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FIG. 1

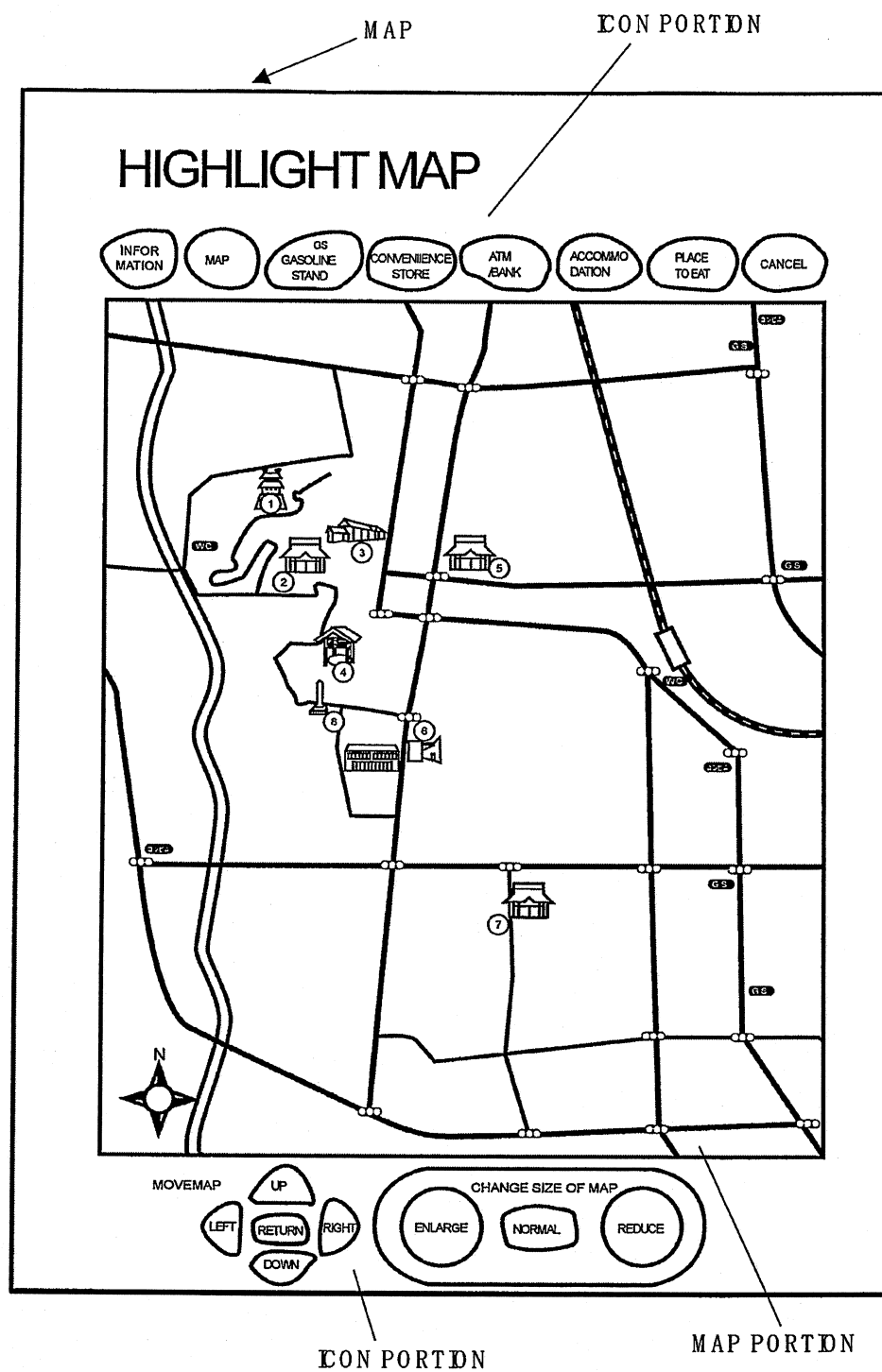
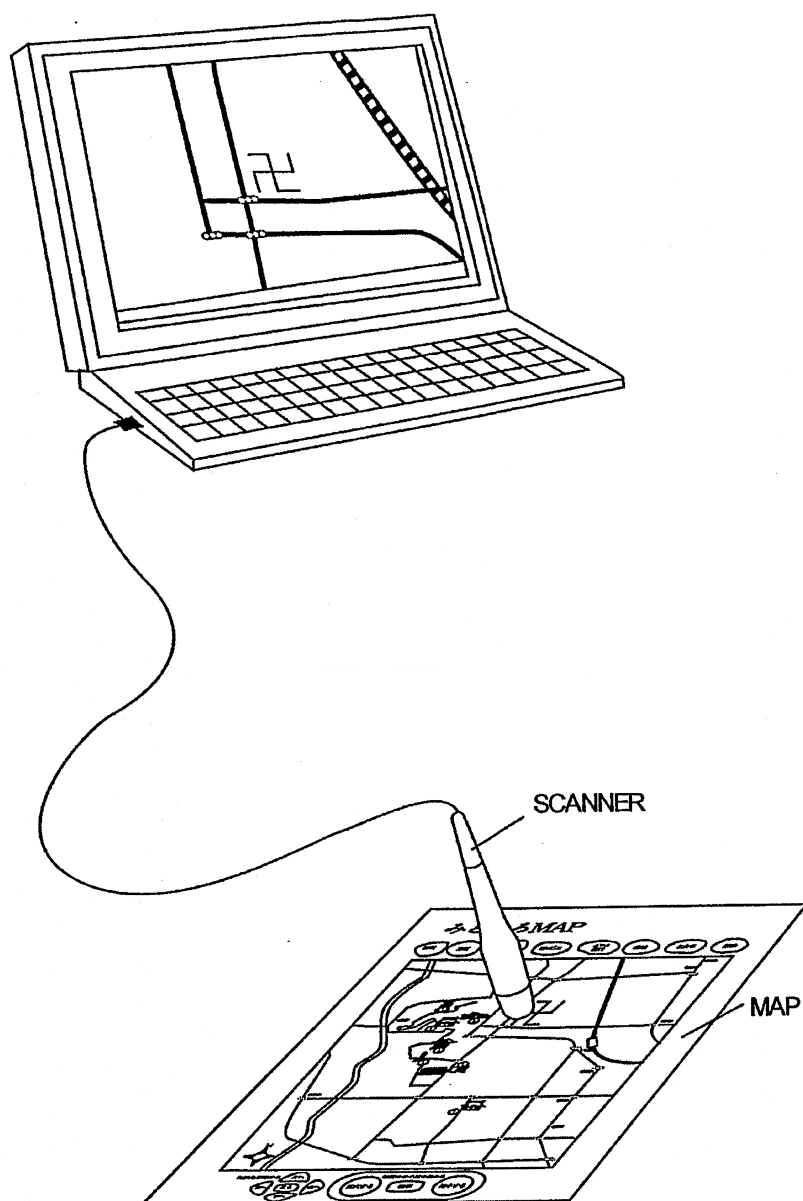


FIG. 2



ADDRESS OF ELECTRONIC MAP IS REGISTERED ON MAP MODE ICON AND
CORRESPONDING ELECTRONIC MAP IS DOWNLOADED AND DISPLAYED
BY CLICKING MAP MODE ICON

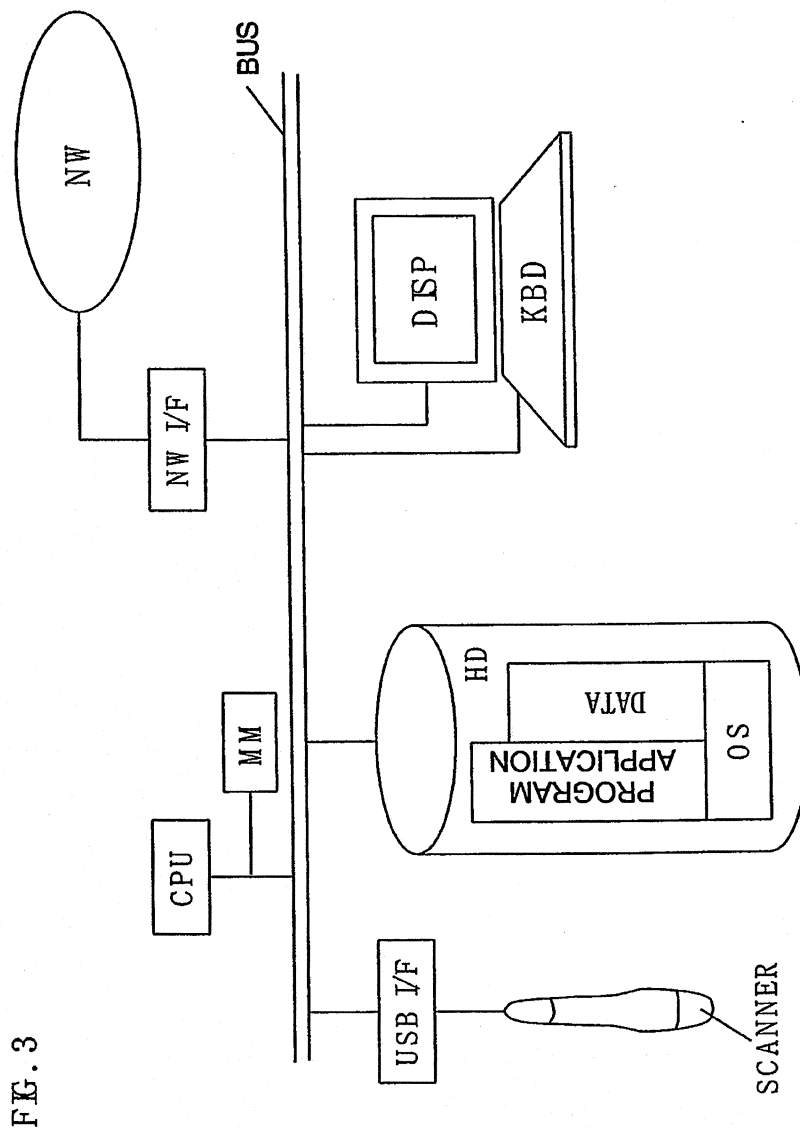


FIG. 4

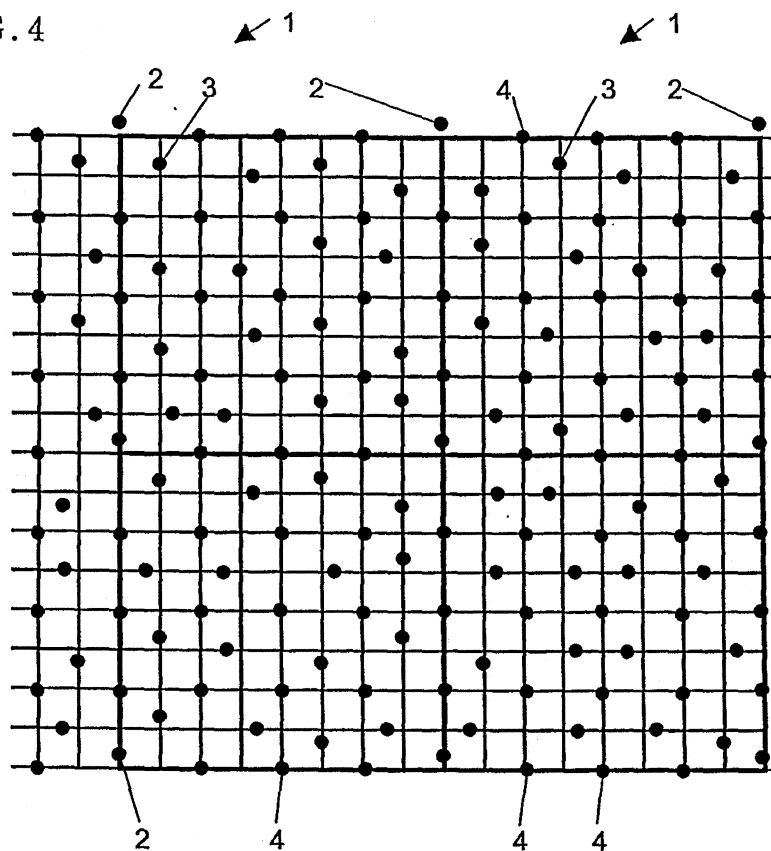


FIG. 5

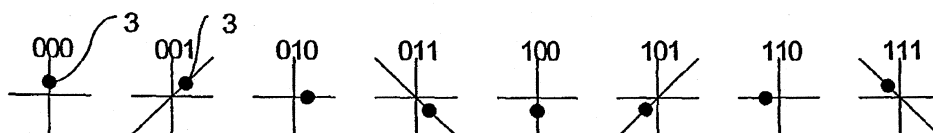


FIG. 6

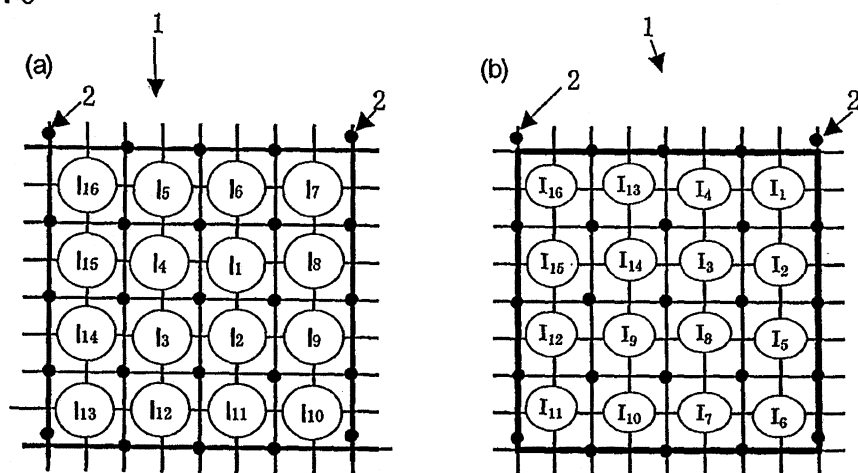
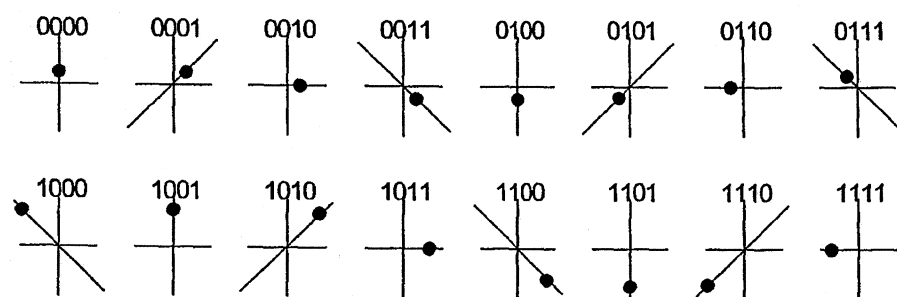


FIG. 7



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FIG. 8

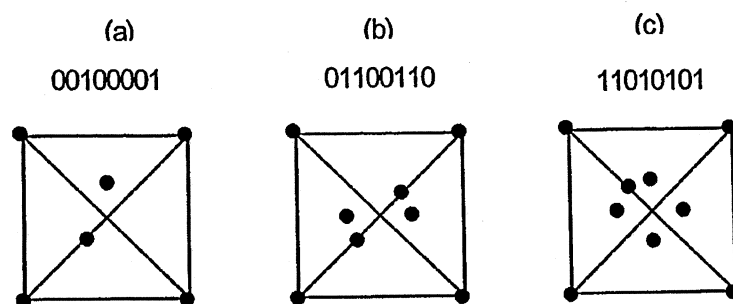


FIG. 9

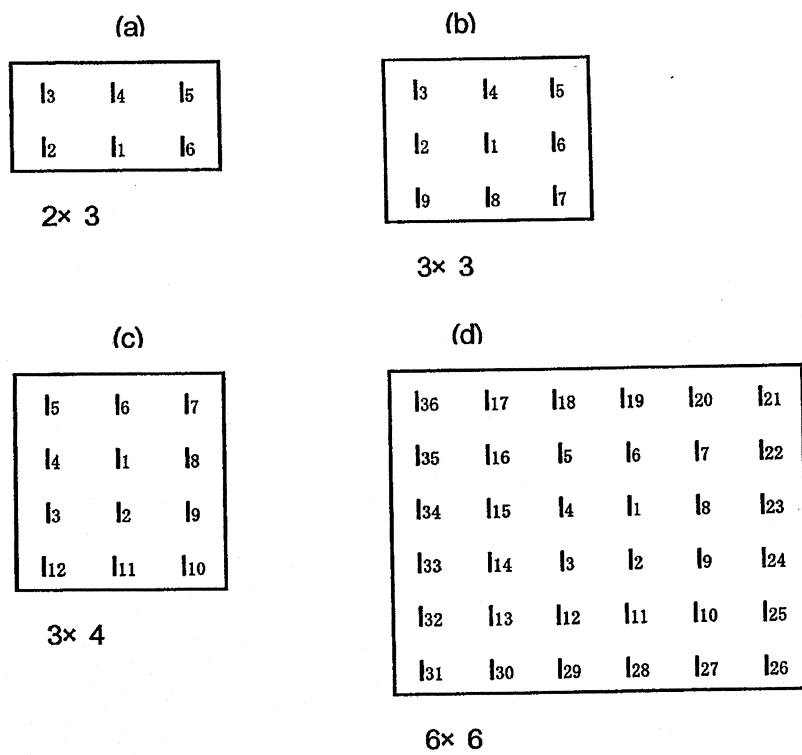


FIG. 10A

PLANE MAP FORMAT

C ₃₁	C ₃₀	C ₂₉	C ₂₈	C ₂₇	C ₂₆	C ₂₅	C ₂₄	C ₂₃	C ₂₂	C ₂₁	C ₂₀	C ₁₉	C ₁₈	C ₁₇	C ₁₆	C ₁₅	C ₁₄	C ₁₃	C ₁₂	C ₁₁	C ₁₀	C ₉	C ₈	C ₇	C ₆	C ₅	C ₄	C ₃	C ₂	C ₁	C ₀
0	PARTY				MAP NUMBER														Y COORDINATE						X COORDINATE						

XY MAP DATA

FIG. 10B

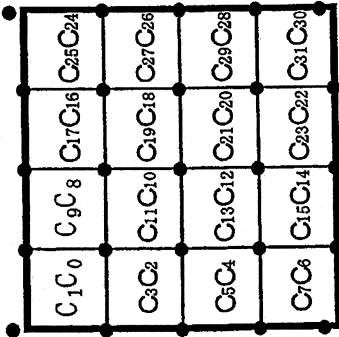


FIG. 11A

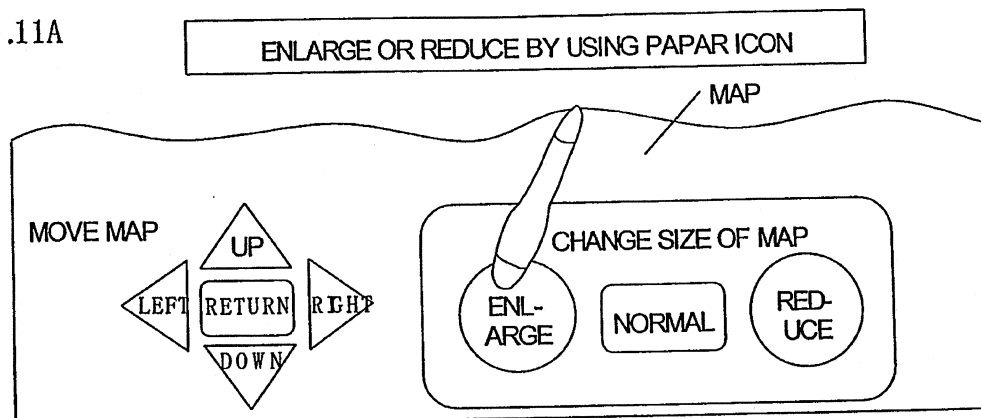


FIG. 11B

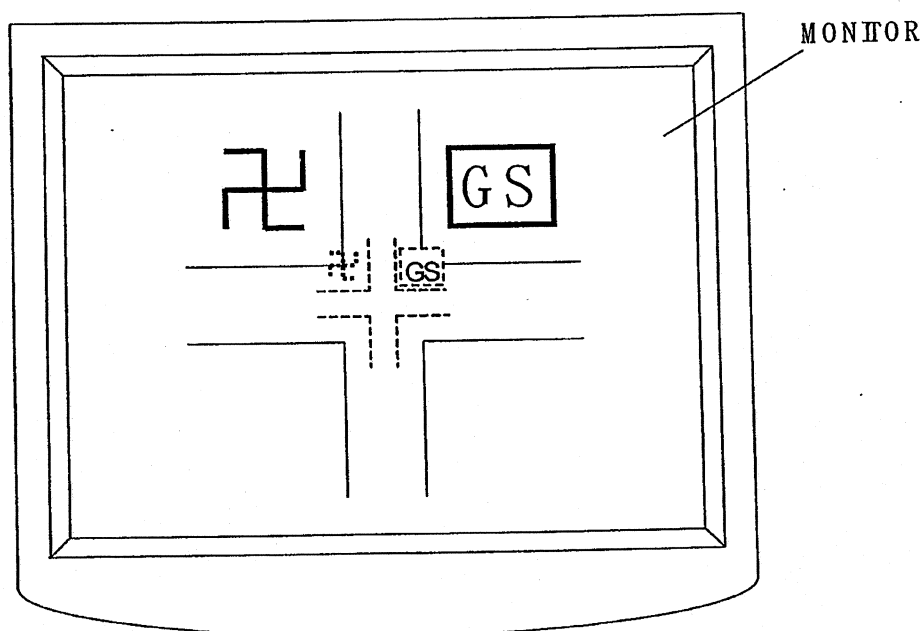


FIG. 12A

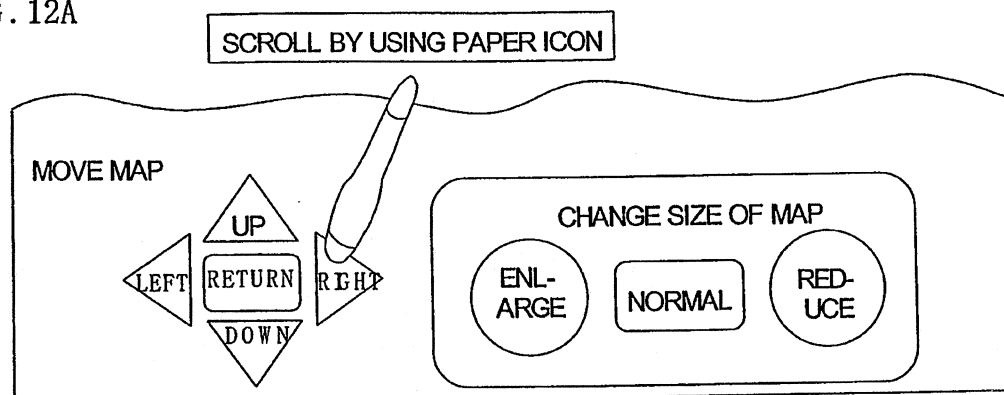
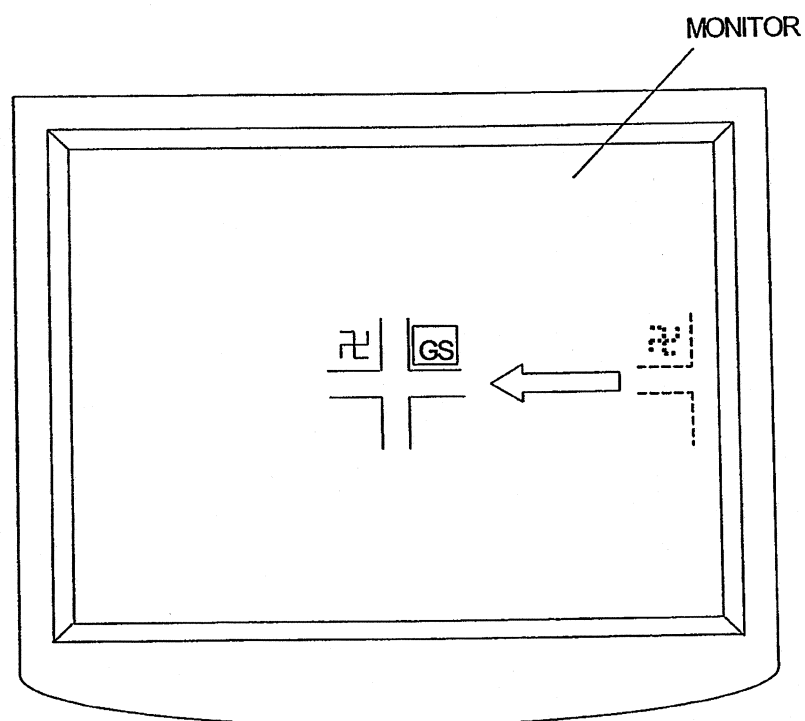


FIG. 12B



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FIG. 13A

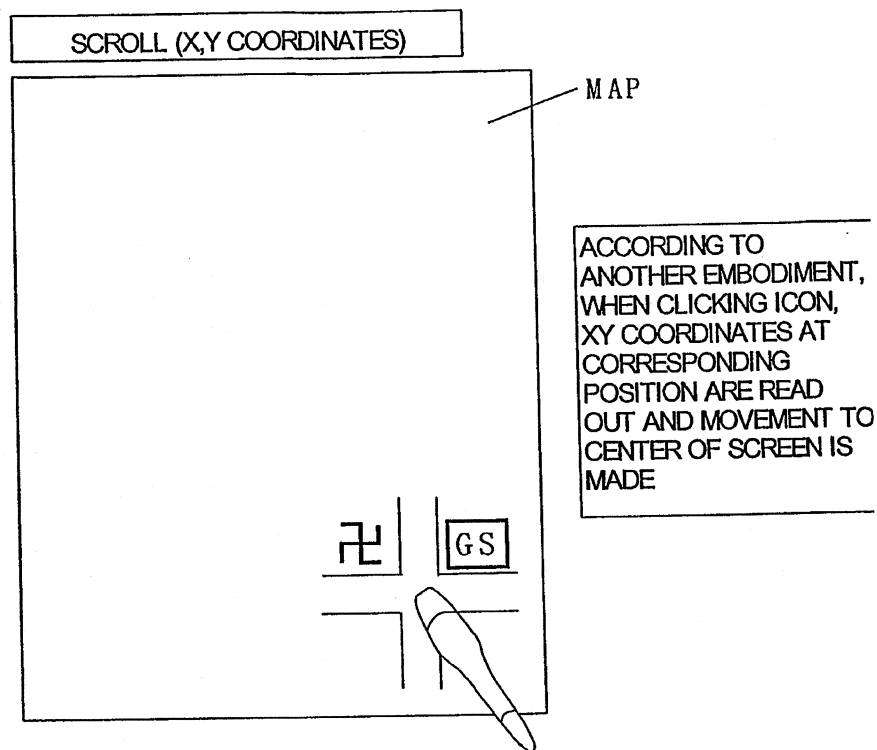
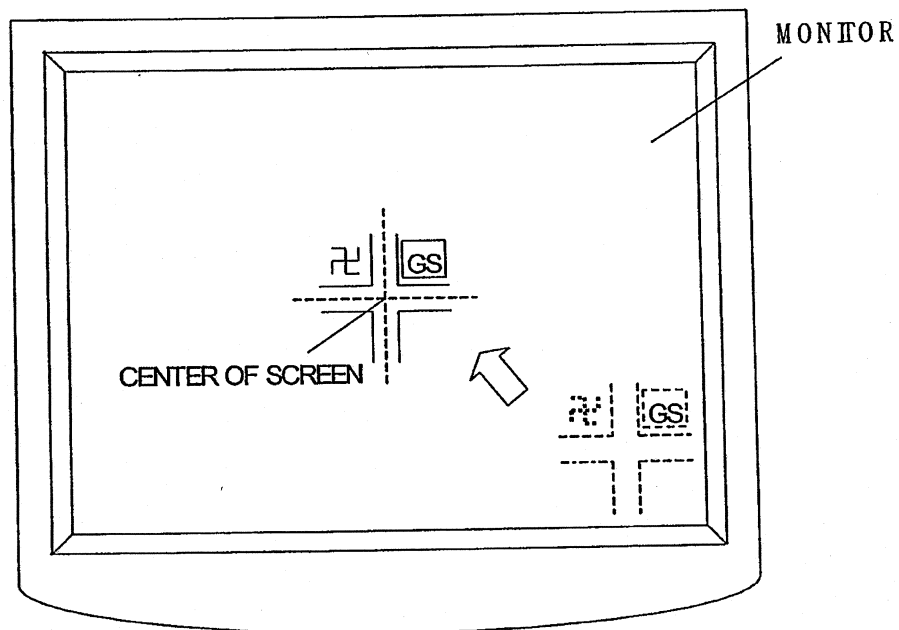


FIG. 13B



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FIG. 14A

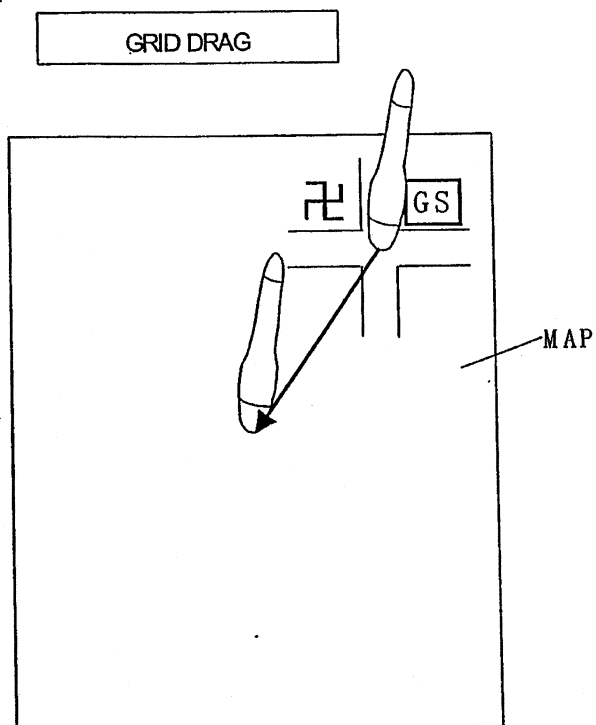
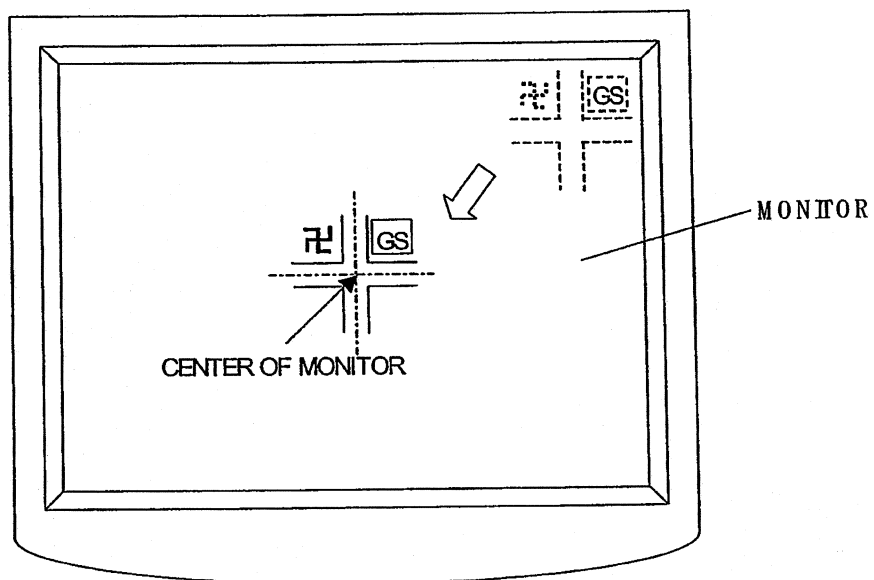


FIG. 14B



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FIG. 15A

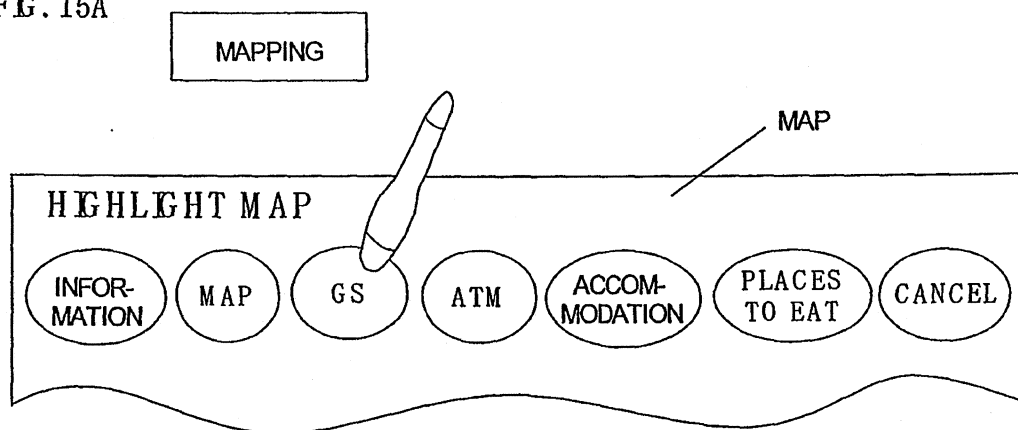


FIG. 15B

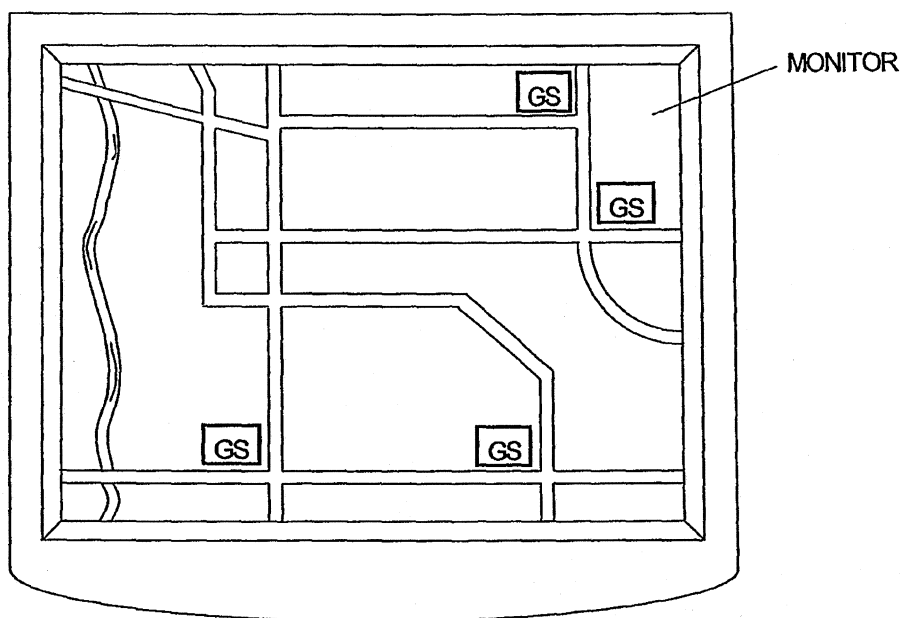


FIG. 16A

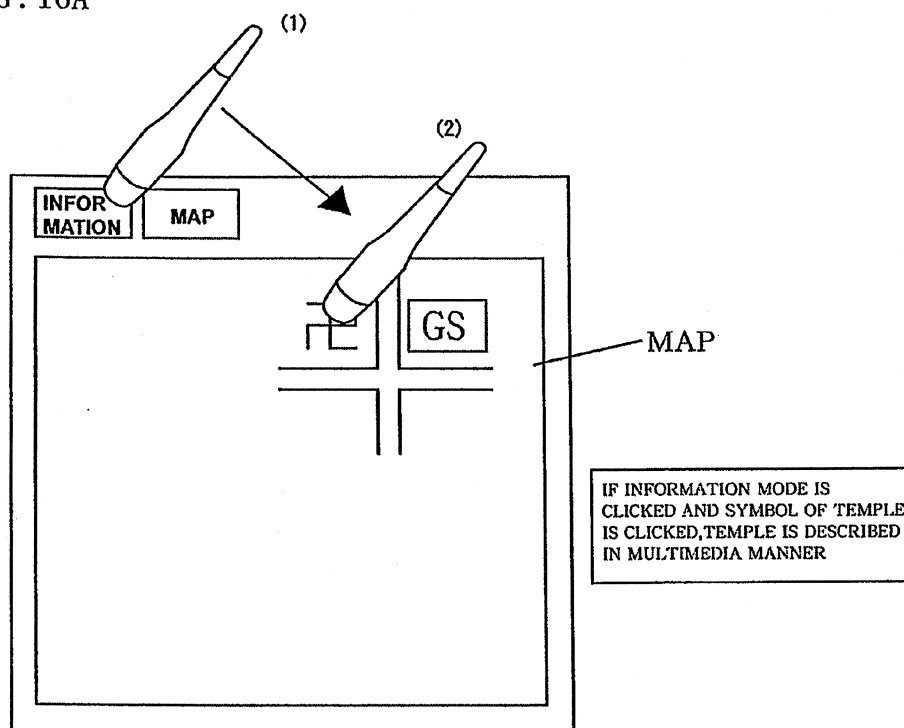


FIG. 16B

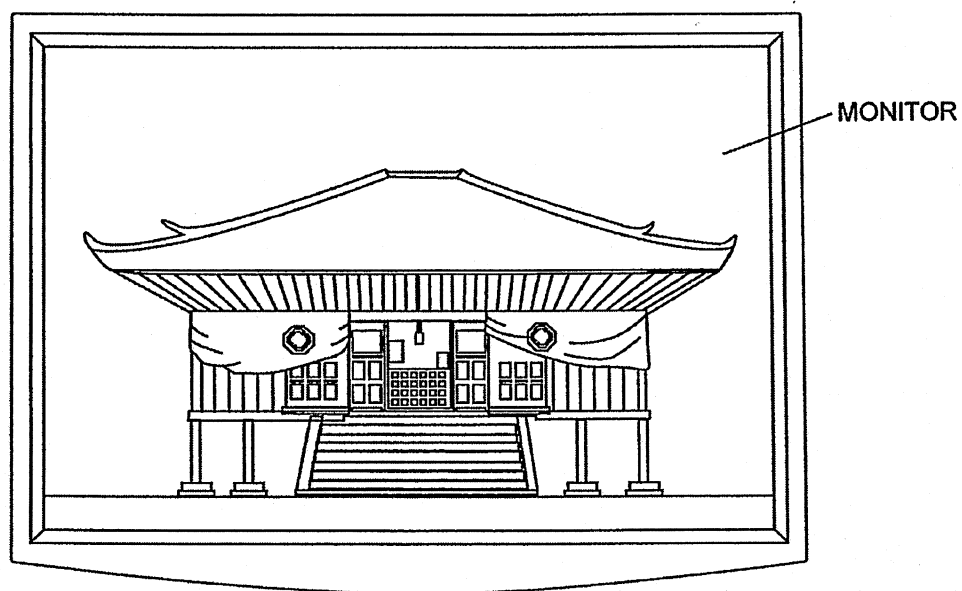


FIG. 17A

METHOD OF SWITCHING MAP MODE TO INFORMATION MODE
CLICK ICON TWICE = GRID TAPPING

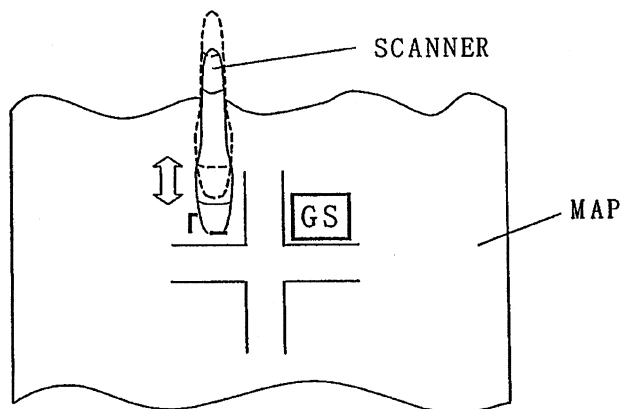


FIG. 17B

SLIDE TO SURROUND ICON = GRID SLIDING

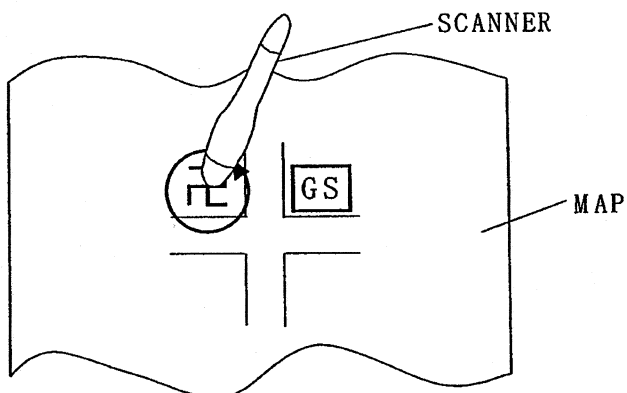


FIG. 17C

SLIDE RAPIDLY UPPER PORTION OF ICON = GRID SCRATCH

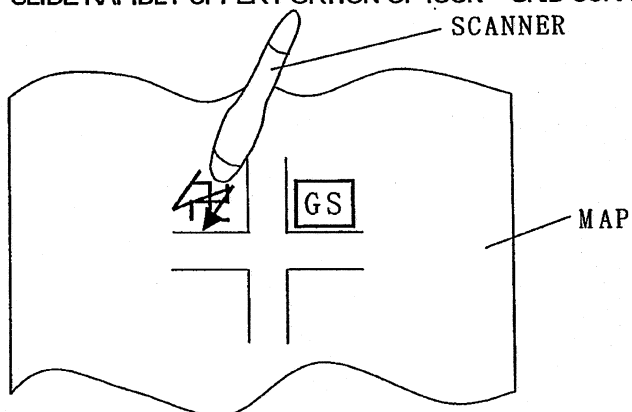


FIG. 18A

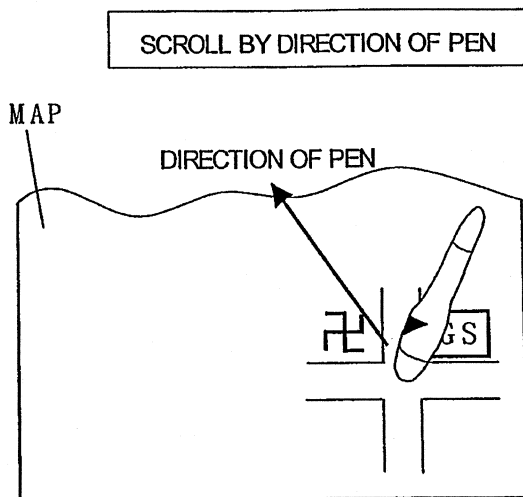


FIG. 18B

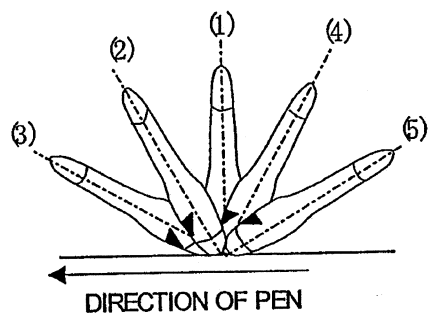


FIG. 18C

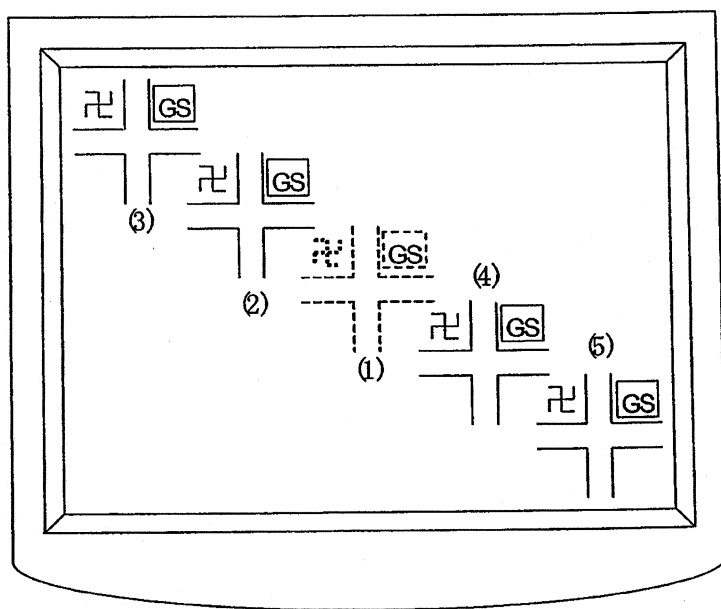


FIG. 19A

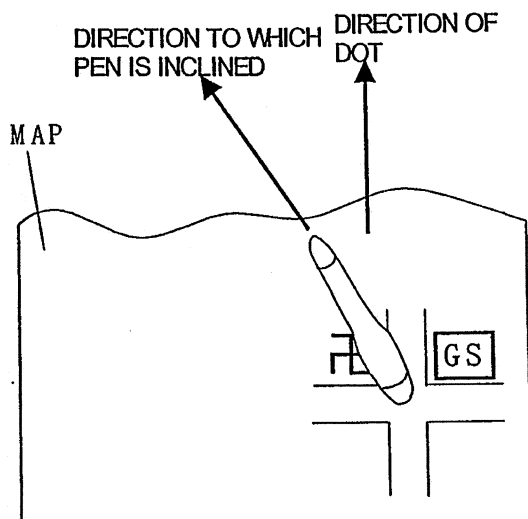


FIG. 19B

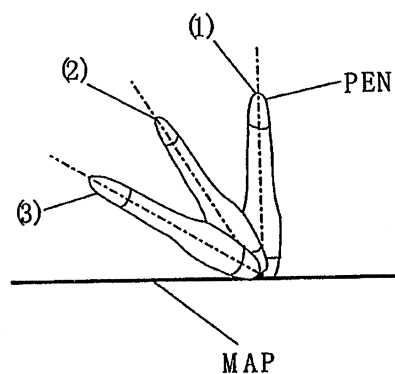
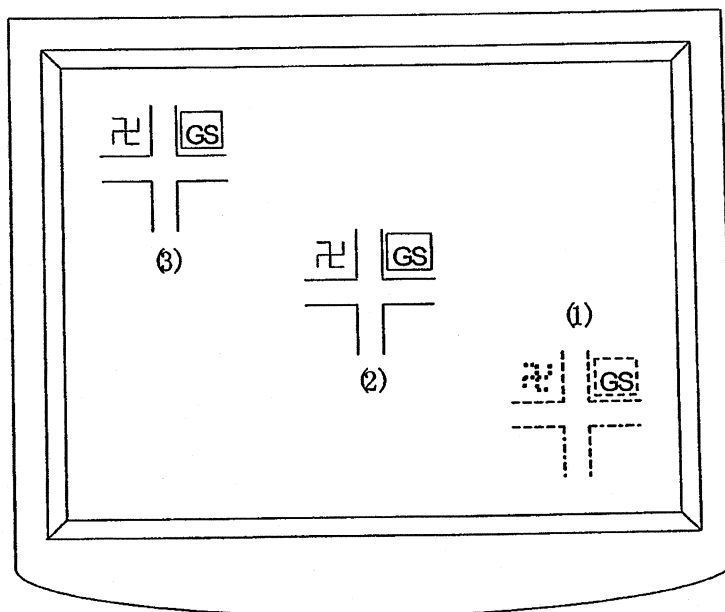


FIG. 19C



SCROLL IN DIRECTION TO WHICH PEN IS INCLINED. MOVEMENT DISTANCE AND SPEED INCREASES ACCORDING TO INCLINED ANGLE.

FIG. 20A

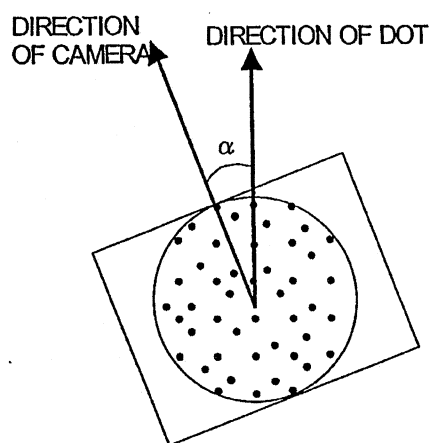
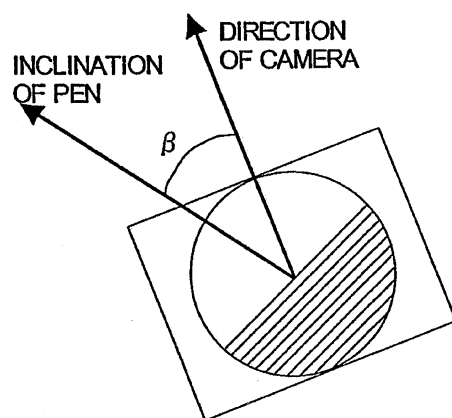
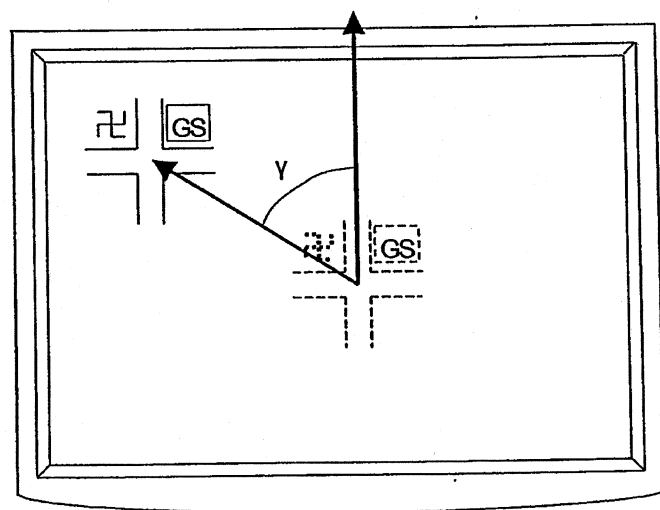


FIG. 20B



(c)



$$\gamma = \alpha + \beta$$

FIG. 21A

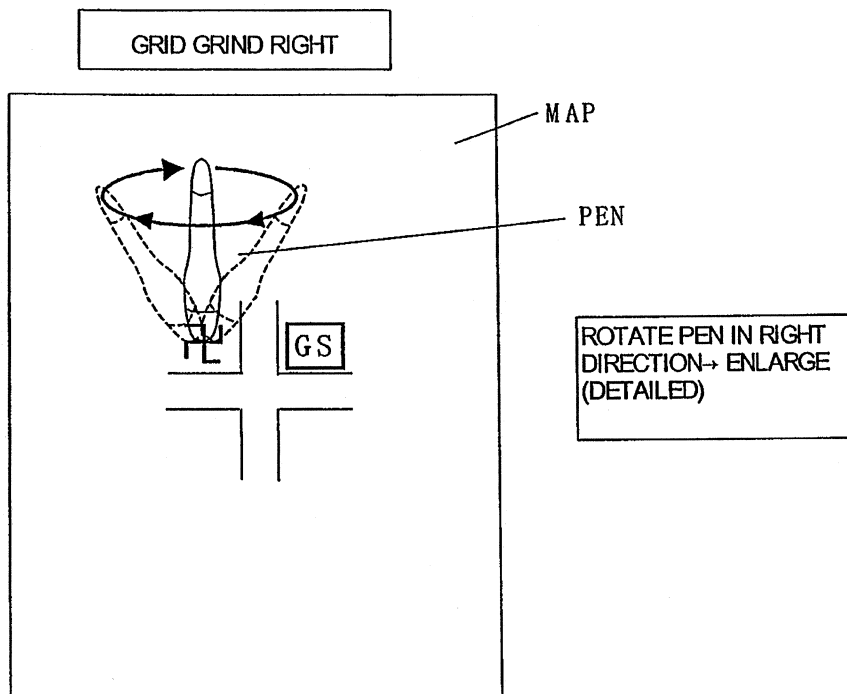


FIG. 21B

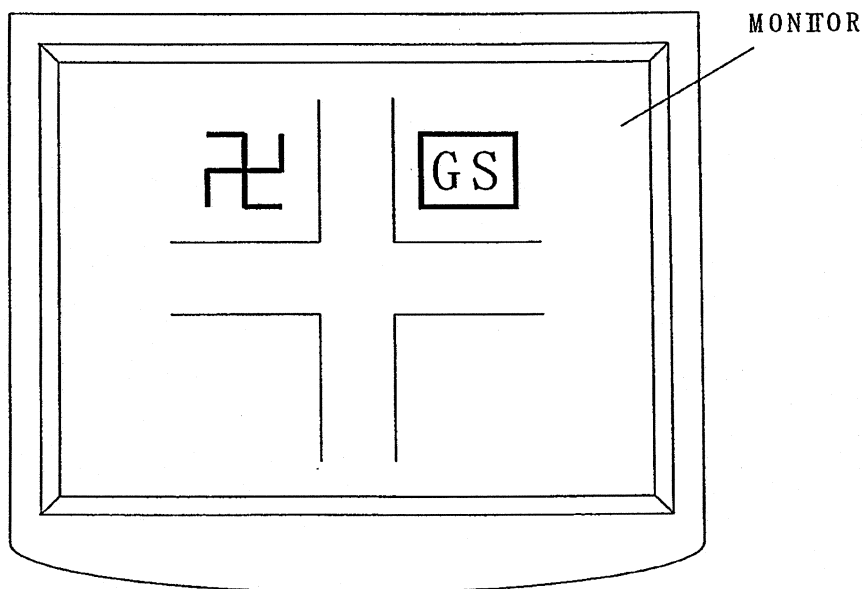


FIG. 22A

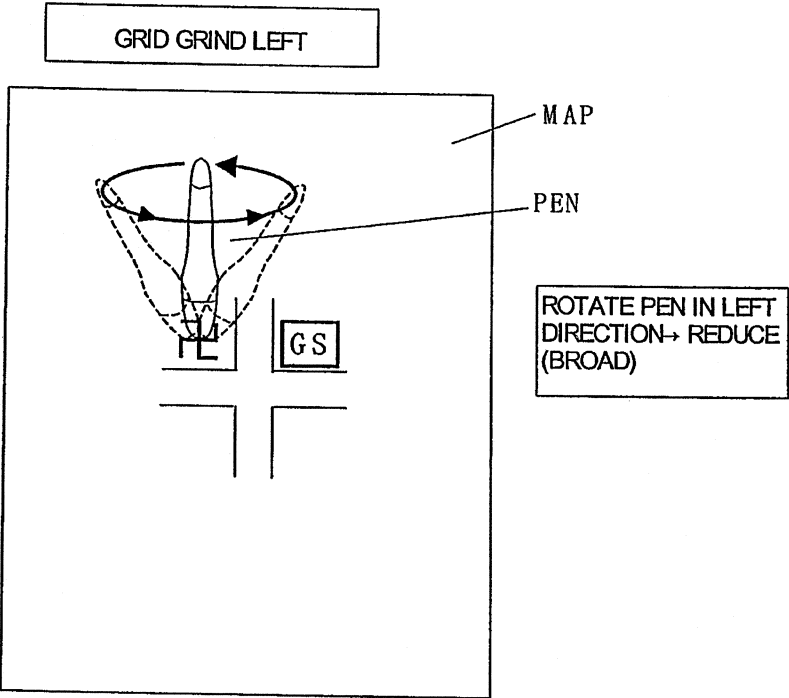
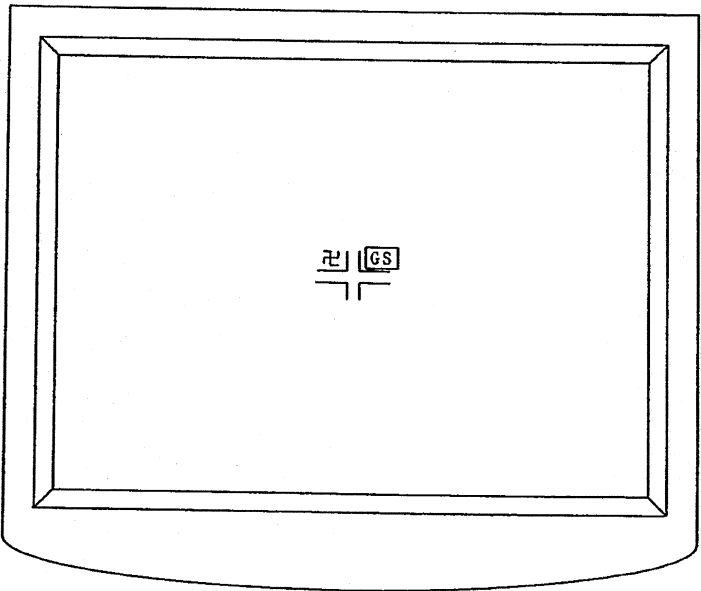


FIG. 22B



THREE- DIMENSIONAL MAP FORMAT

FIG. 23A

C ₃₁	C ₃₀	C ₂₉	C ₂₈	C ₂₇	C ₂₆	C ₂₅	C ₂₄	C ₂₃	C ₂₂	C ₂₁	C ₂₀	C ₁₉	C ₁₈	C ₁₇	C ₁₆	C ₁₅	C ₁₄	C ₁₃	C ₁₂	C ₁₁	C ₁₀	C ₉	C ₈	C ₇	C ₆	C ₅	C ₄	C ₃	C ₂	C ₁	C ₀	
1	PARTY				MAP NUMBER				Z COORDINATE				Y COORDINATE				X COORDINATE															

X,Y,Z MAP DATA

FIG. 23B

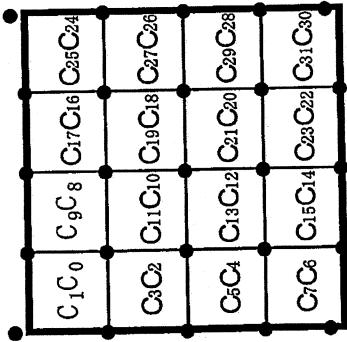
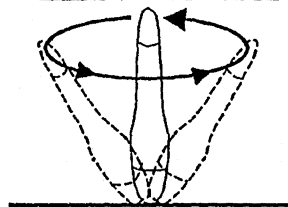


FIG. 24A

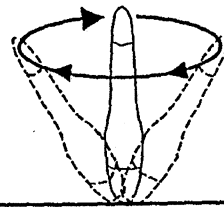
GRID GRIND



(1) COUNTERCLOCKWISE ROTATION

GRID GRIND LEFT

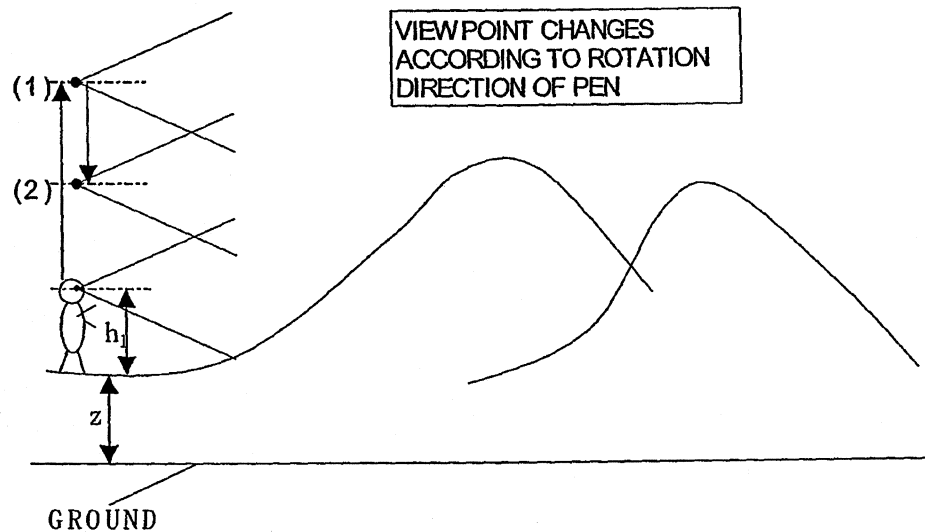
FIG. 24B



(2) CLOCKWISE ROTATION

GRID GRIND RIGHT

FIG. 24C

VIEWPOINT CHANGES
ACCORDING TO ROTATION
DIRECTION OF PEN

z = HEIGHT ON CORRESPONDING
 SPOT
 h_1 = NORMAL (VIEW POINT OF
 HUMAN BEING)
 (1) VIEW POINT RISES FROM
 NORMAL
 (2) RISEN VIEWPOINT FALLS

FIG. 25

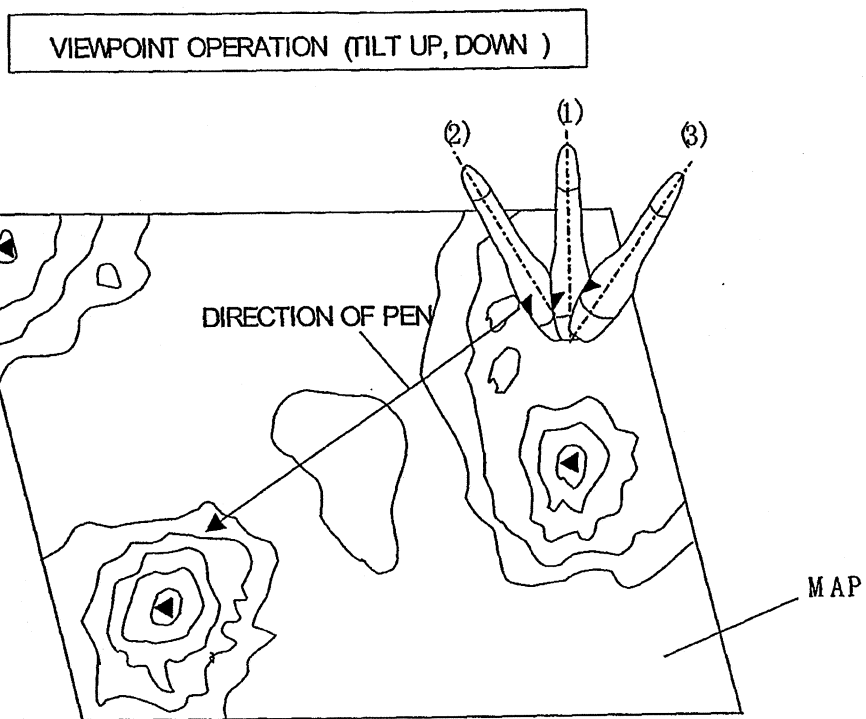
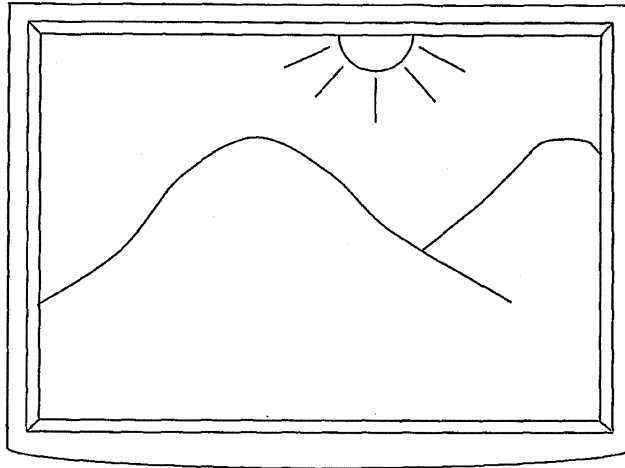
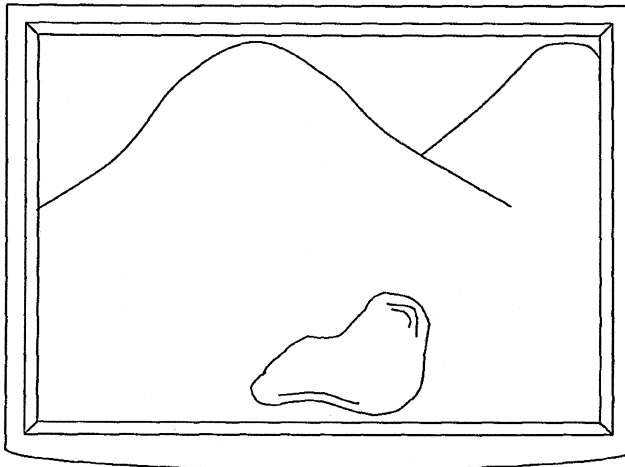


FIG. 26A



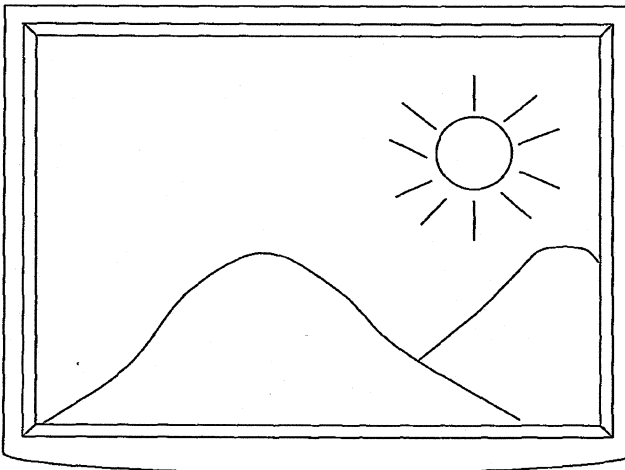
(1) NORMAL

FIG. 26B



(2) TILT PEN
FORWARD → TILT
DOWN

FIG. 26C



(3) TILT PEN
BACKWARD →
TILT UP

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FIG. 27A

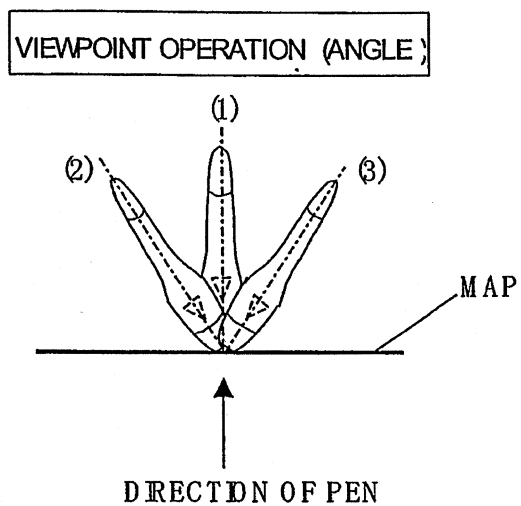


FIG. 27B

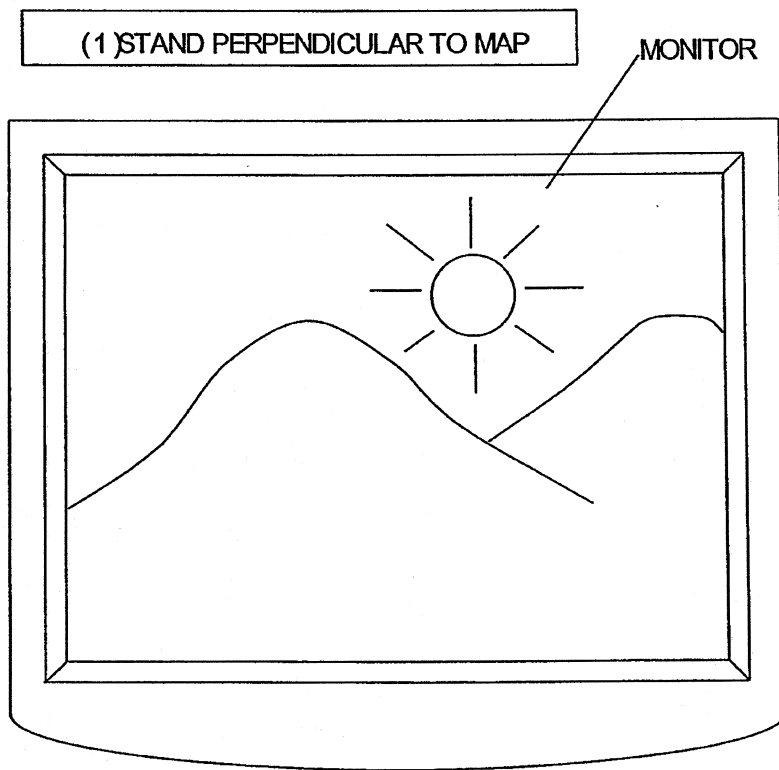


FIG. 28A

(2)TILT PEN LEFT

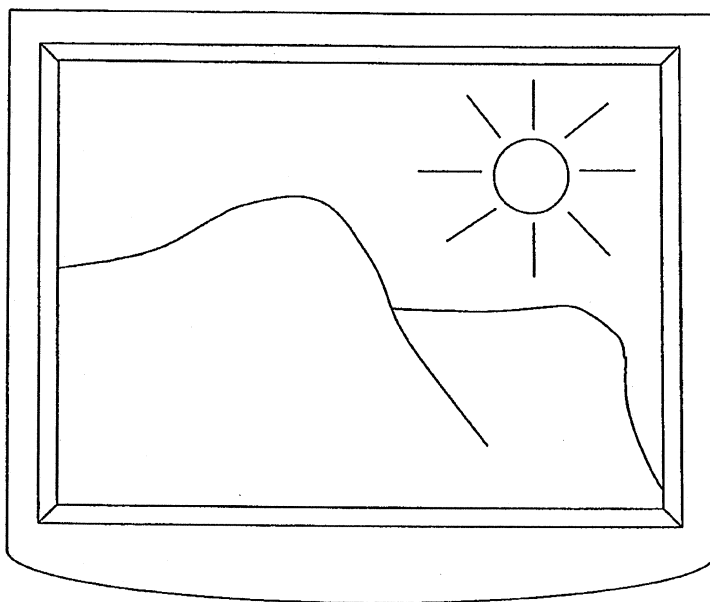
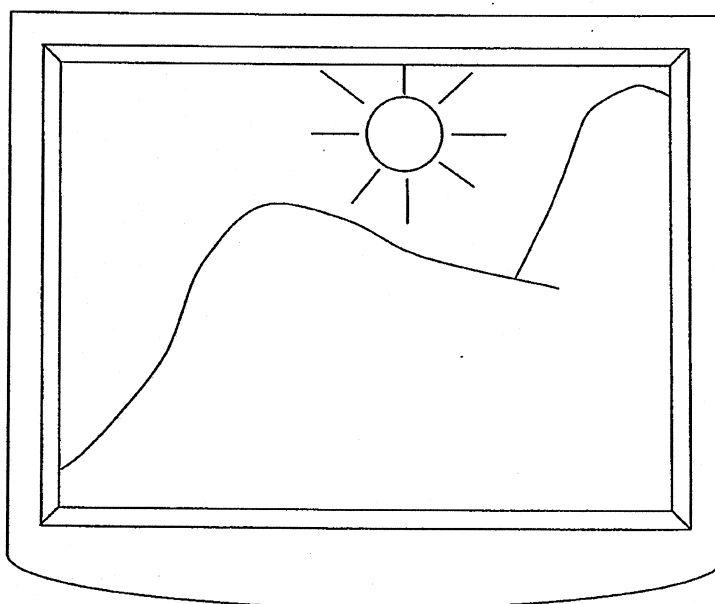


FIG. 28B

(2)TILT PEN RIGHT



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FIG. 29A

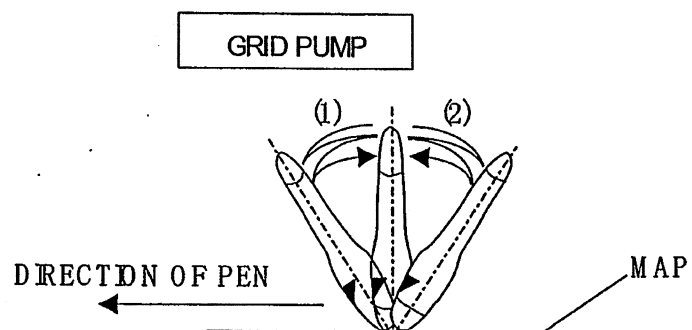


FIG. 29B

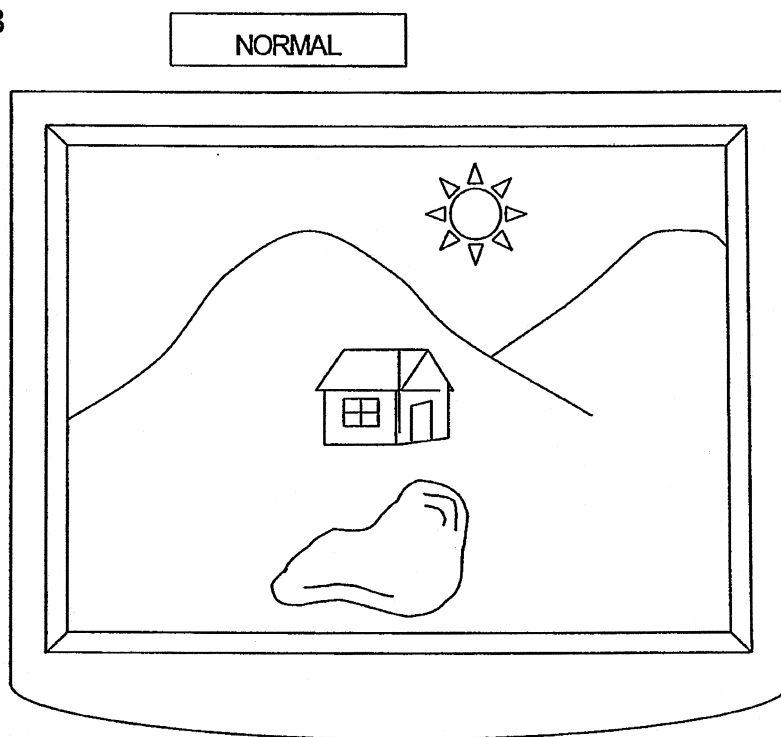


FIG. 30A

(1) REPEATEDLY AND RAPIDLY TILT PEN FORWARD → ZOOM IN

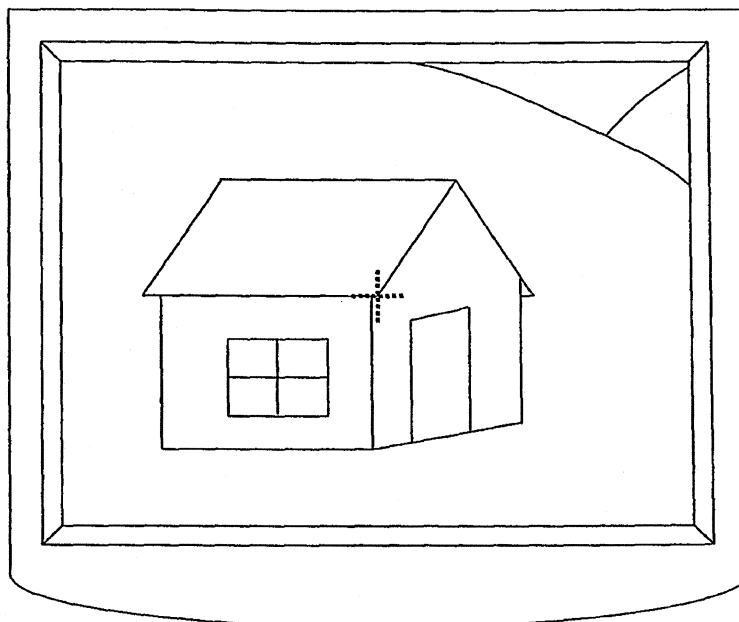


FIG. 30B

(2) REPEATEDLY AND RAPIDLY TILT PEN BACKWARD → ZOOM OUT

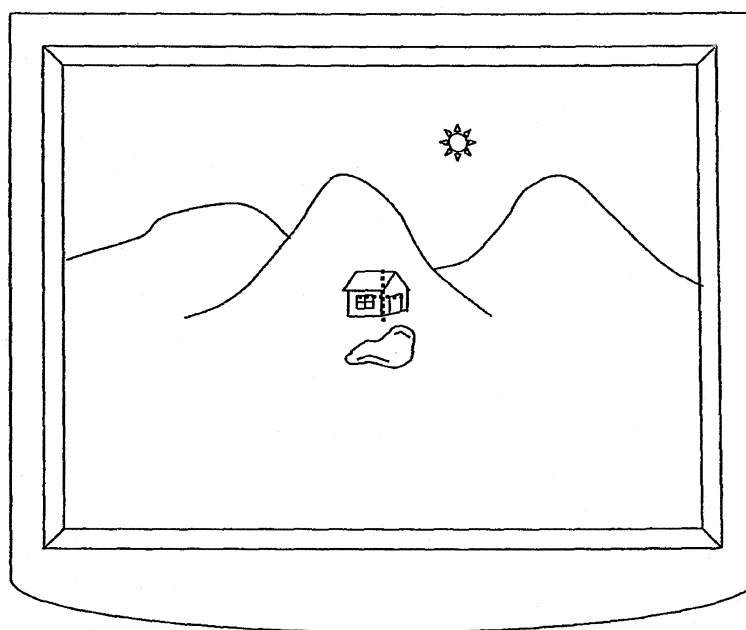


FIG. 31A

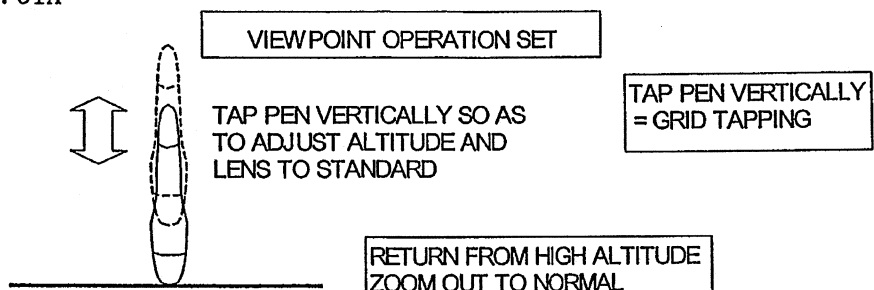


FIG. 31B

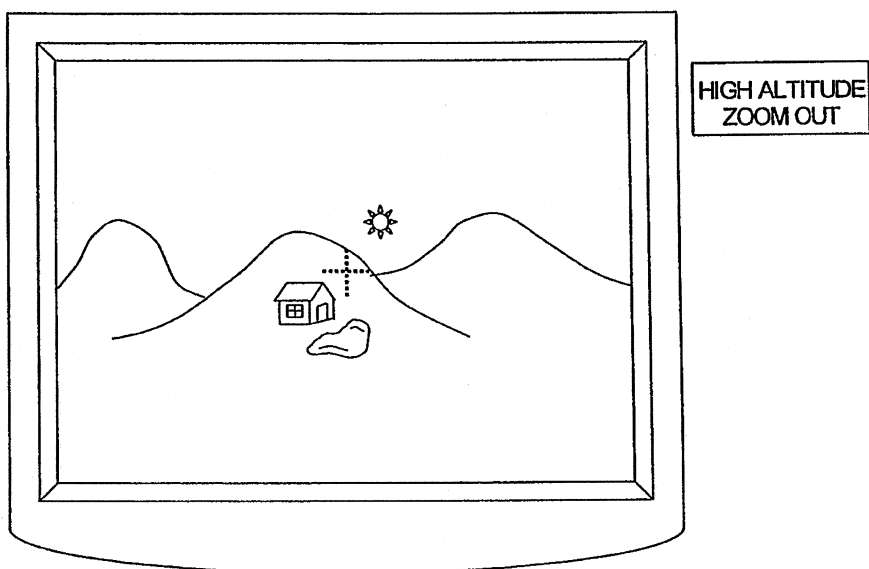
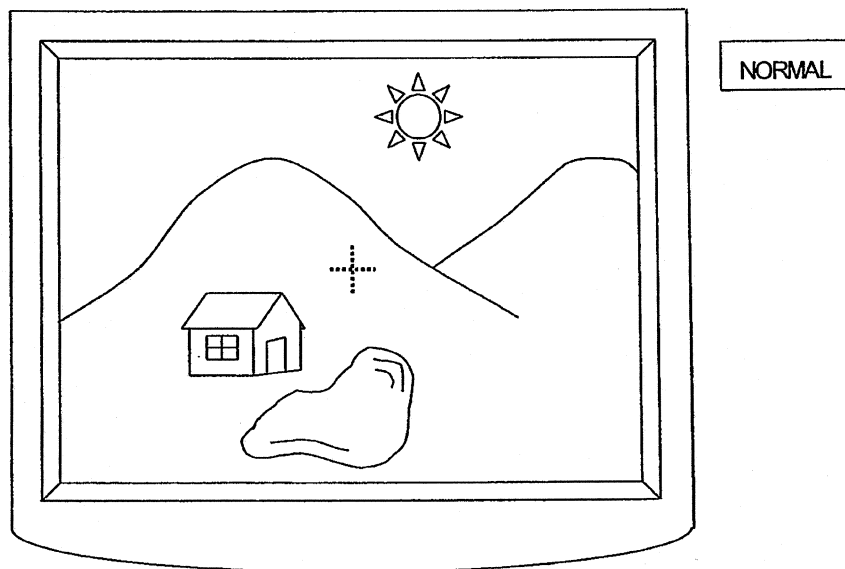


FIG. 31C



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FIG. 32A

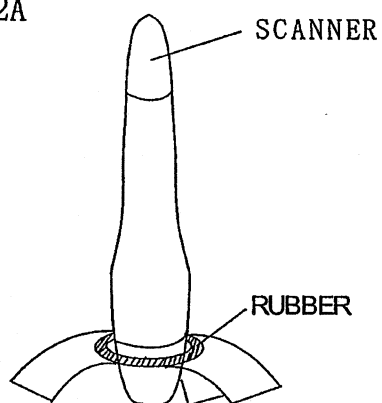
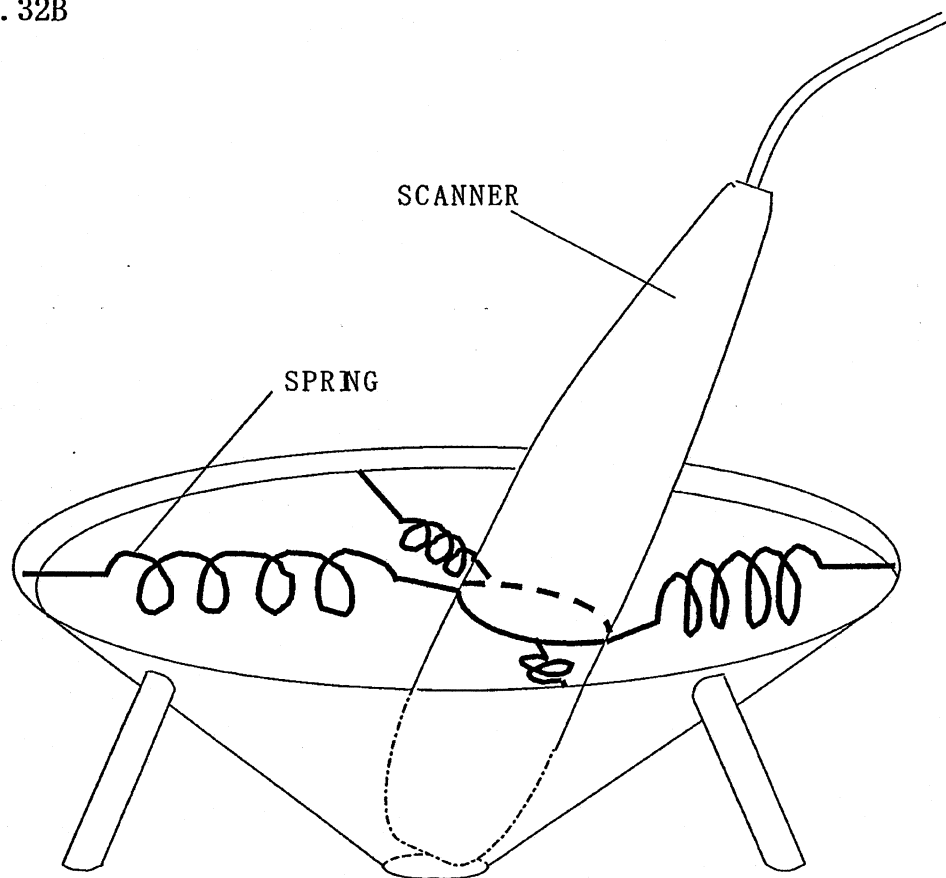


FIG. 32B



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FIG. 33

INCLINED DIRECTION/ ANGLE MEASUREMENT METHOD (1)

BL0(i)
i=1,n(=48)

								48		2							
						46	47				3	4					
				44	45								5	6			
			43												7		
		42														8	
		41														9	
	40																10
	39																11
38																	12
37																	13
36																	14
	35																15
	34																16
		33															17
		32															18
			31													19	
				30	29								21	20			
						28	27					23	22				
								26	25	24							

INCLINED DIRECTION/ANGLE MEASUREMENT METHOD (2)

FIG. 34A

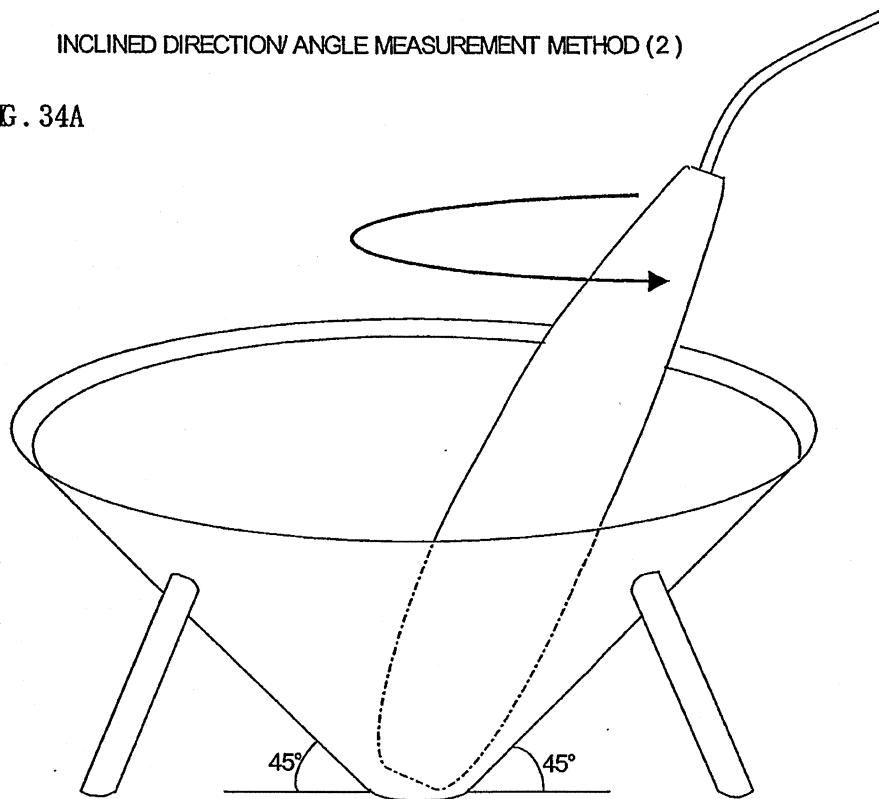


FIG. 34B

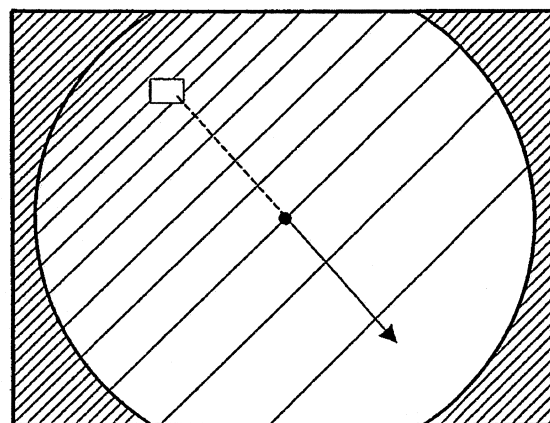
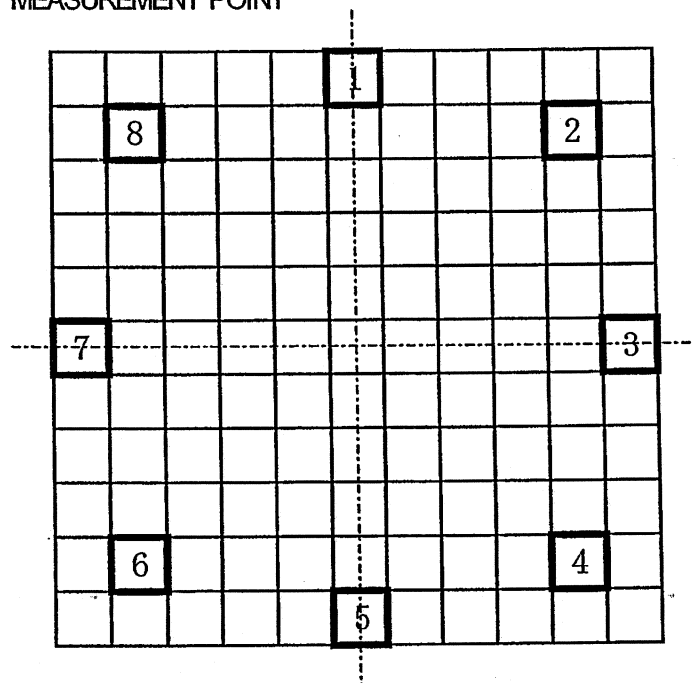


FIG. 35

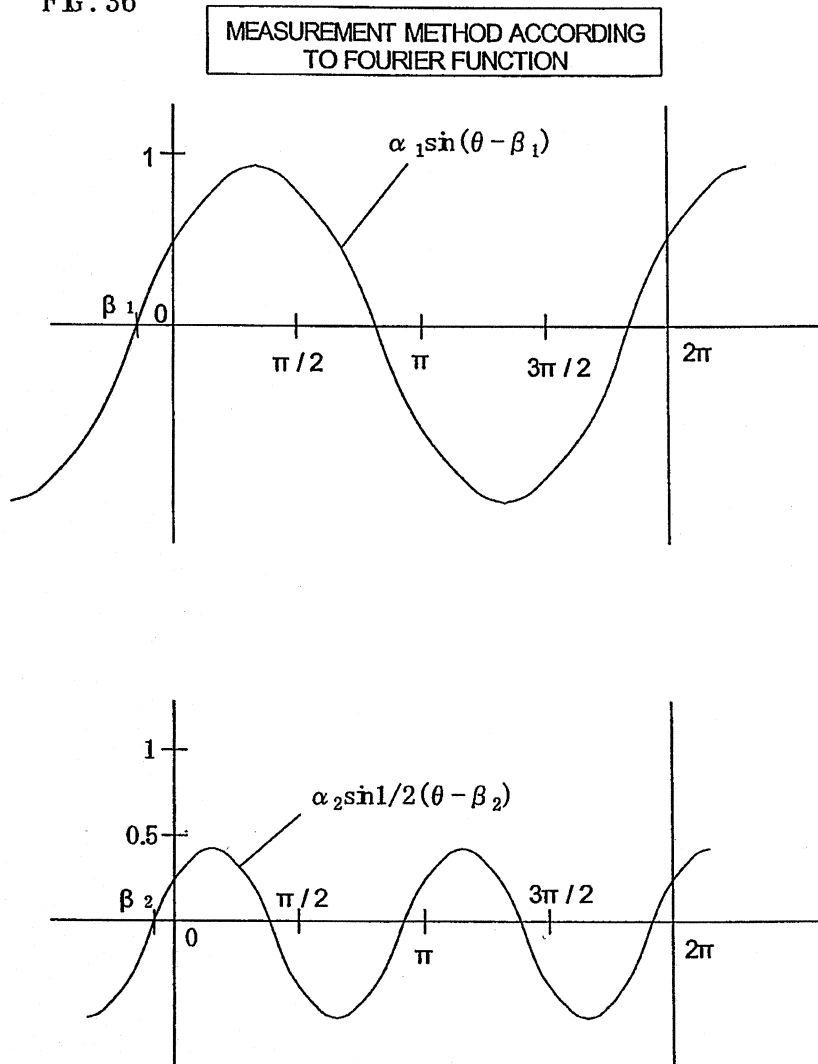
INCLINED DIRECTION MEASUREMENT METHOD

MEASUREMENT POINT

POINTS 1 TO 8 BECOME
MEASUREMENT POINTS

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FIG. 36



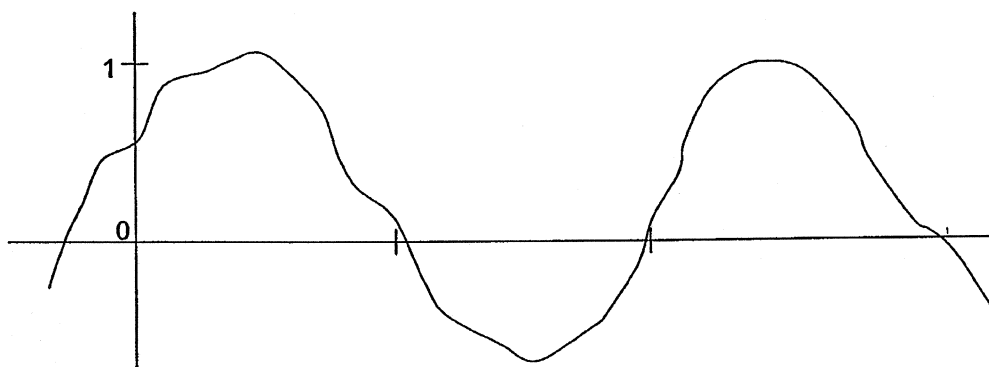
$$BL(i) = \sum_{j=1}^{\frac{n}{2}} \alpha_j \left\{ \sin\left(\frac{1}{2}\right)^{j-1} (\theta - \beta_j) \right\}$$

$n=2m$ (WHERE n IS THE NUMBER OF MEASUREMENT POINTS)

AS SHOWN IN FIG. 38, WHEN THE NUMBER OF MEASUREMENT POINTS IS 8, n BECOMES 8 AND FACTORS OF FOURIER FUNCTION $\alpha(i), \beta(i), i=1$ AND 4 CAN BE ACQUIRED SUCH THAT BRIGHTNESS OF RADIUS FROM CENTER OF ANALYSIS IS DISPLAYED BY SUM OF FOUR SIN FUNCTIONS. SPOT WHERE $BL(i)$ HAS MINIMUM VALUE IS THE DARKEST PLACE AND OPPOSITE DIRECTION THEREOF IS DIRECTION TO WHICH PEN IS TILTED.

FIG. 37

MEASUREMENT METHOD ACCORDING
TO EQUATION OF n -TH DEGREE



$$BL(i) = \alpha_1(\theta - \beta_1) \cdot \alpha_2(\theta - \beta_2) \cdots \alpha_j(\theta - \beta_j)$$

WHERE $j = n/2$ AND $n = 2m$

α_i, β_i CAN BE ACQUIRED BY SOLVING THE ABOVE EQUATION

IN CASE OF FIG. 36, SINCE THE NUMBER OF MEASUREMENT POINTS IS 8, FOUR EQUATIONS SHOULD BE SOLVED. BRIGHTNESS ACQUIRING $\alpha_i, \beta_i, i=1$ AND 4. SPOT WHERE $BL(i)$ HAS THE MINIMUM VALUE IS THE DARKEST PLACE AND OPPOSITE DIRECTION THEREOF IS DIRECTION TO WHICH PEN IS TILTED.

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FIG. 38A

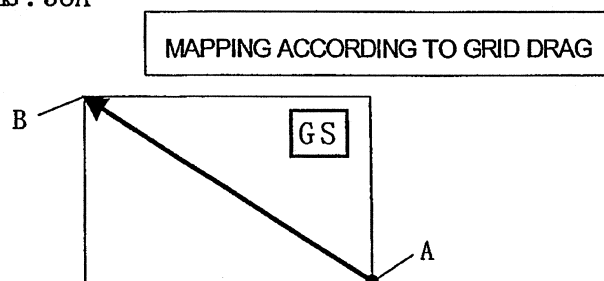


FIG. 38B

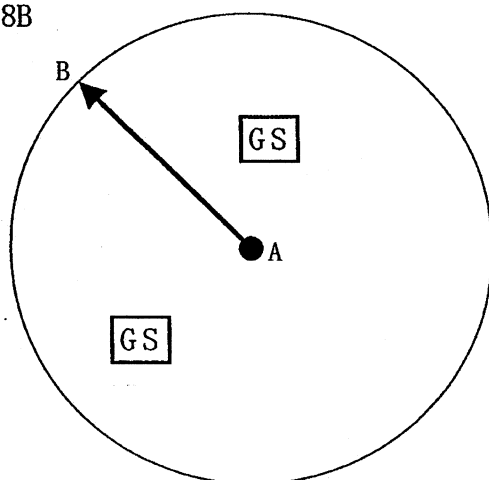


FIG. 38C

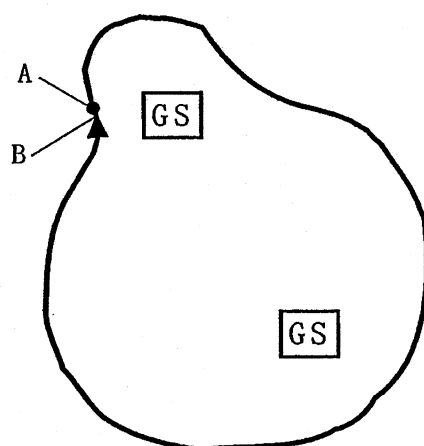


FIG. 39A

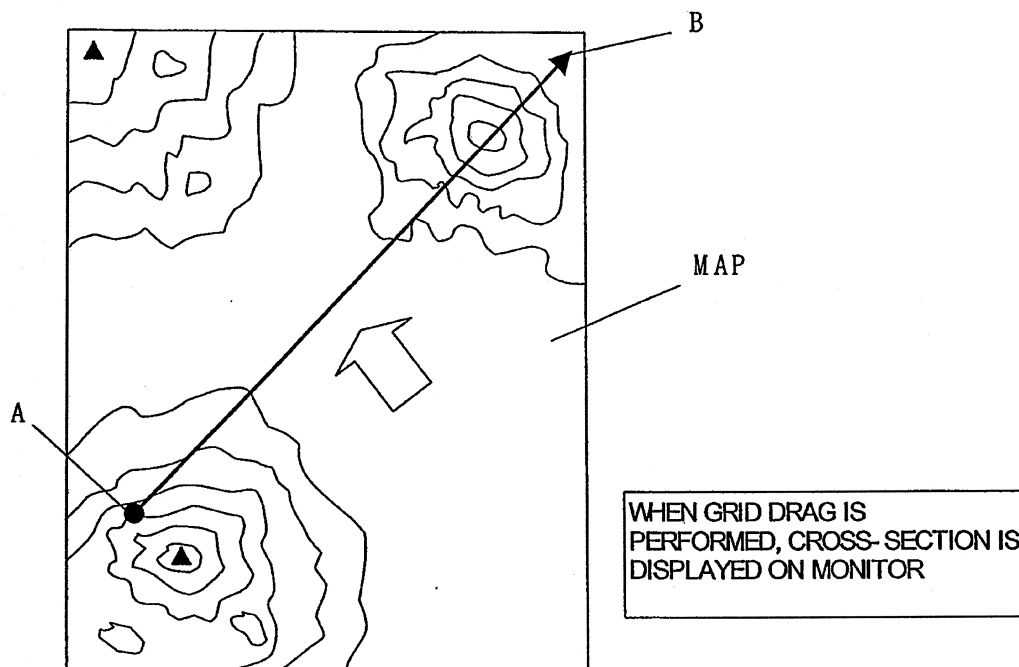


FIG. 39B

