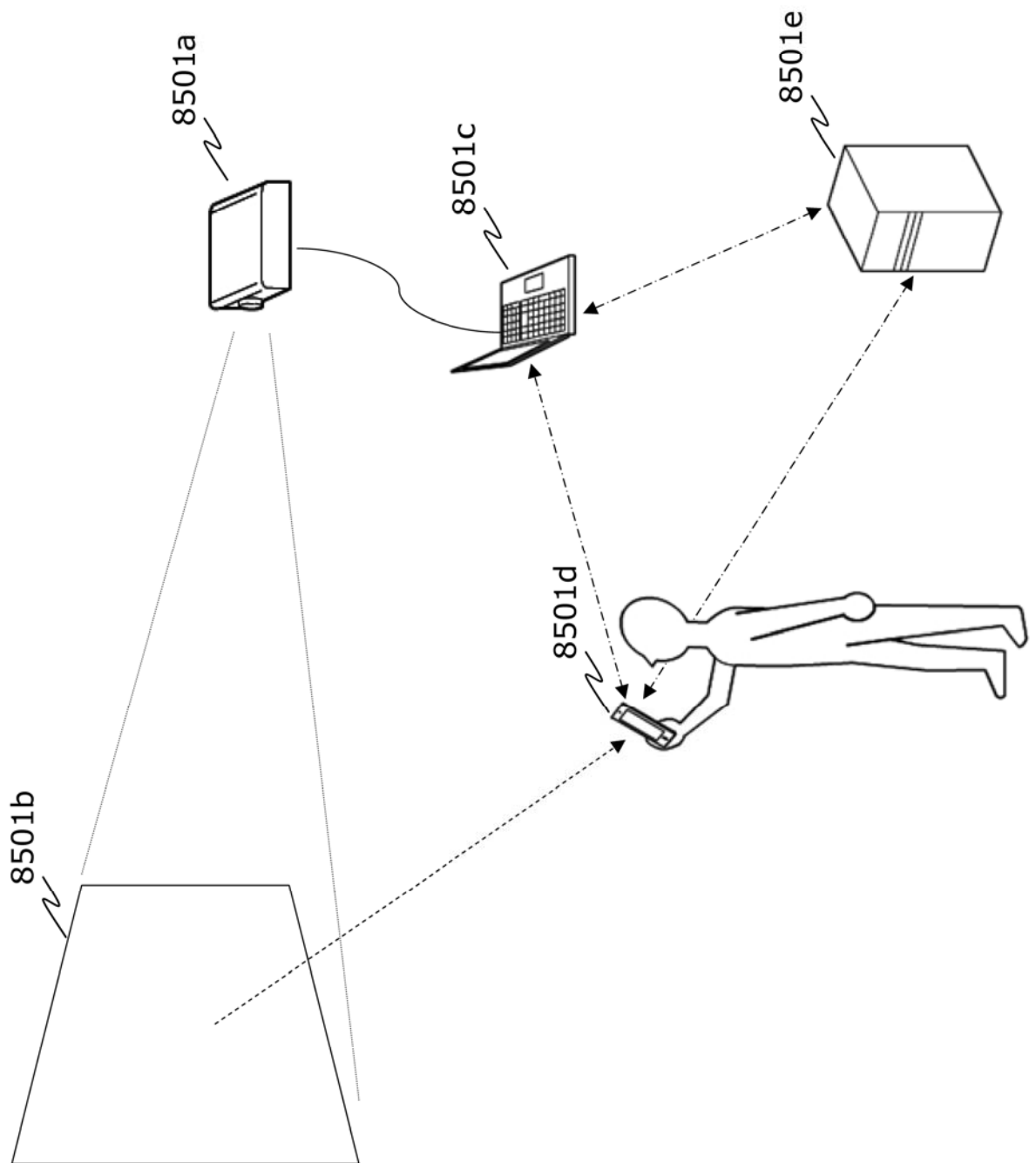


FIG. 480

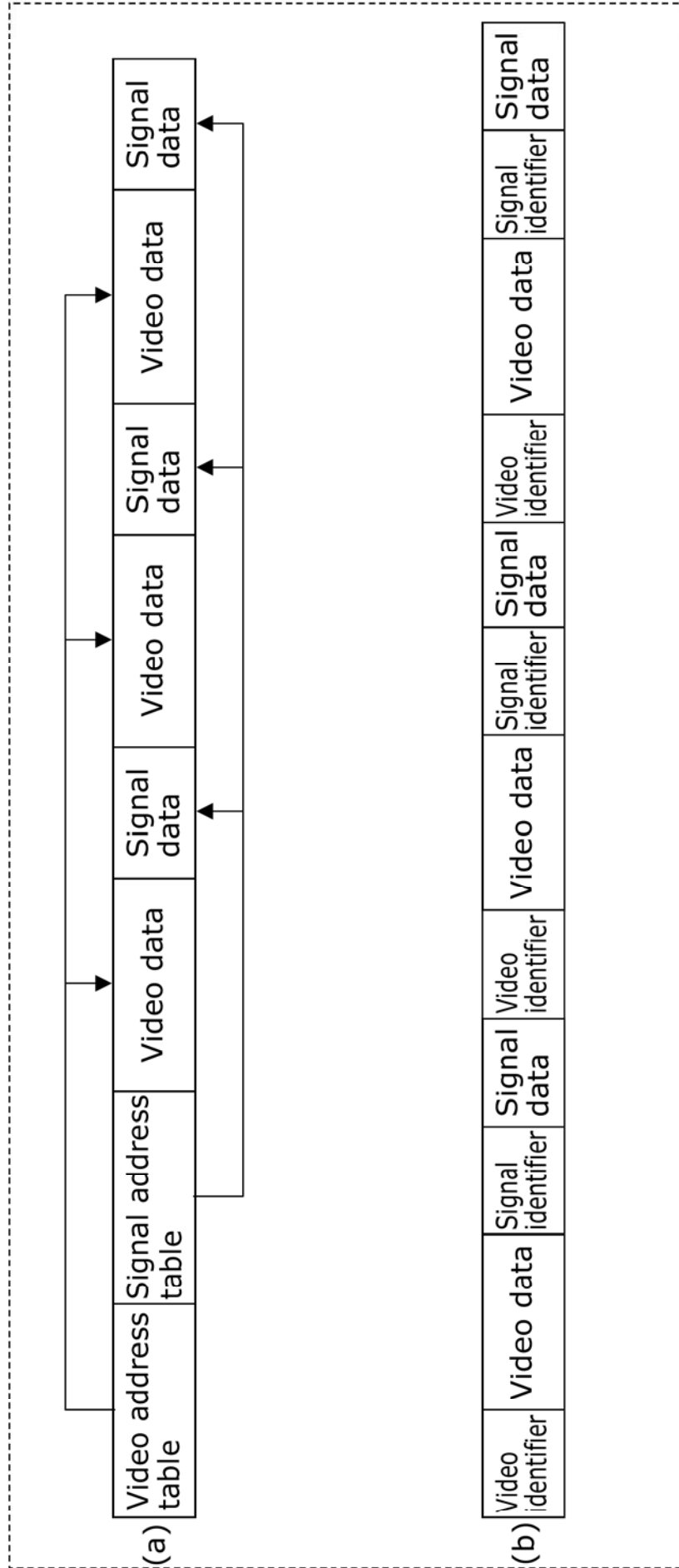


FIG. 481

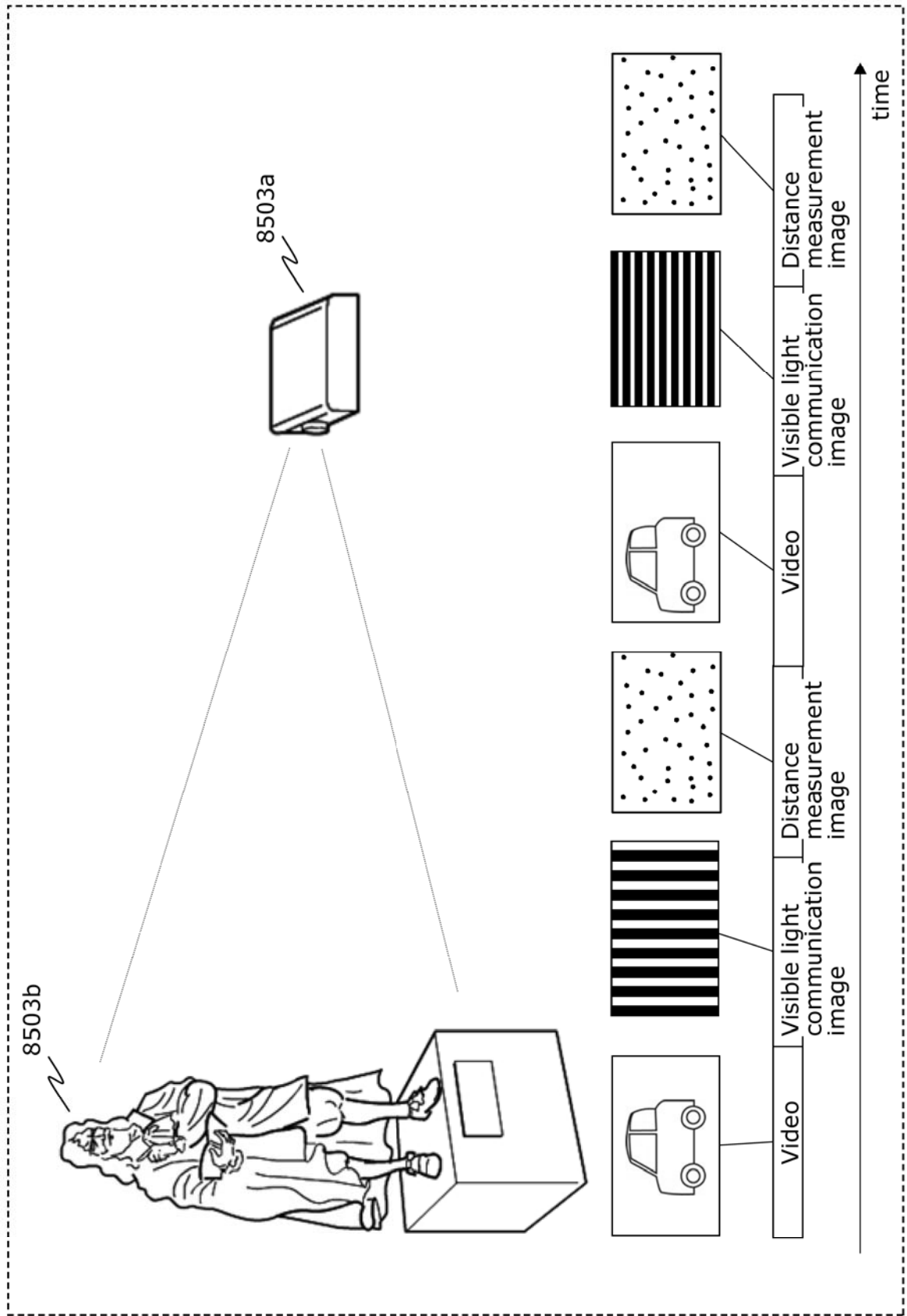


FIG. 482

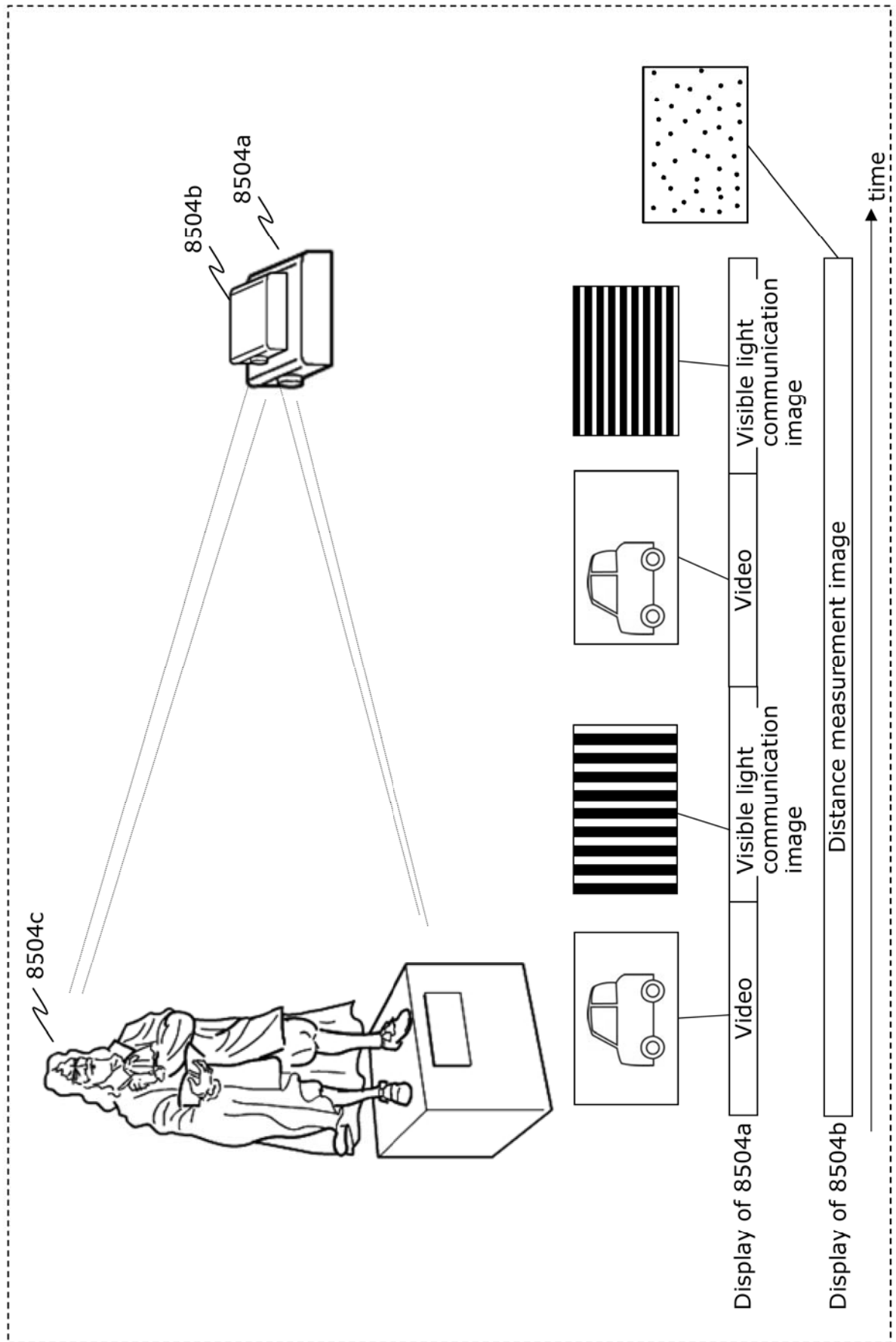


FIG. 483

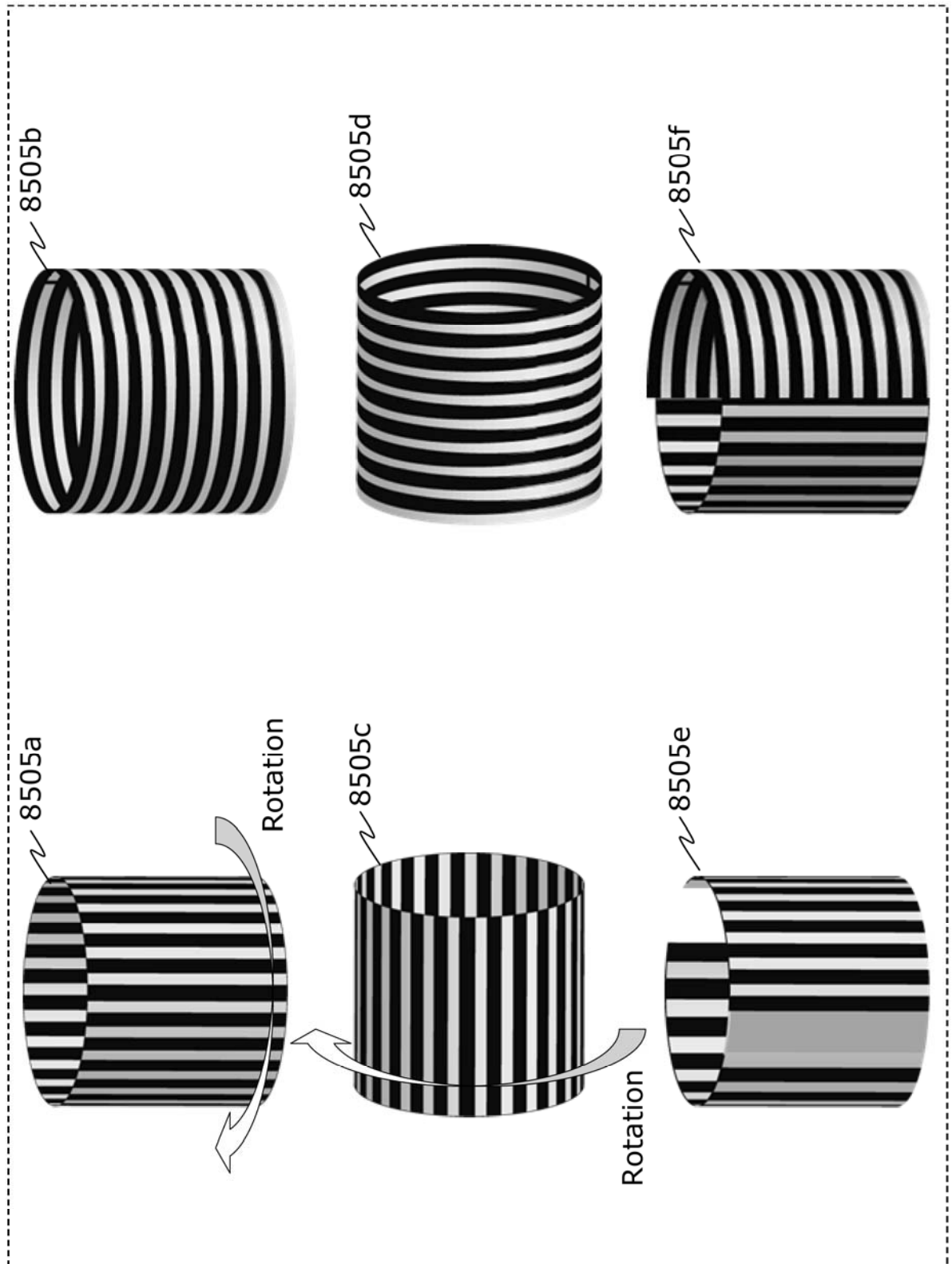


FIG. 484

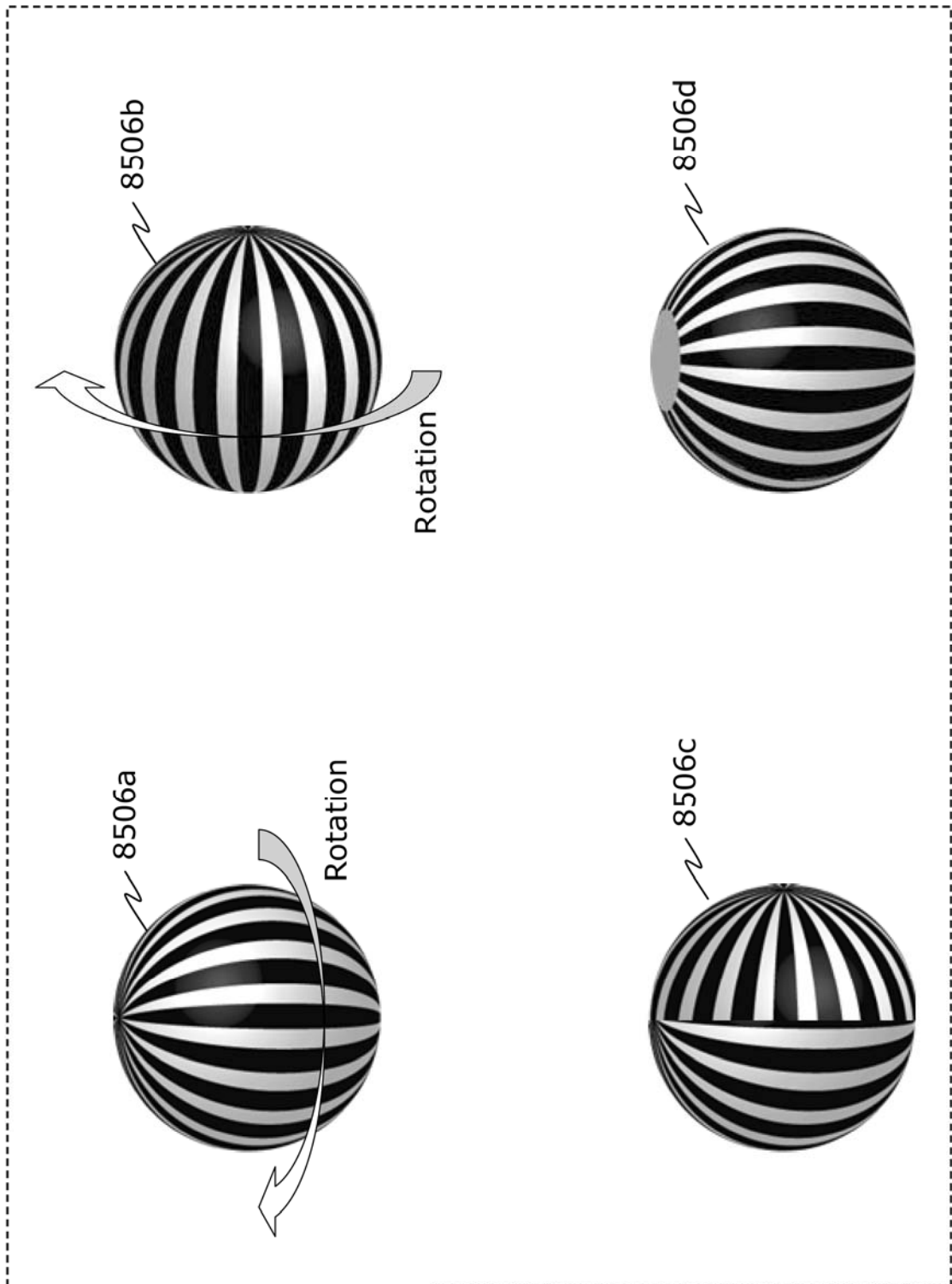


FIG. 485

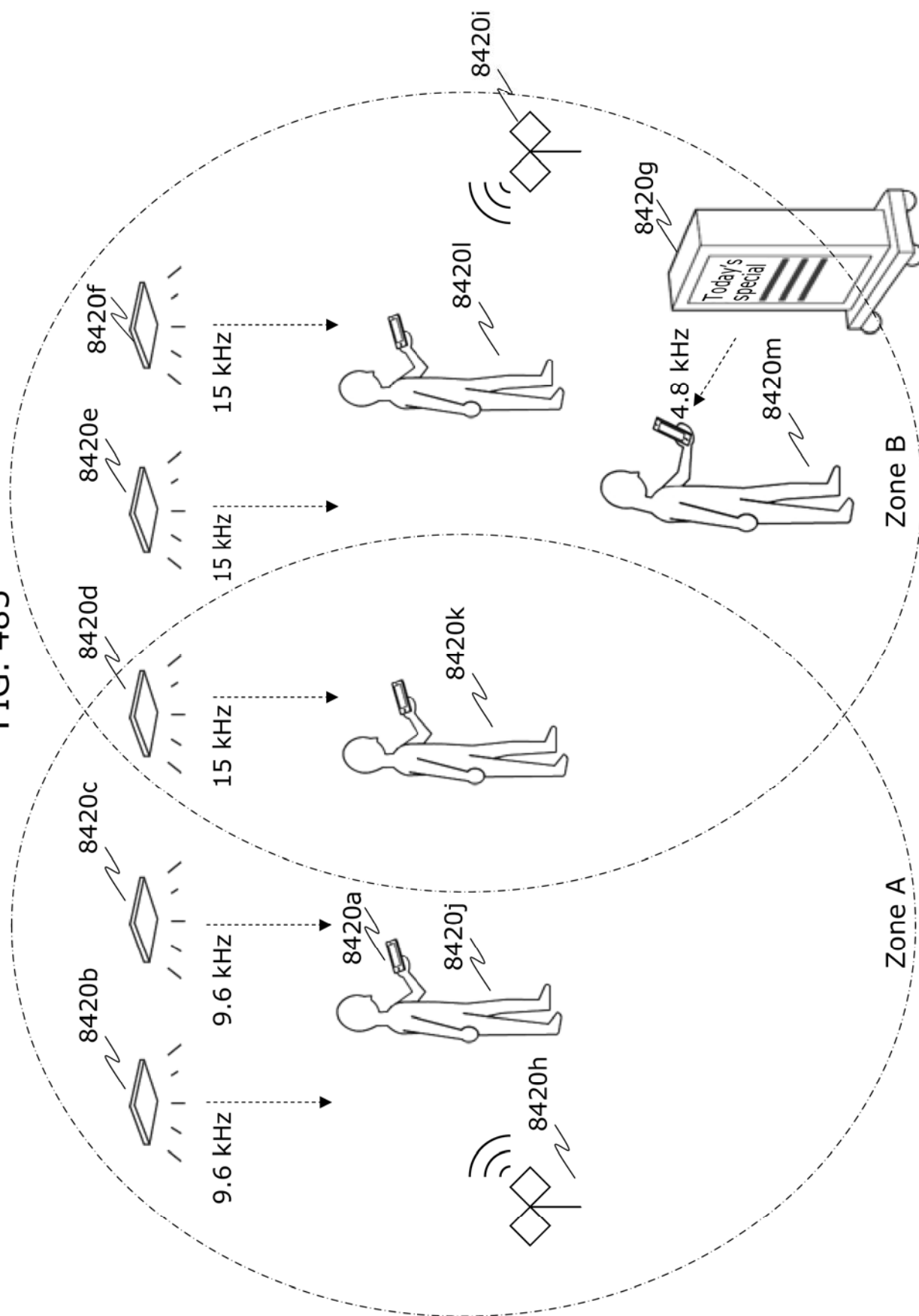


FIG. 486

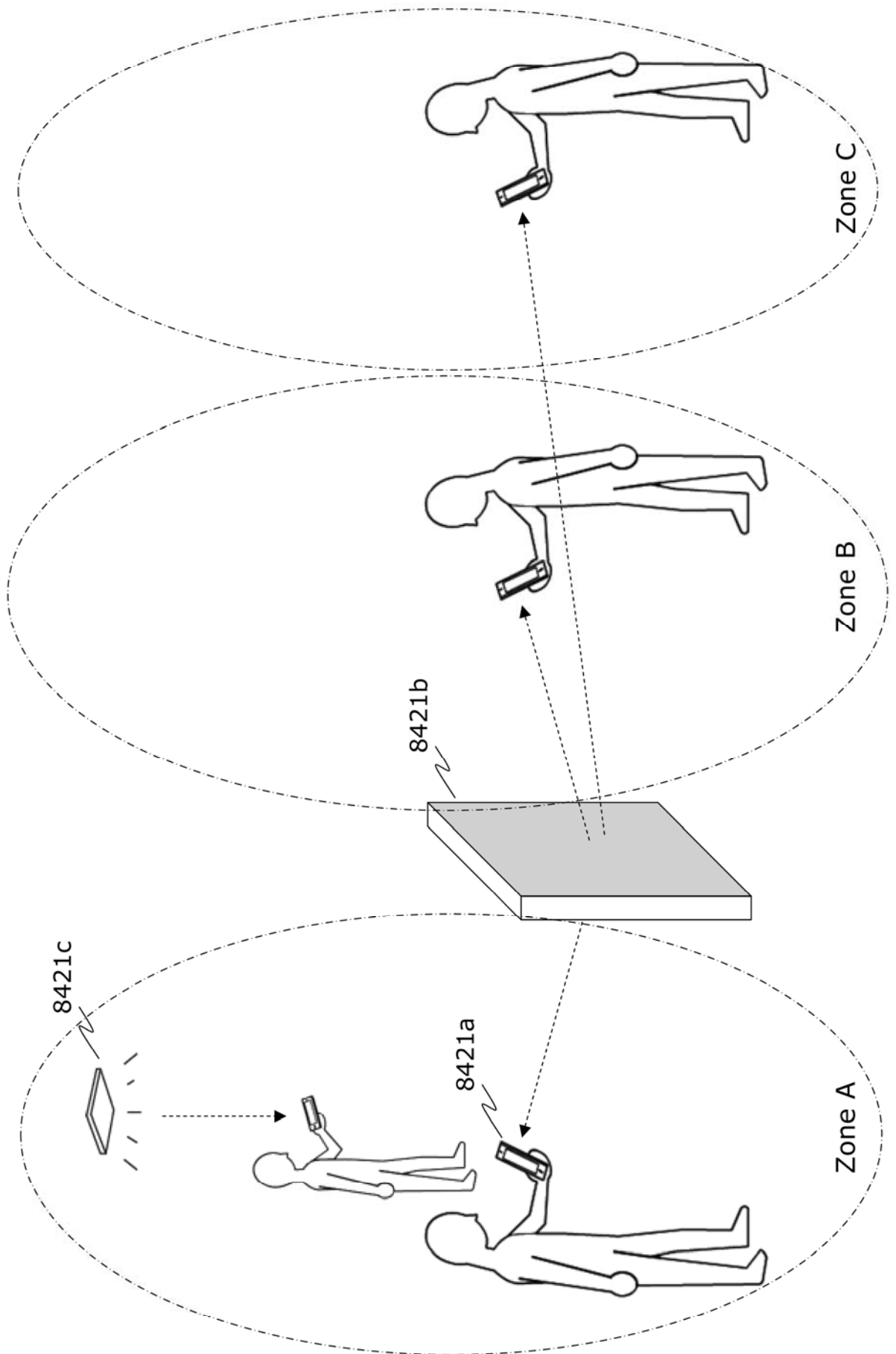


FIG. 487

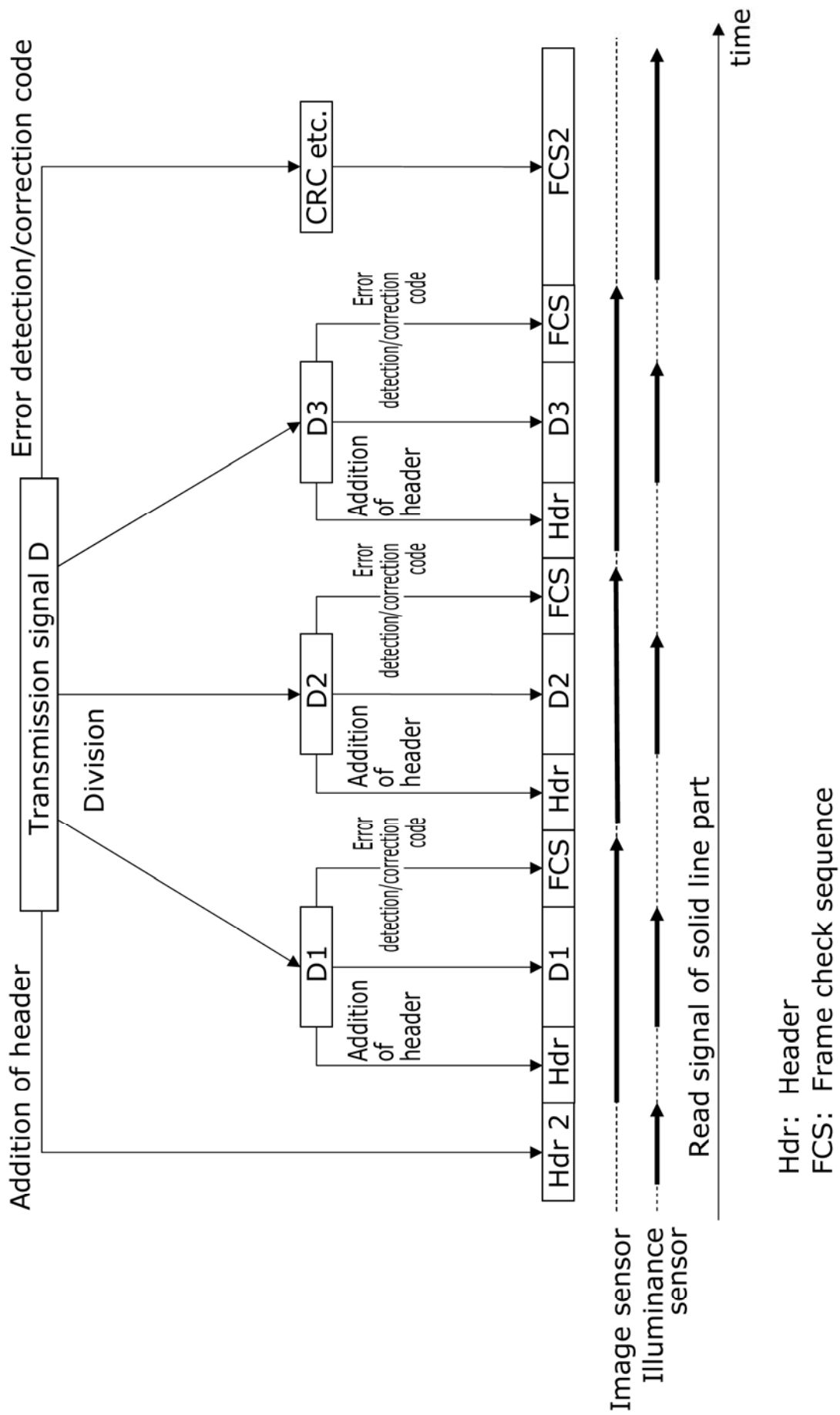


FIG. 488

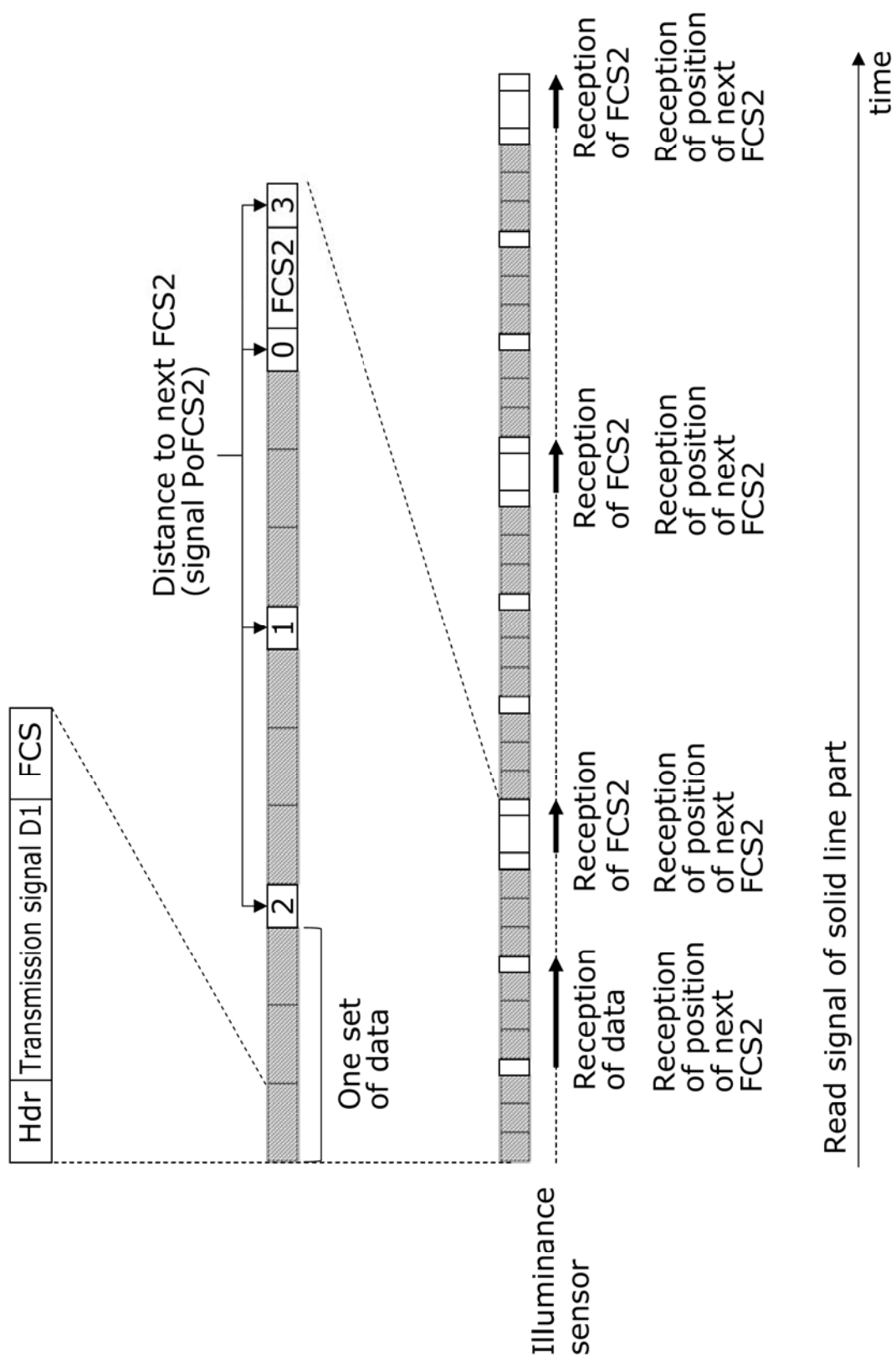


FIG. 489A

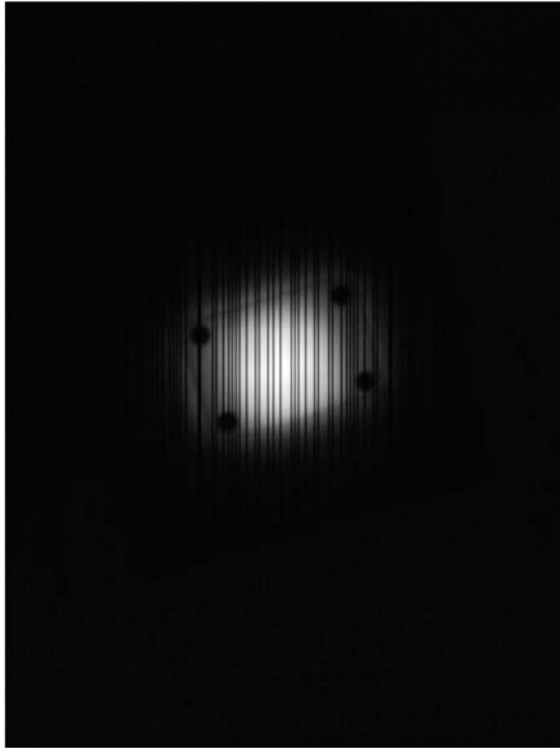


FIG. 489B

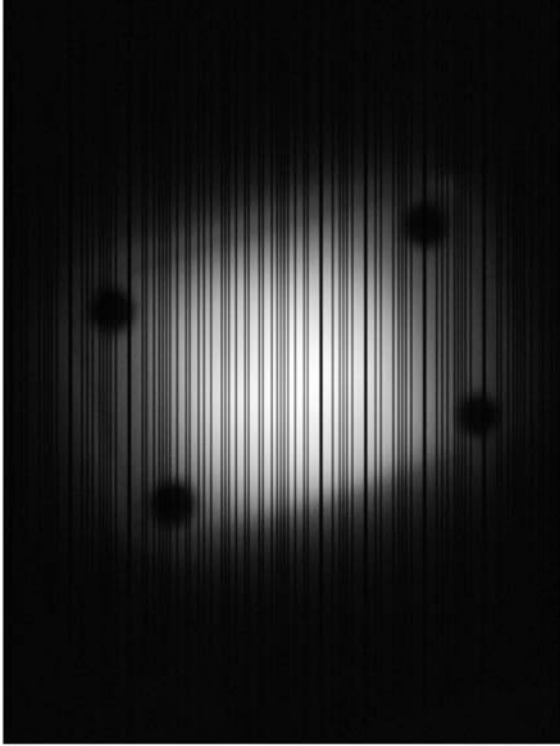


FIG. 489C

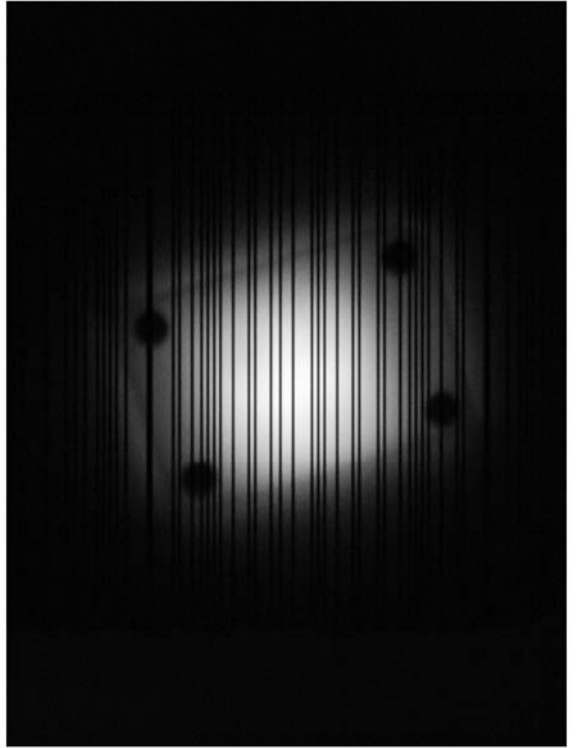


FIG. 490B

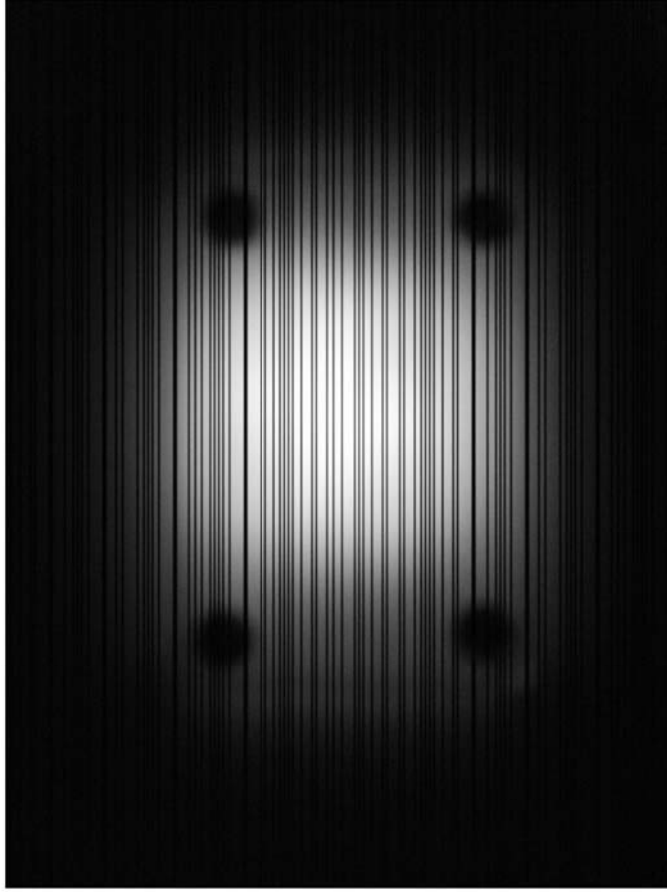


FIG. 490A

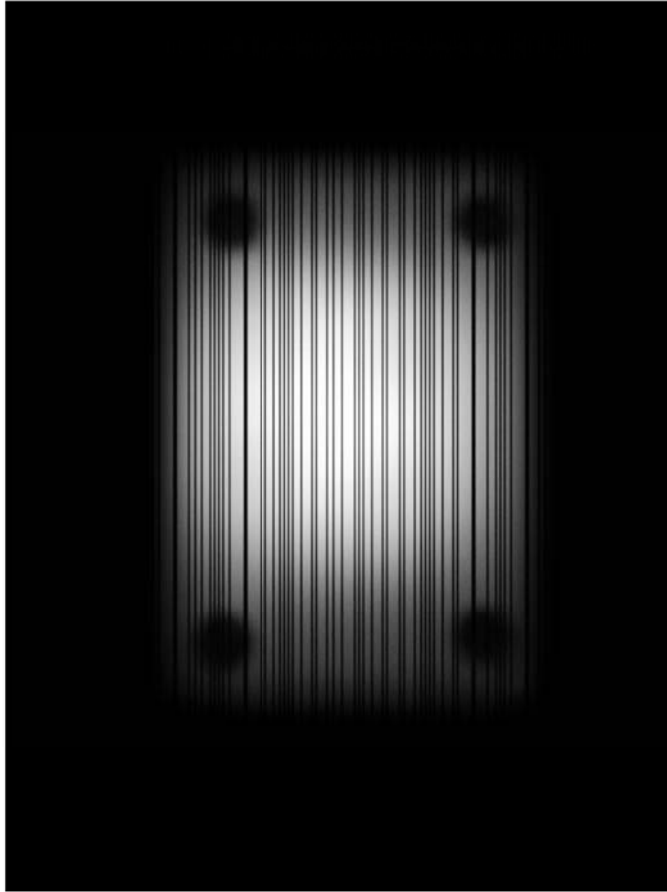


FIG. 491C

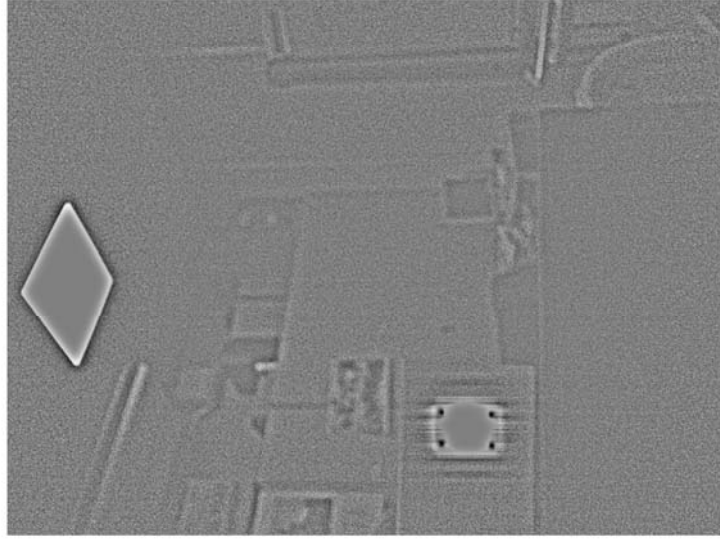


FIG. 491B

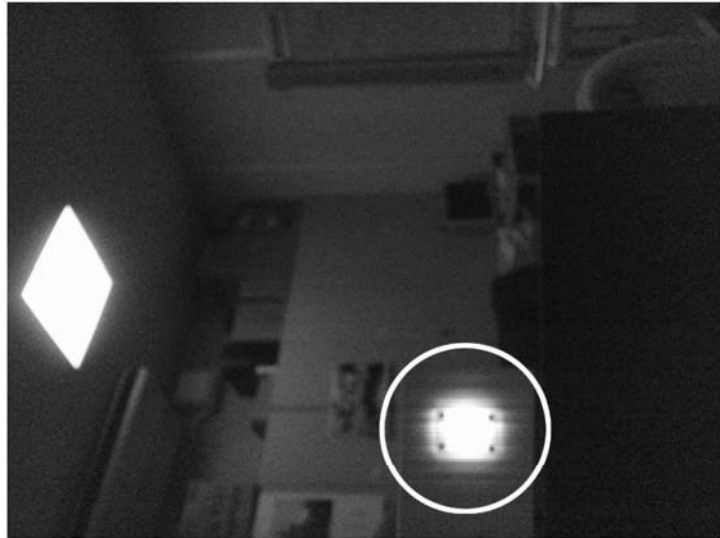


FIG. 491A

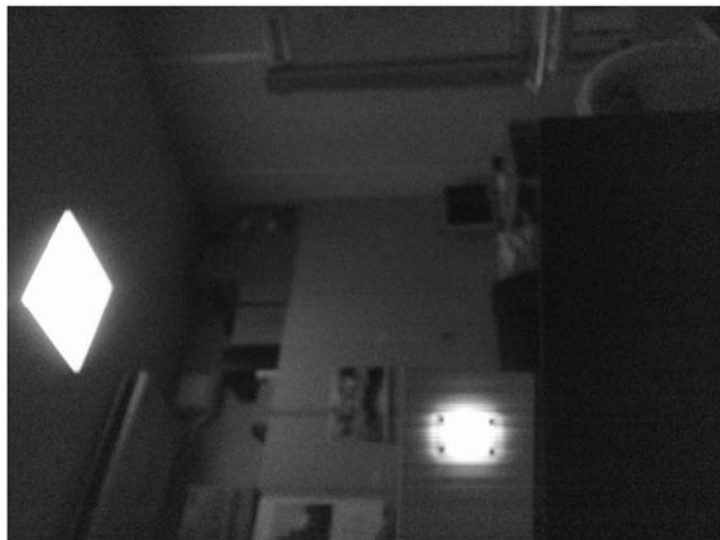


FIG. 492

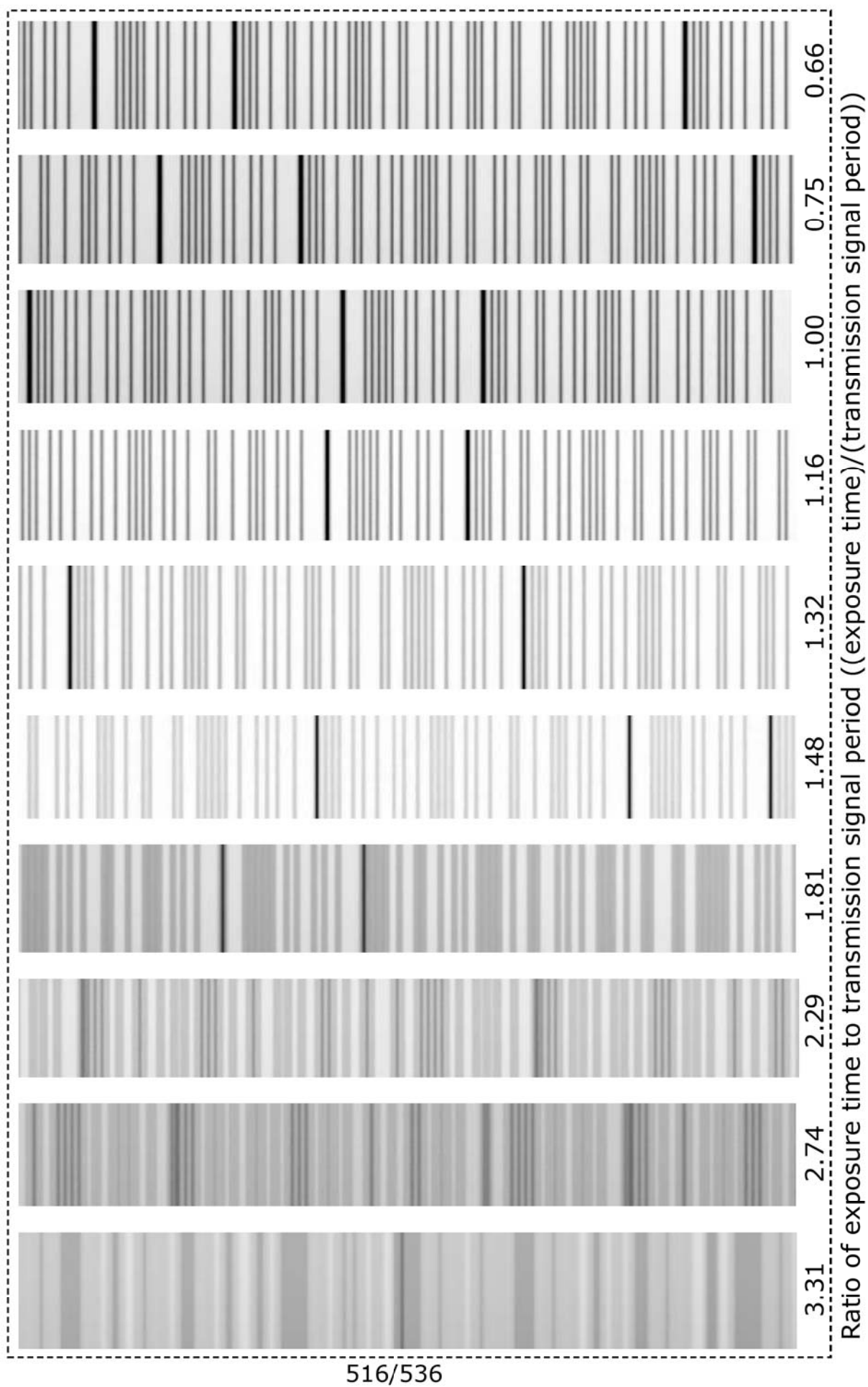


FIG. 493

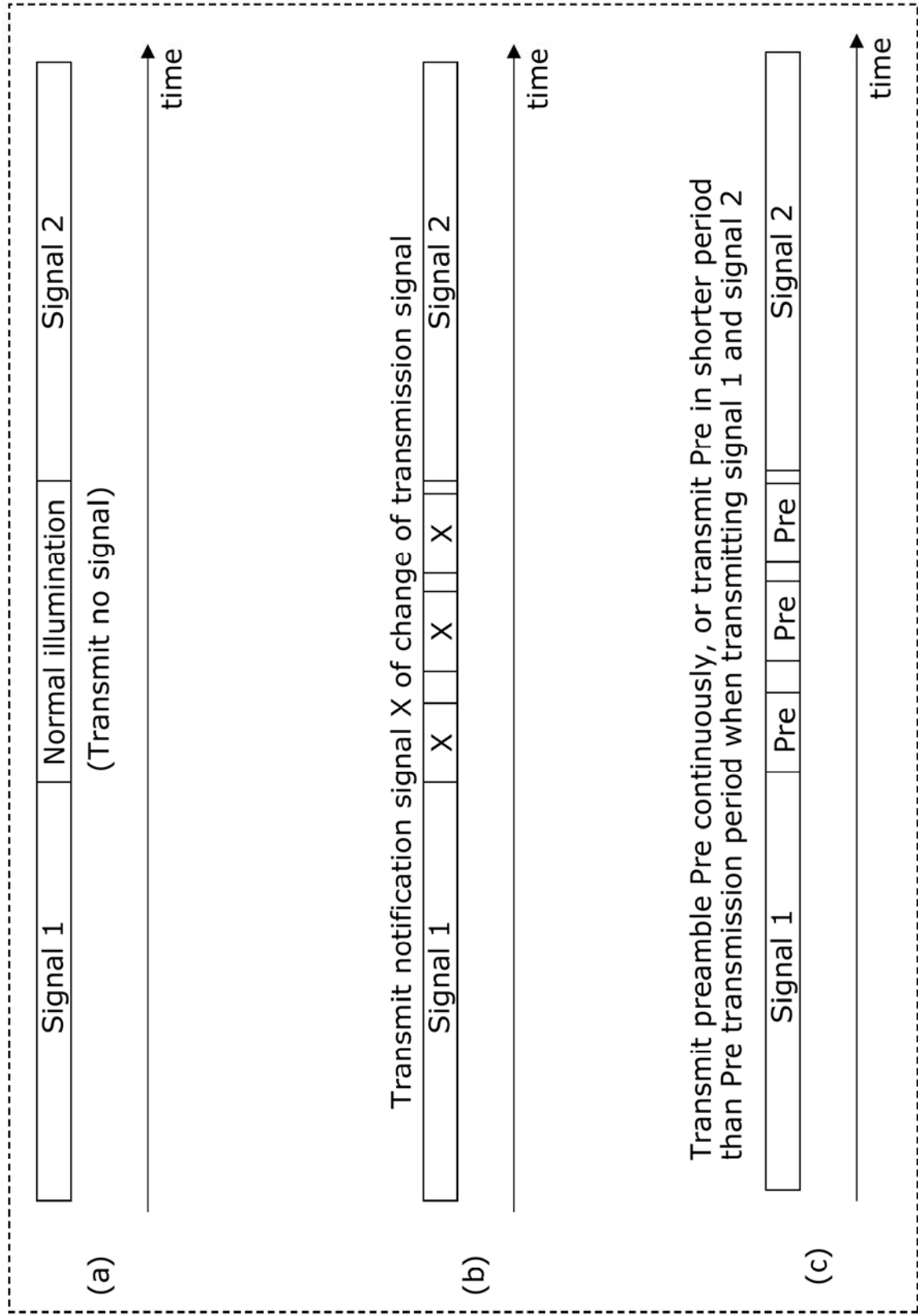
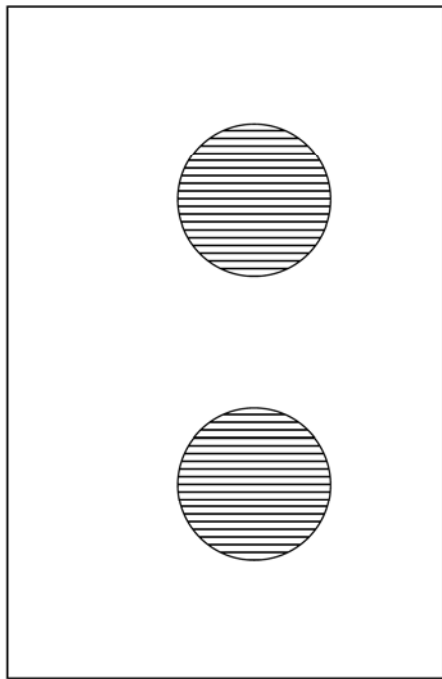
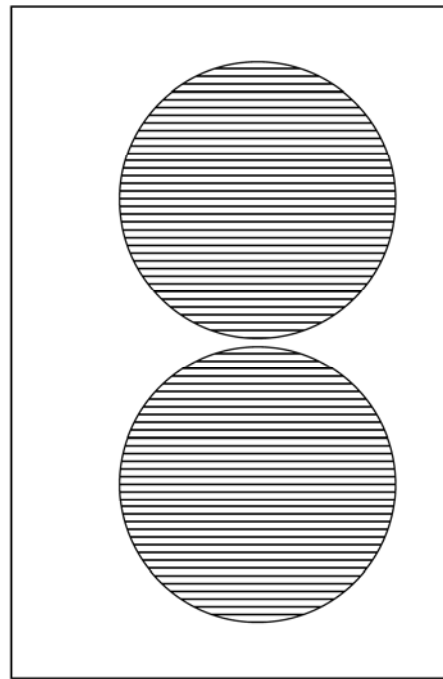


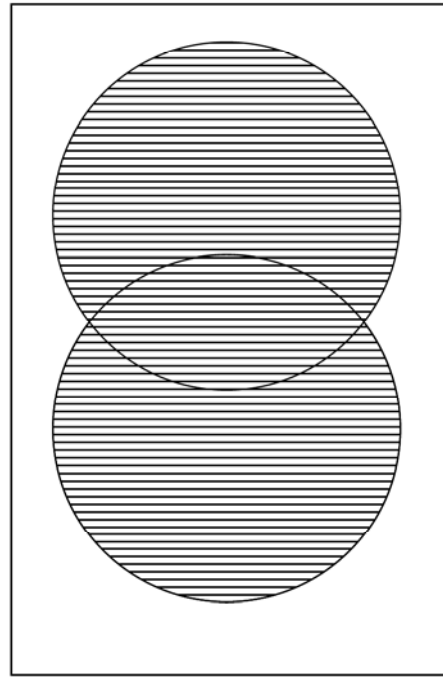
FIG. 494



(a)



(b)



(c)

FIG. 495

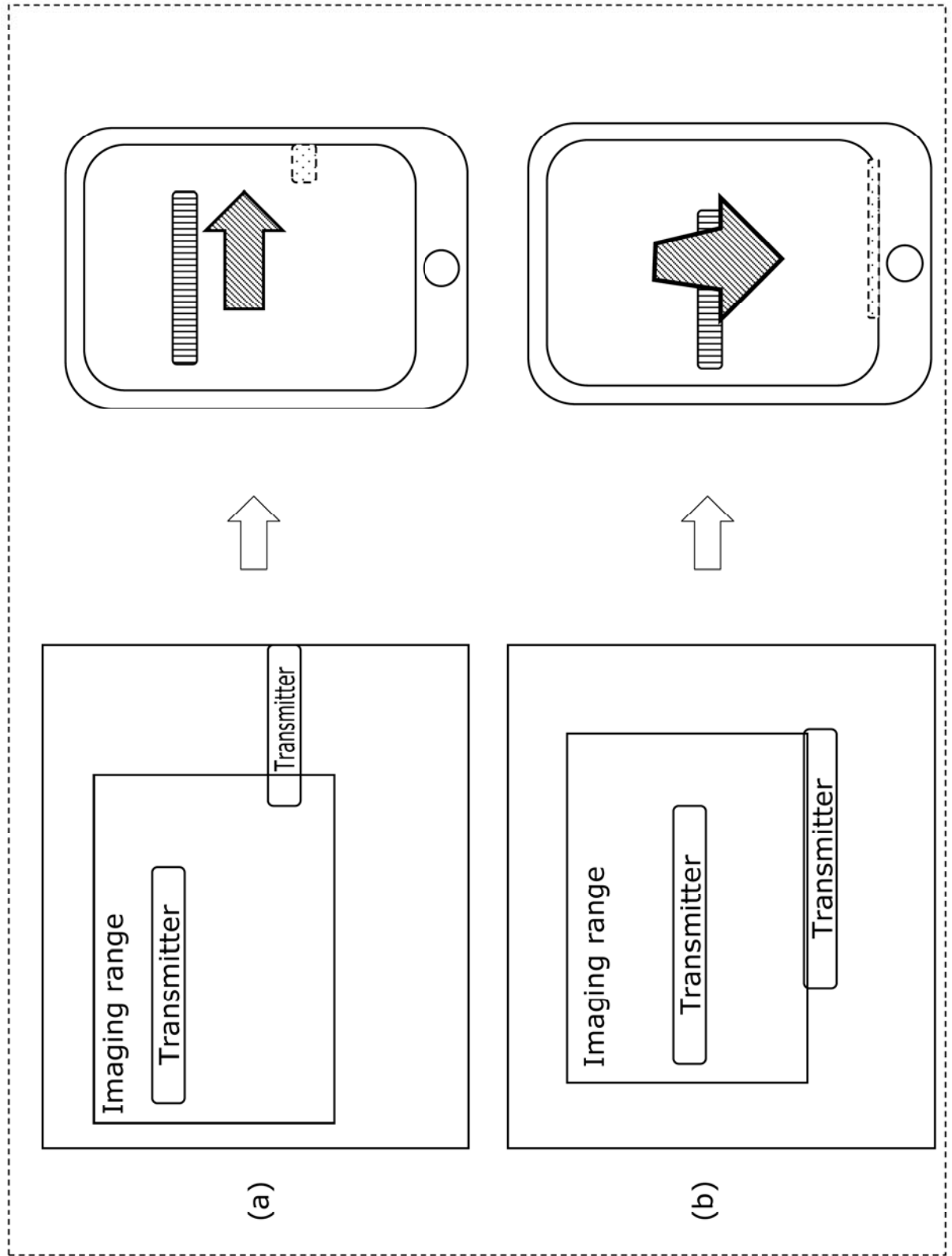


FIG. 496

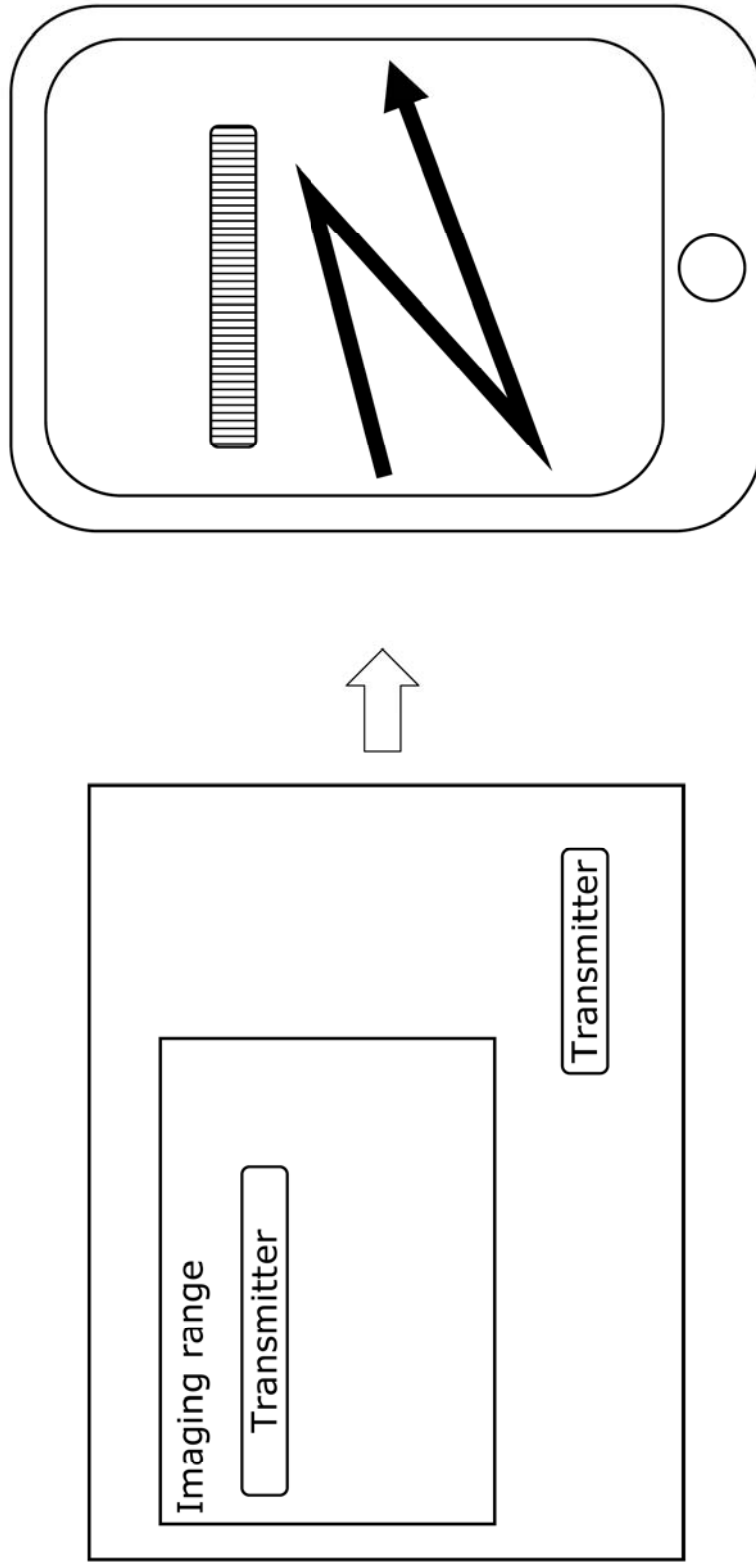


FIG. 497

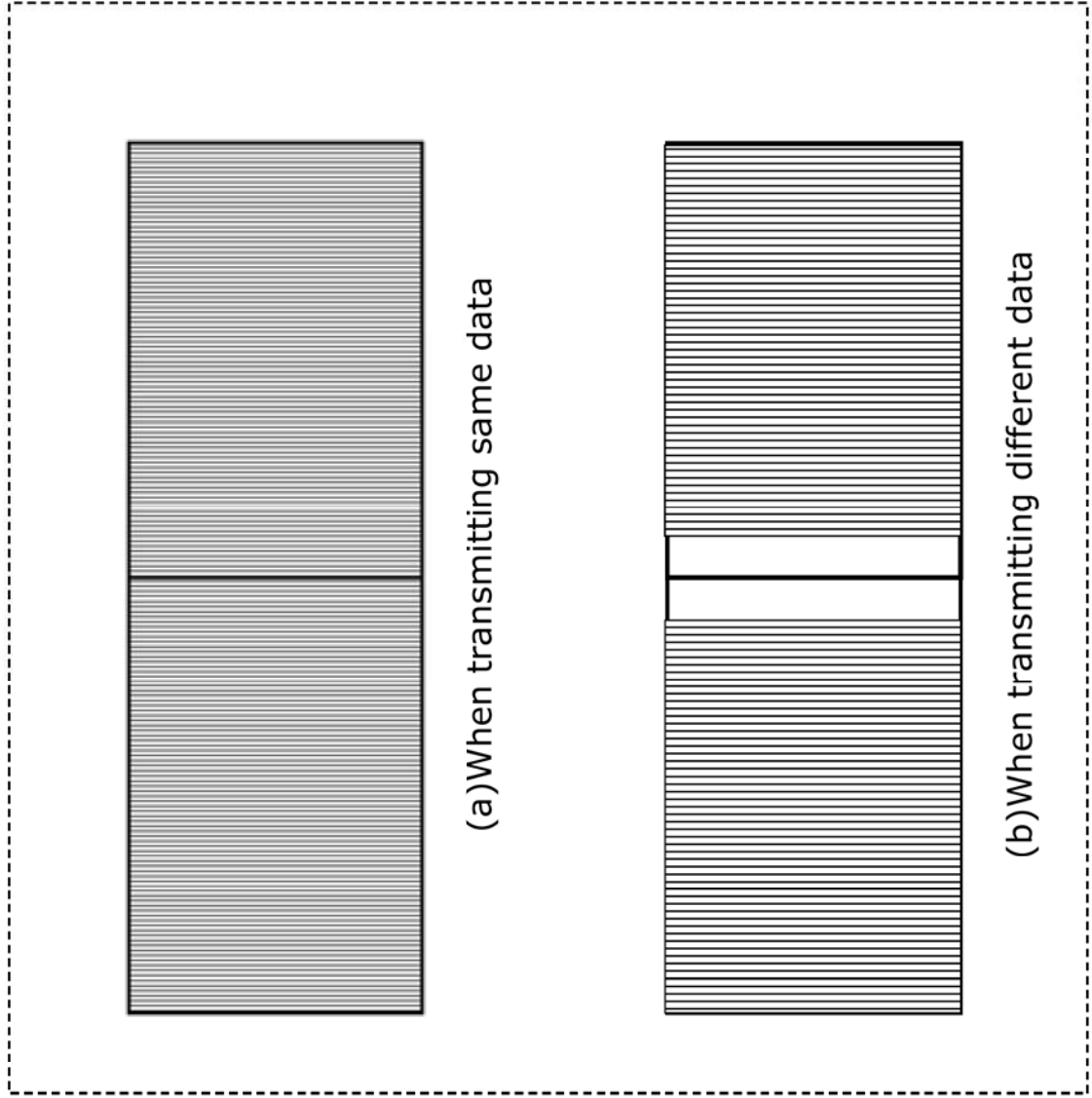


FIG. 498

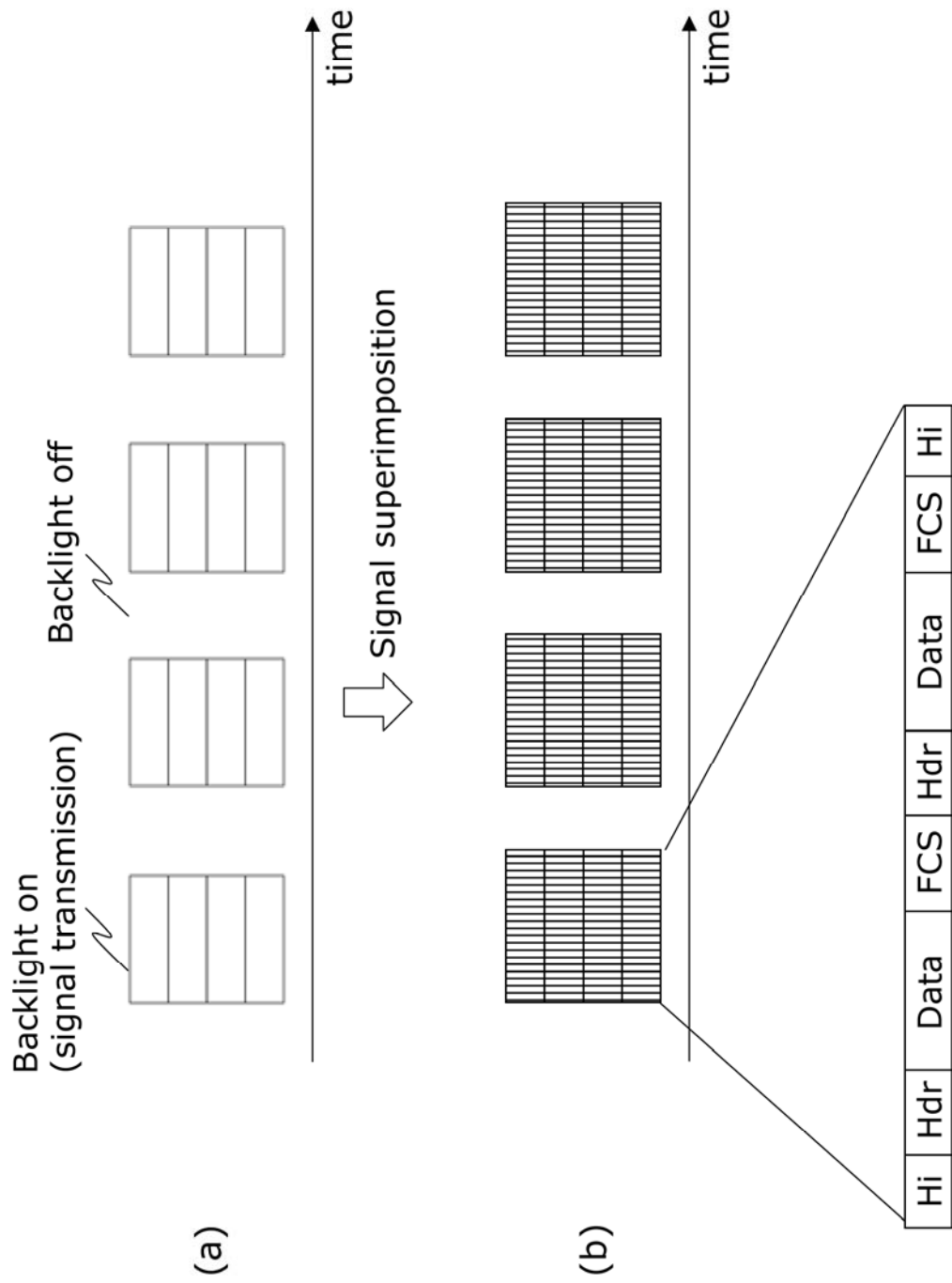


FIG. 499

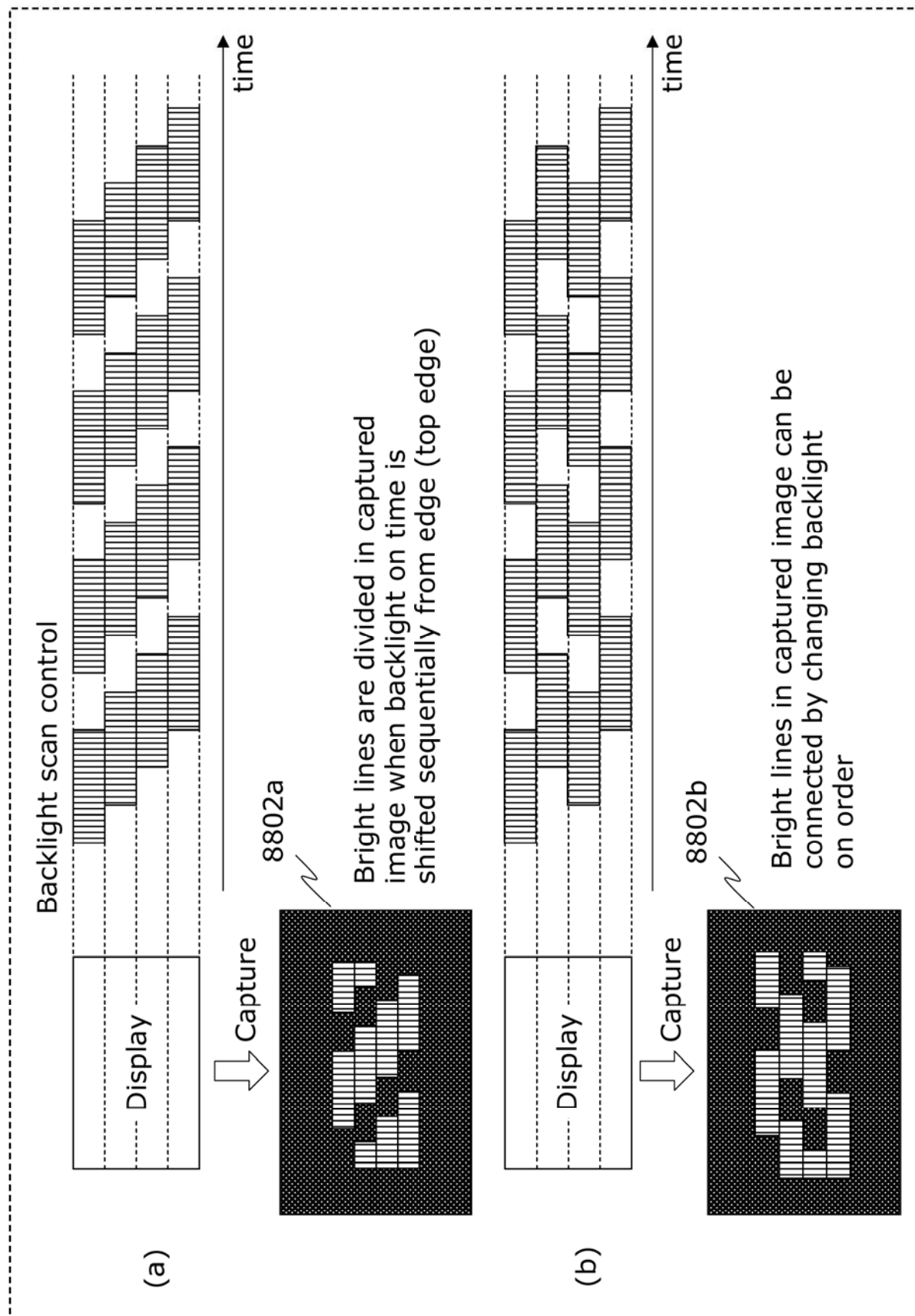


FIG. 500

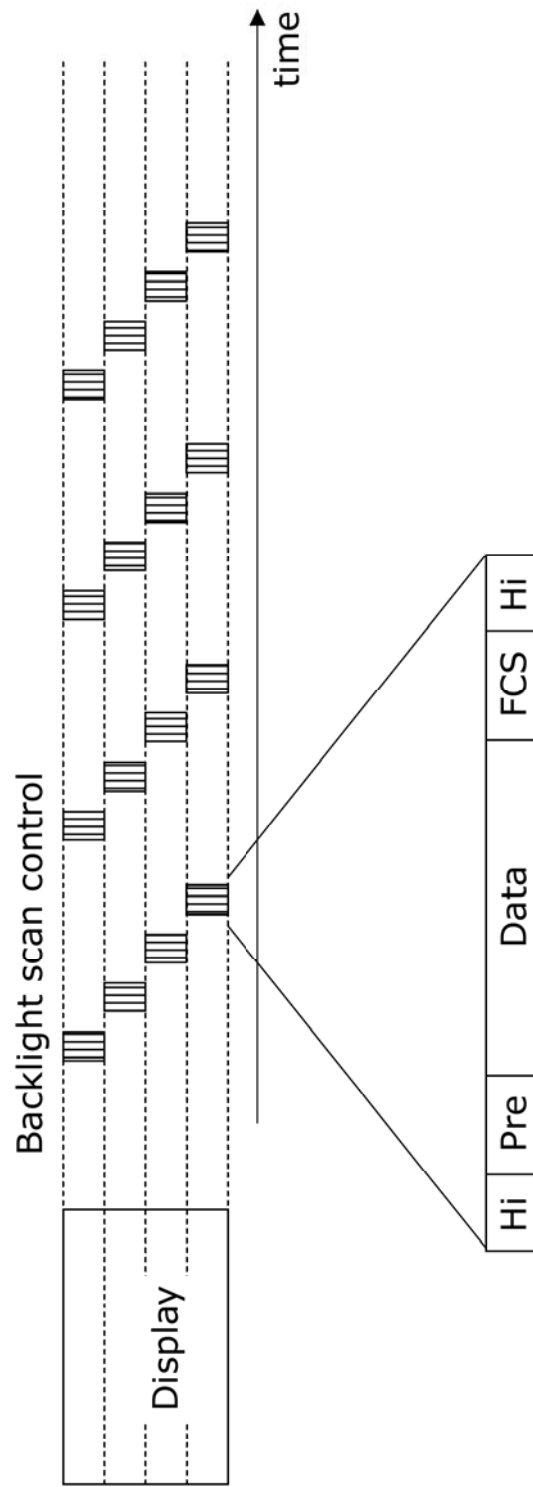


FIG. 501

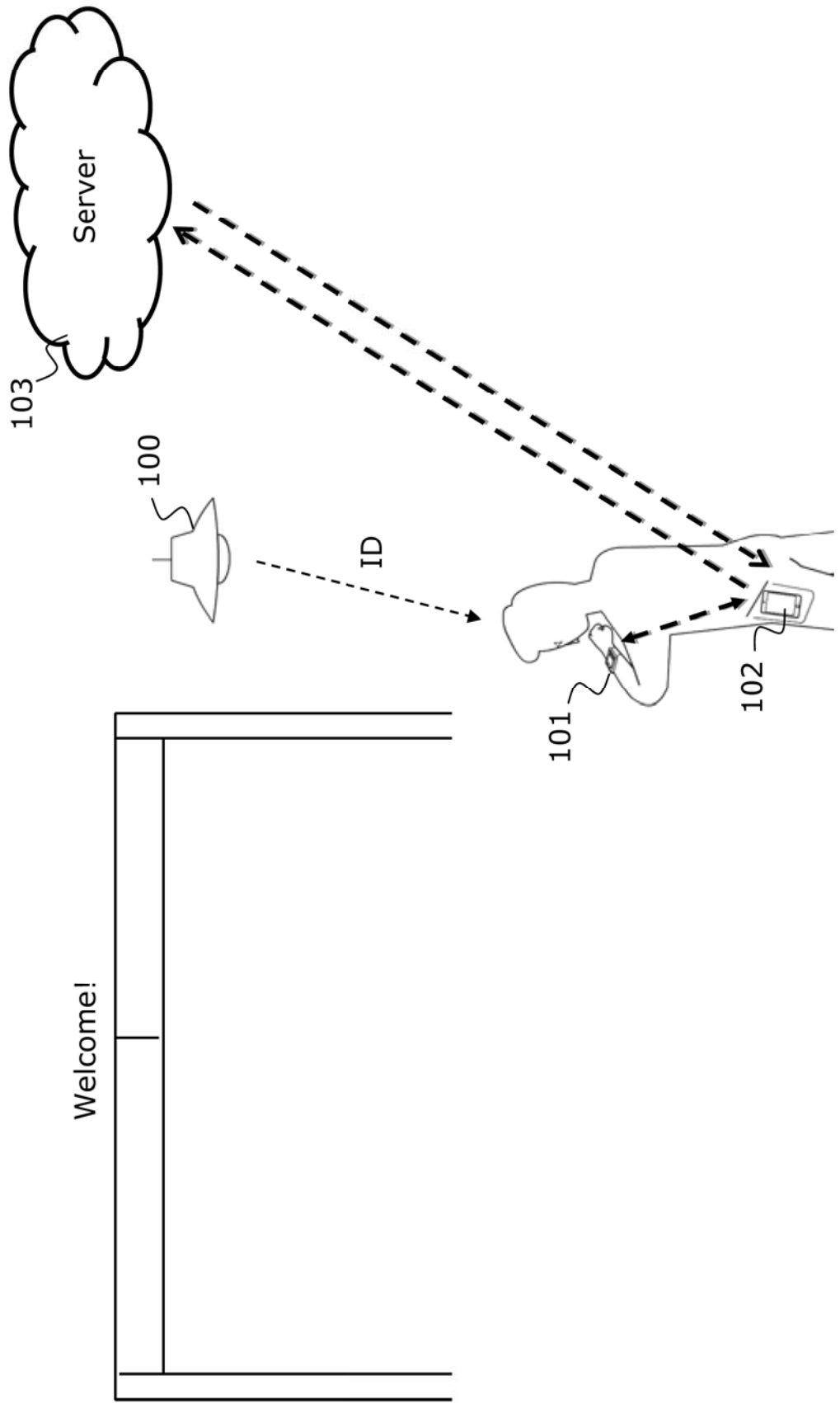


FIG. 502

Membership number	Store ID	Time	Position information
User preference information		User biological information	
User search history		User behavior history	

FIG. 503

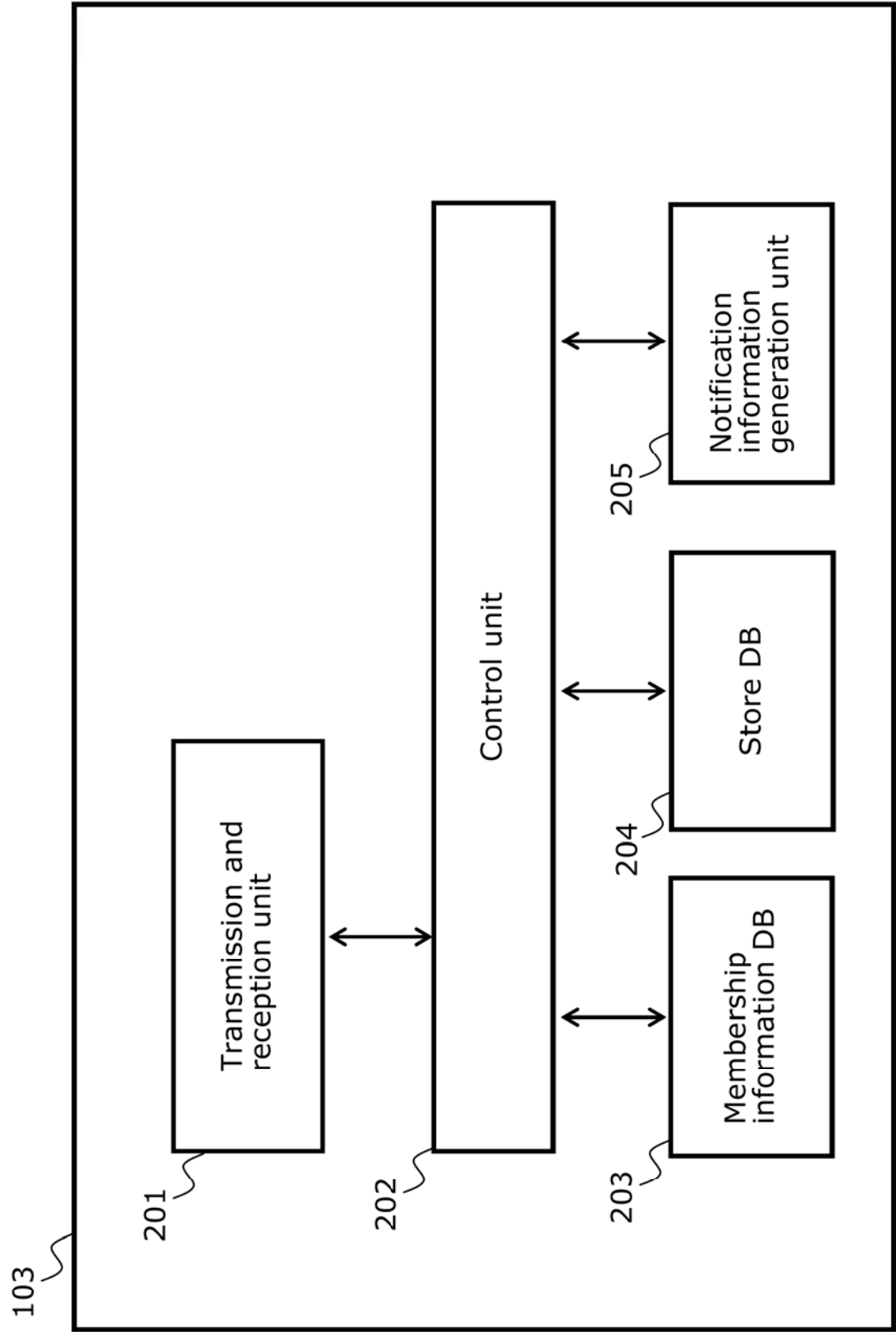


FIG. 504

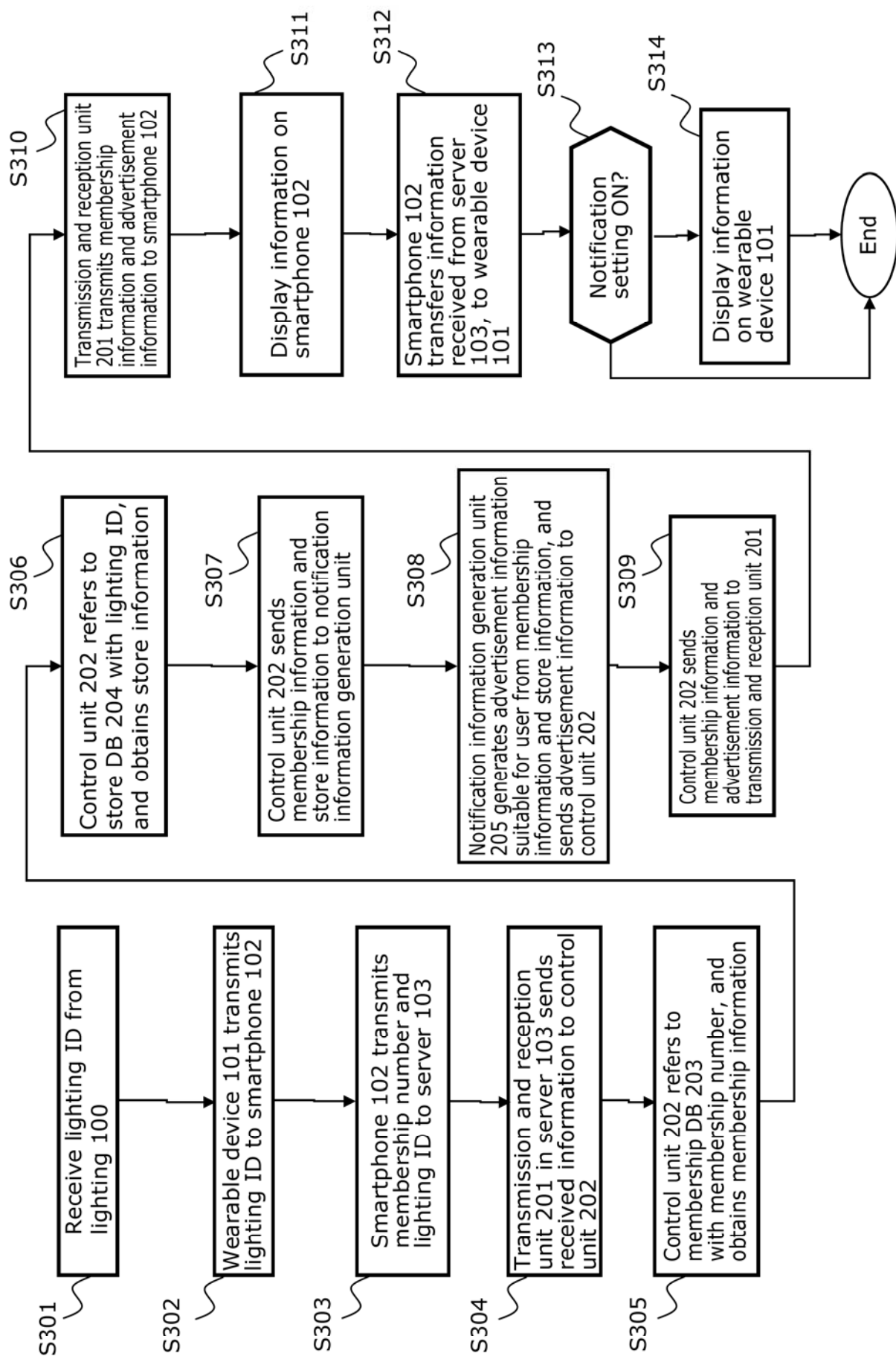


FIG. 505

Membership number	Store ID	Time	Store map DB
Coupon information Store product information	User membership information (points, expiration date, etc.)		

FIG. 506

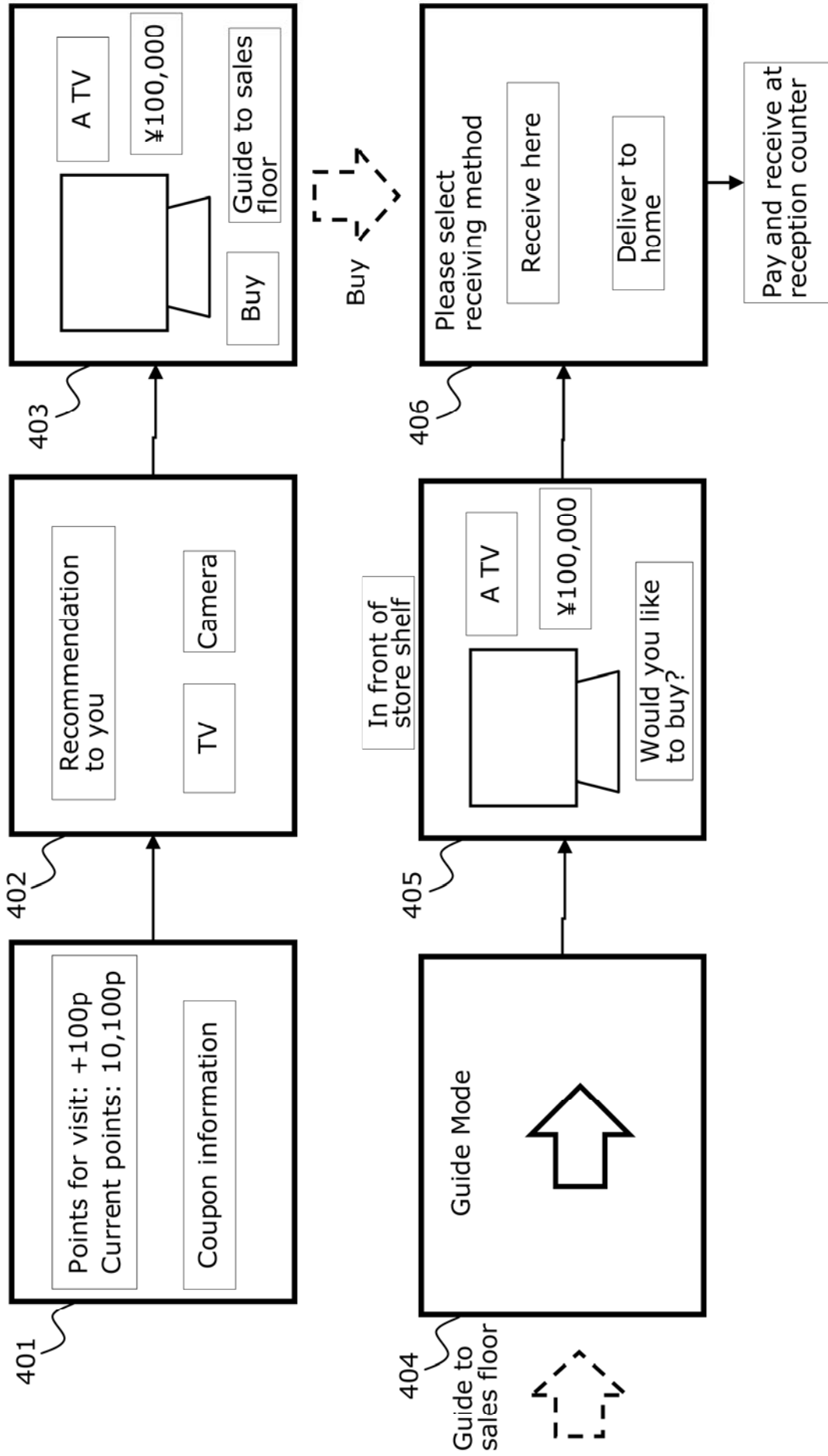


FIG. 507

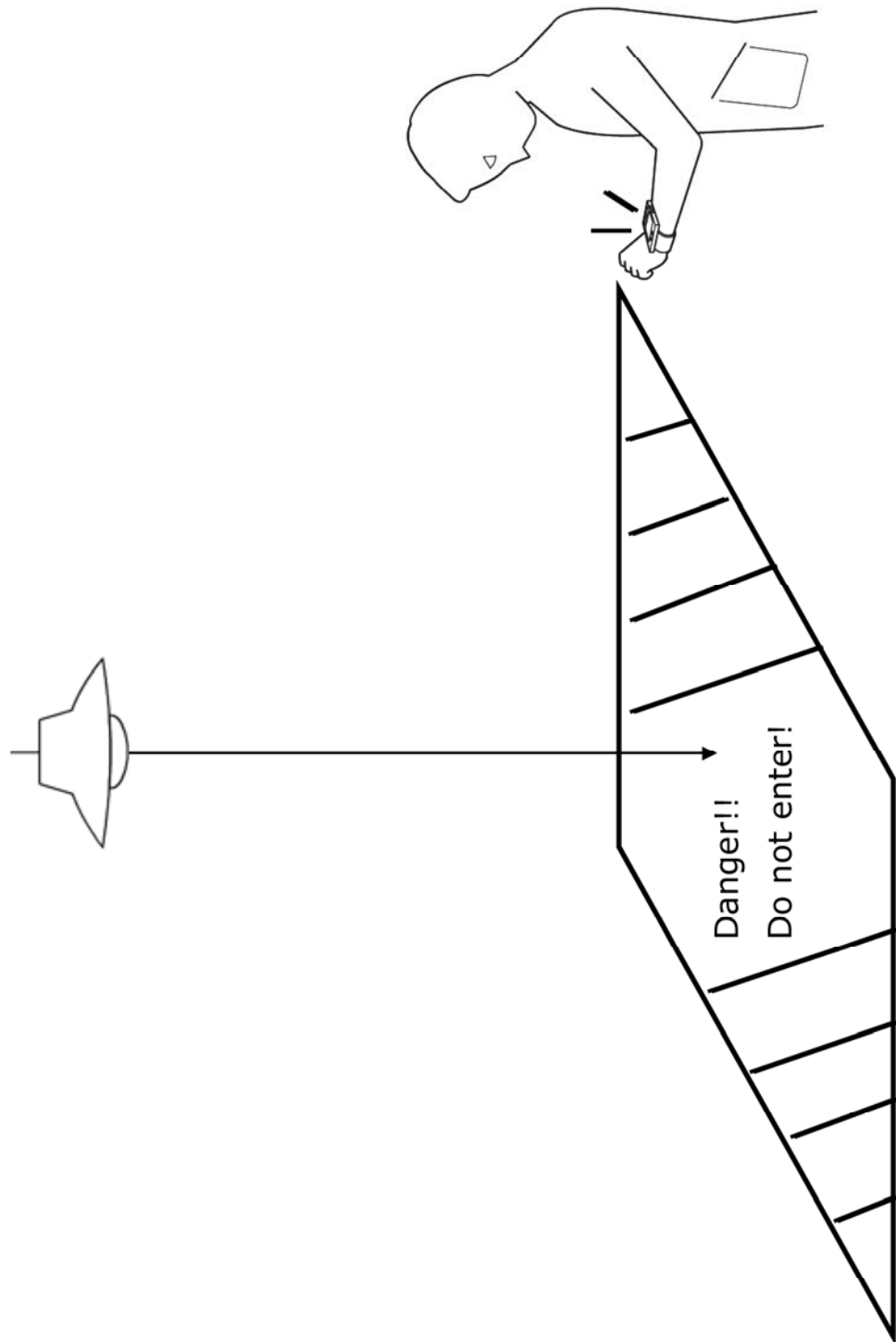


FIG. 508

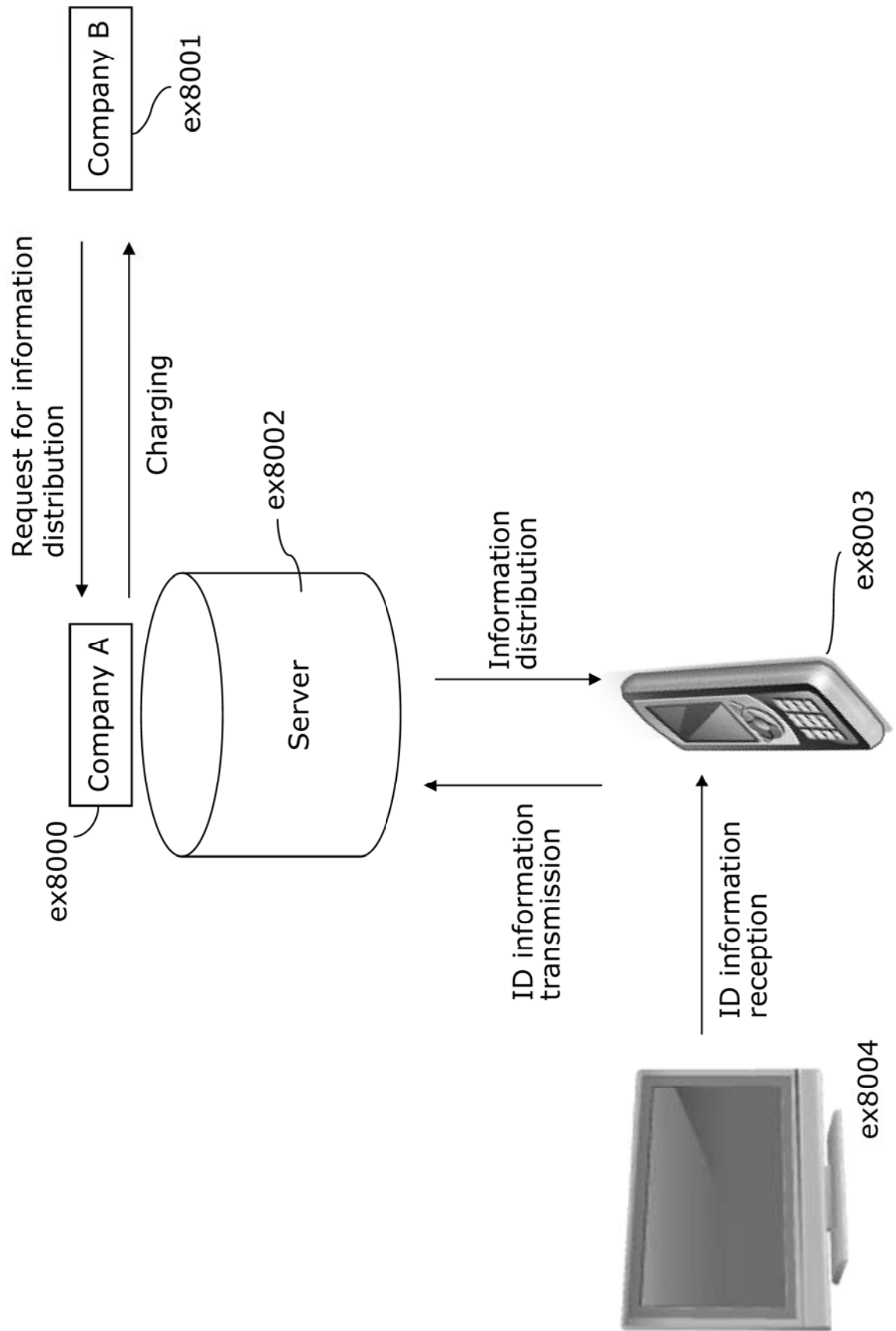


FIG. 509

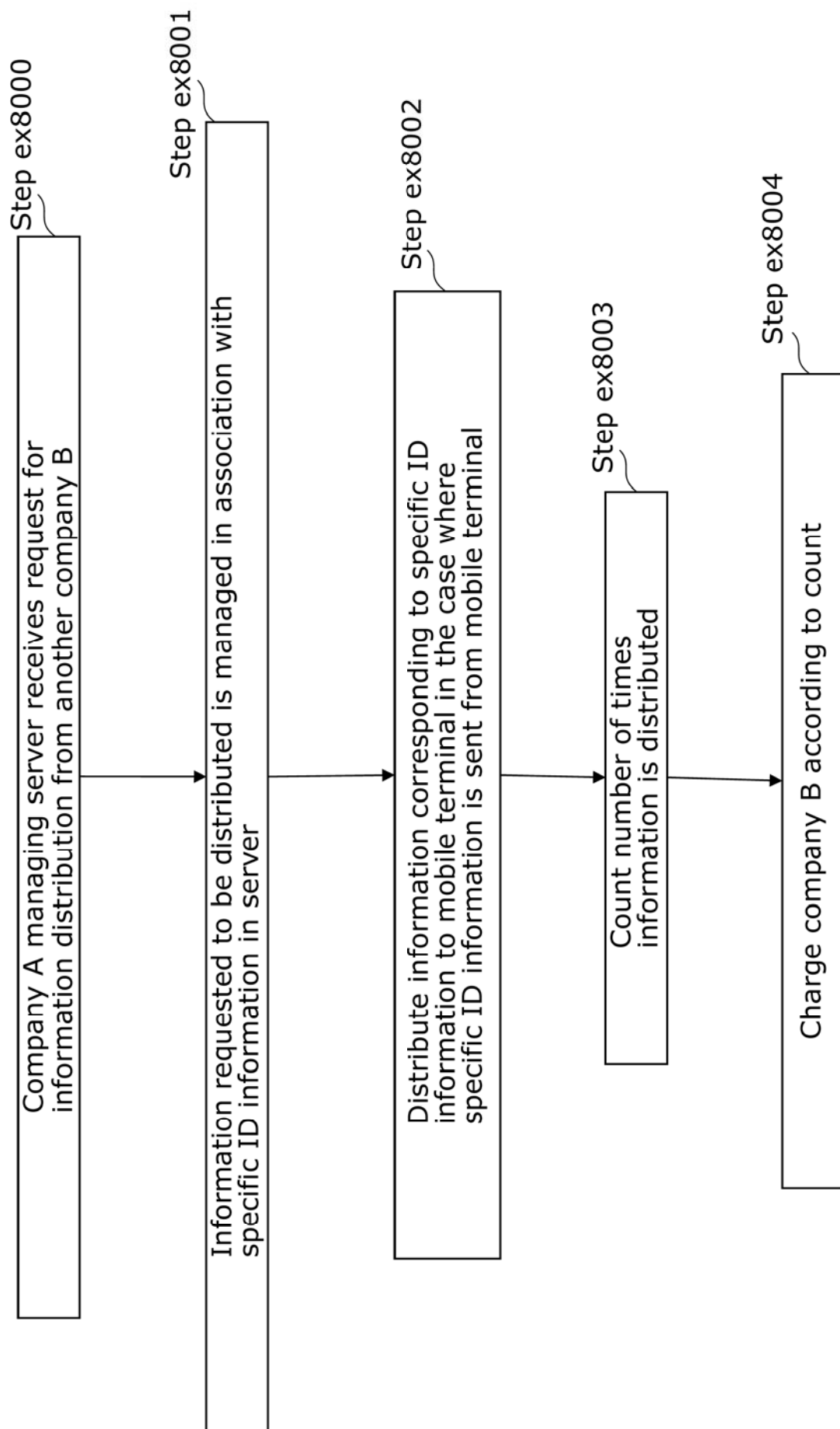


FIG. 510

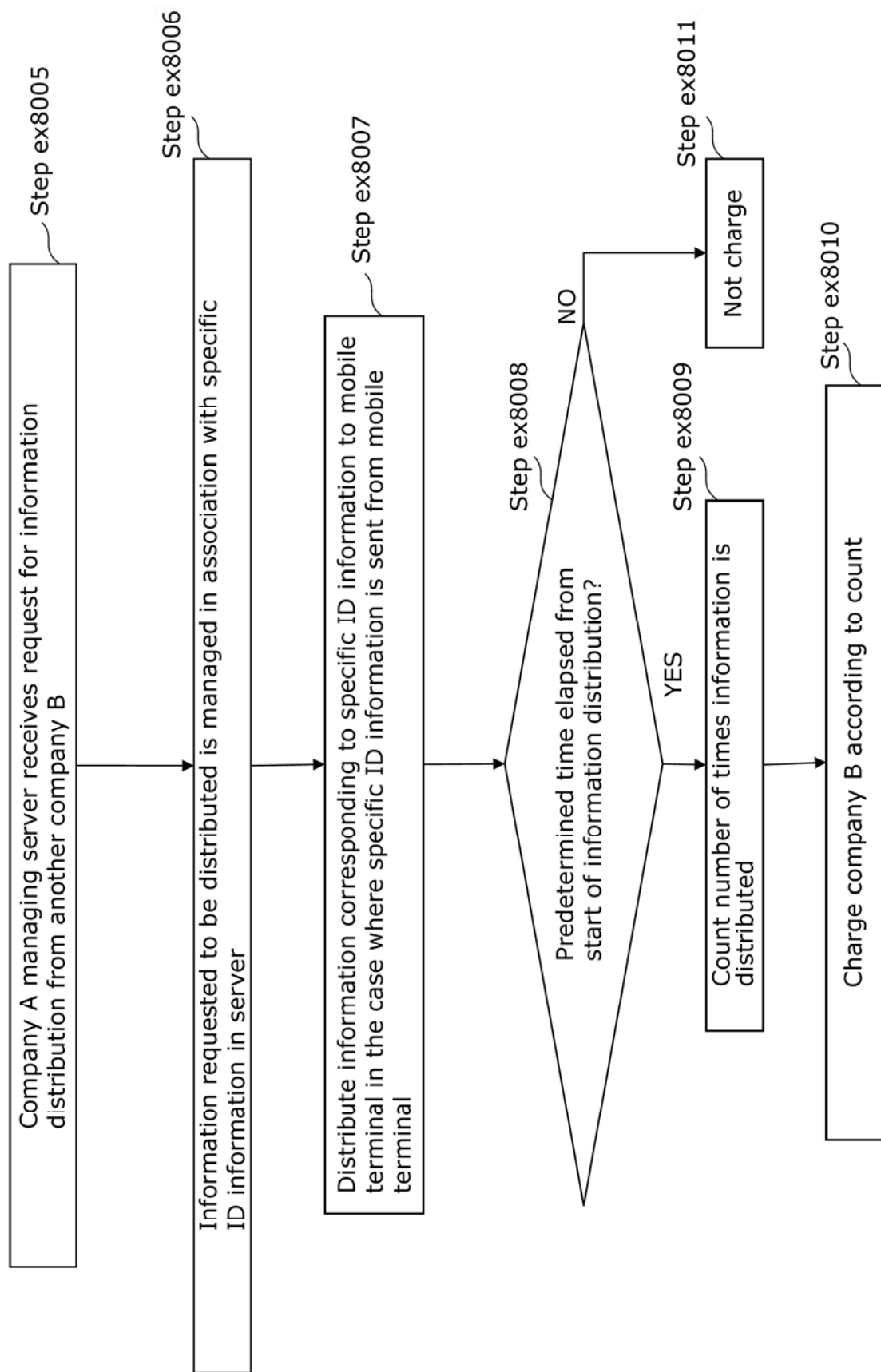


FIG. 511

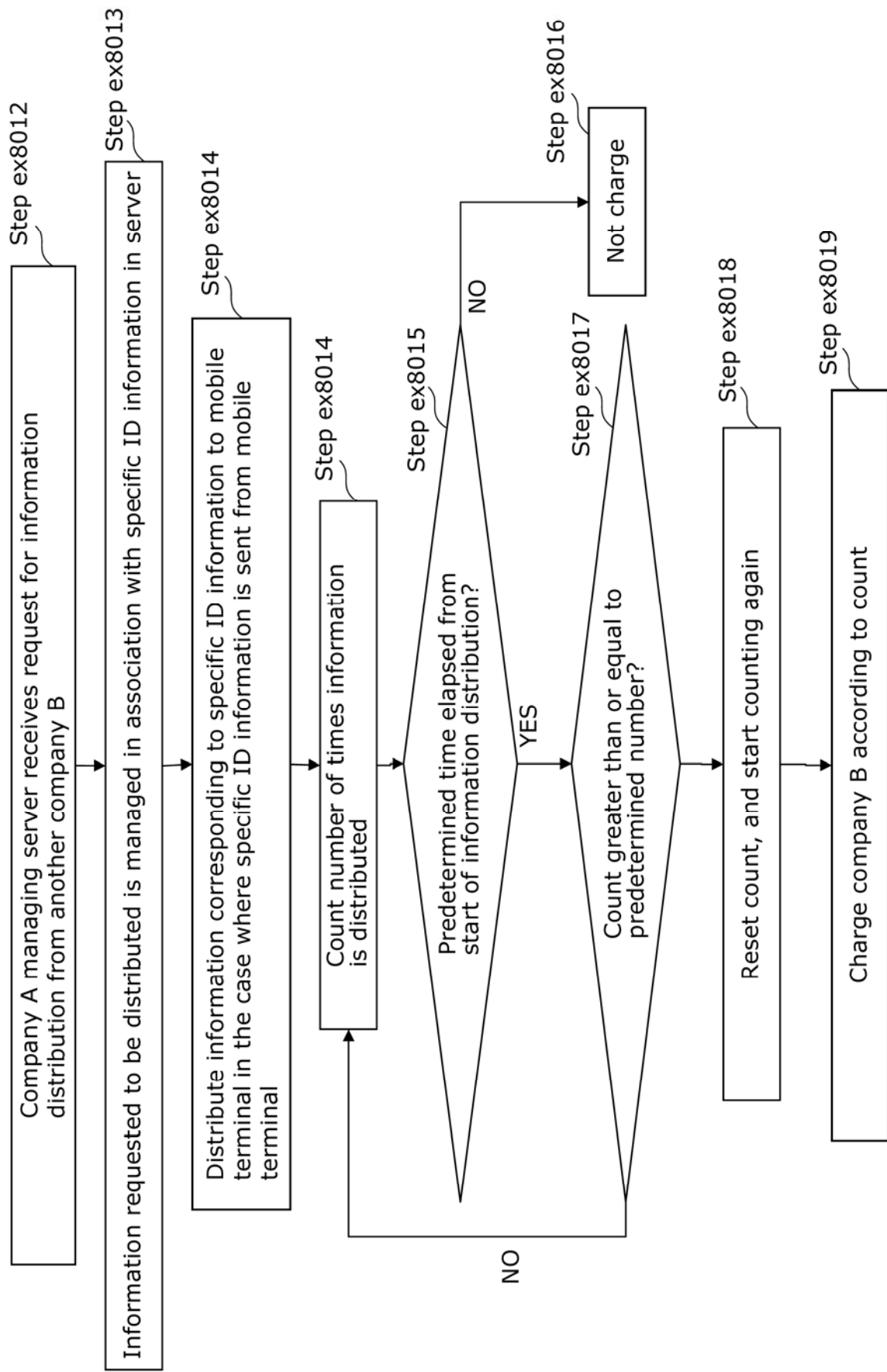


FIG. 512A

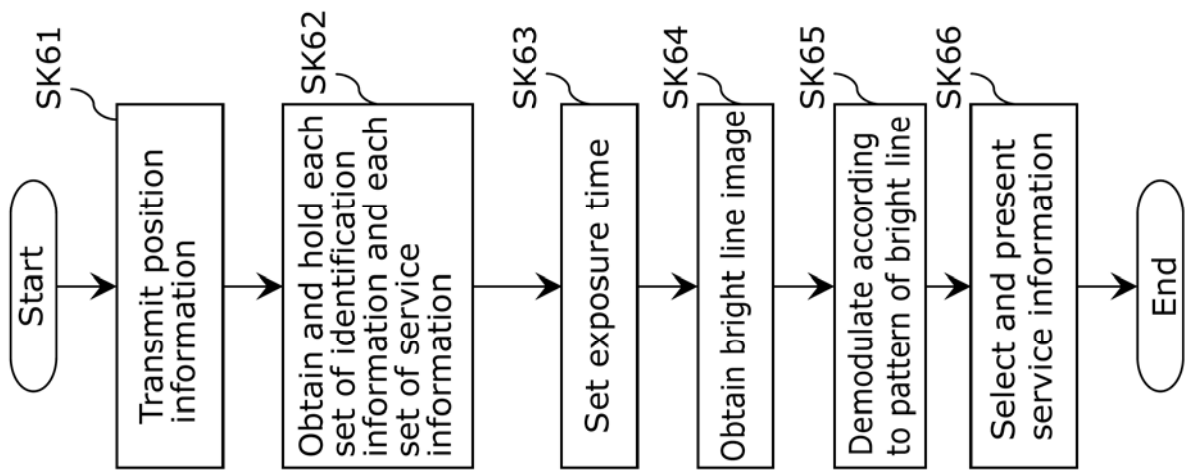


FIG. 512B

