

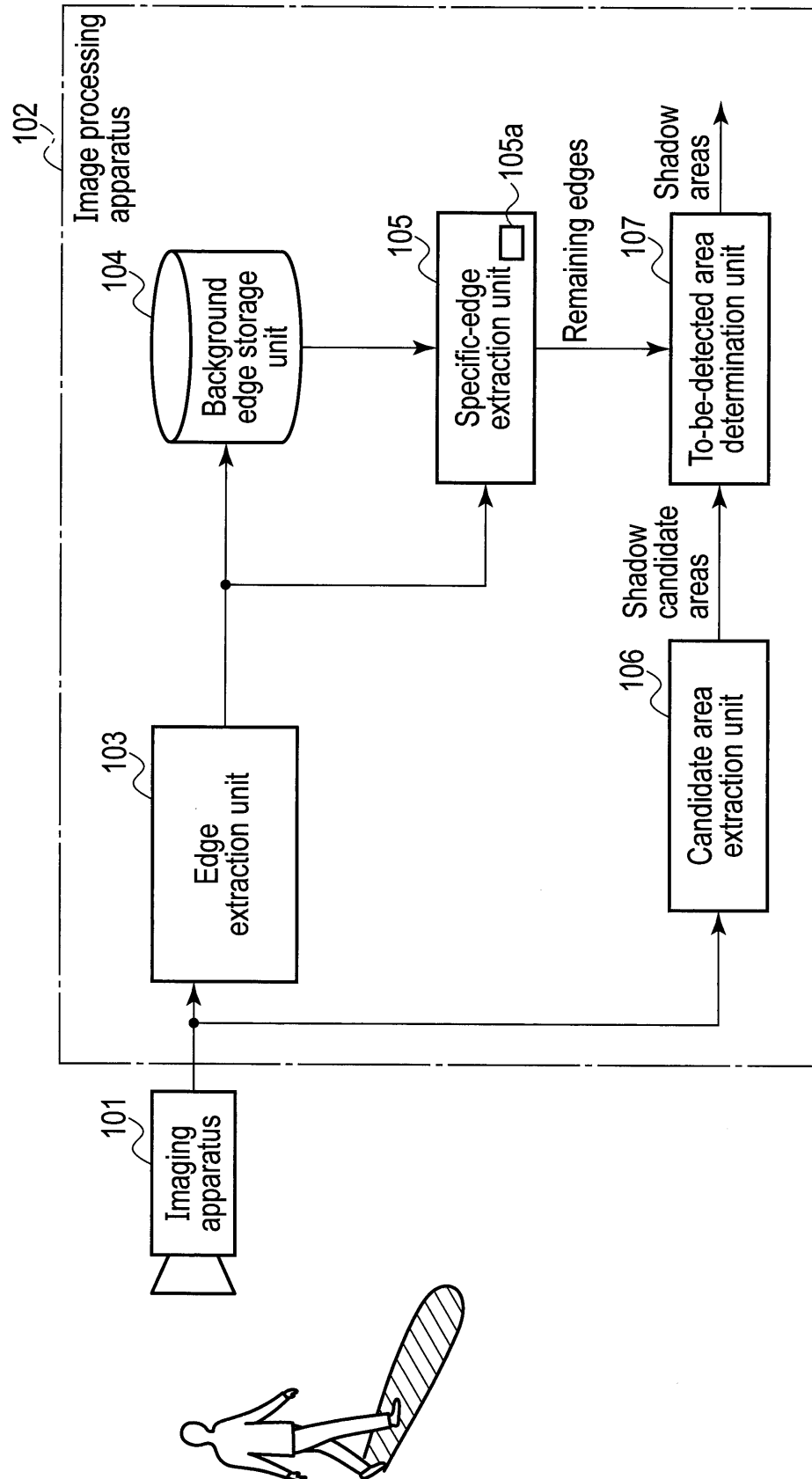


FIG. 1

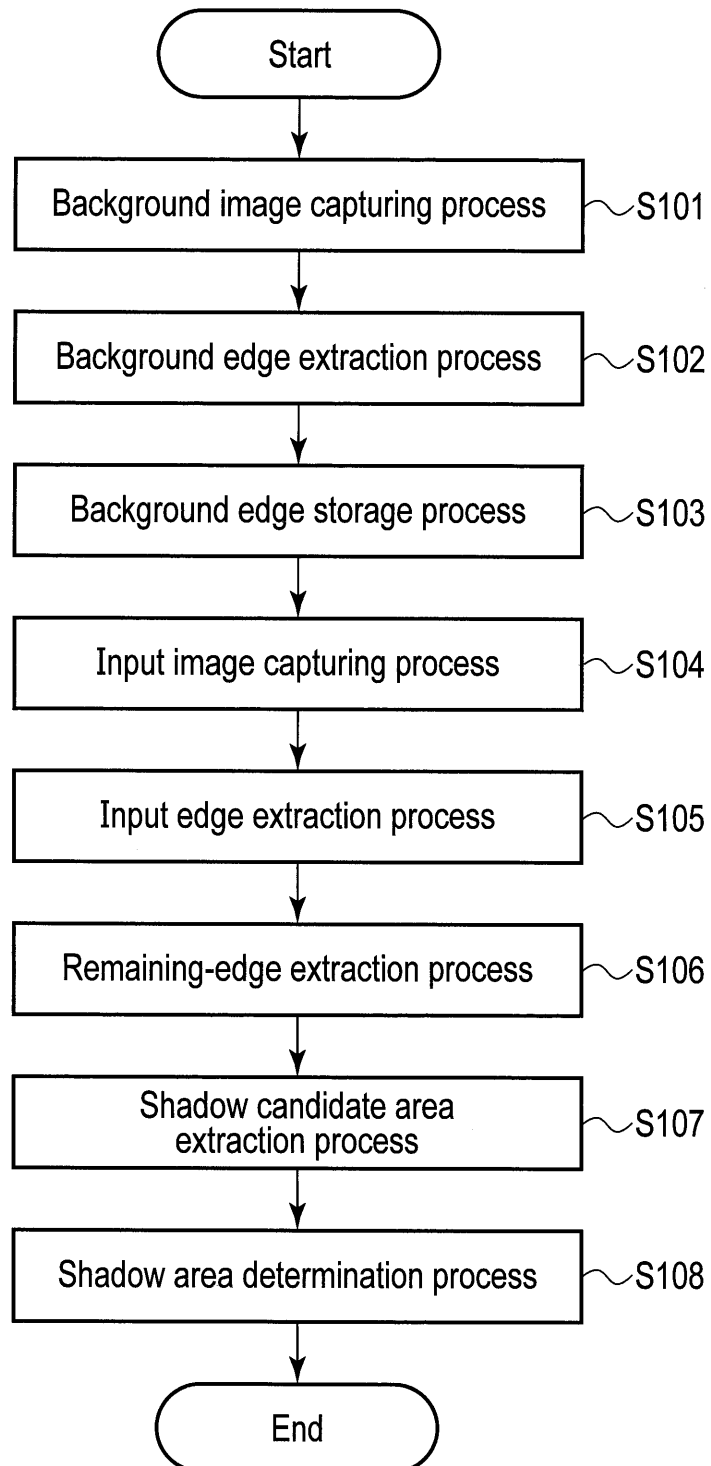


FIG. 2

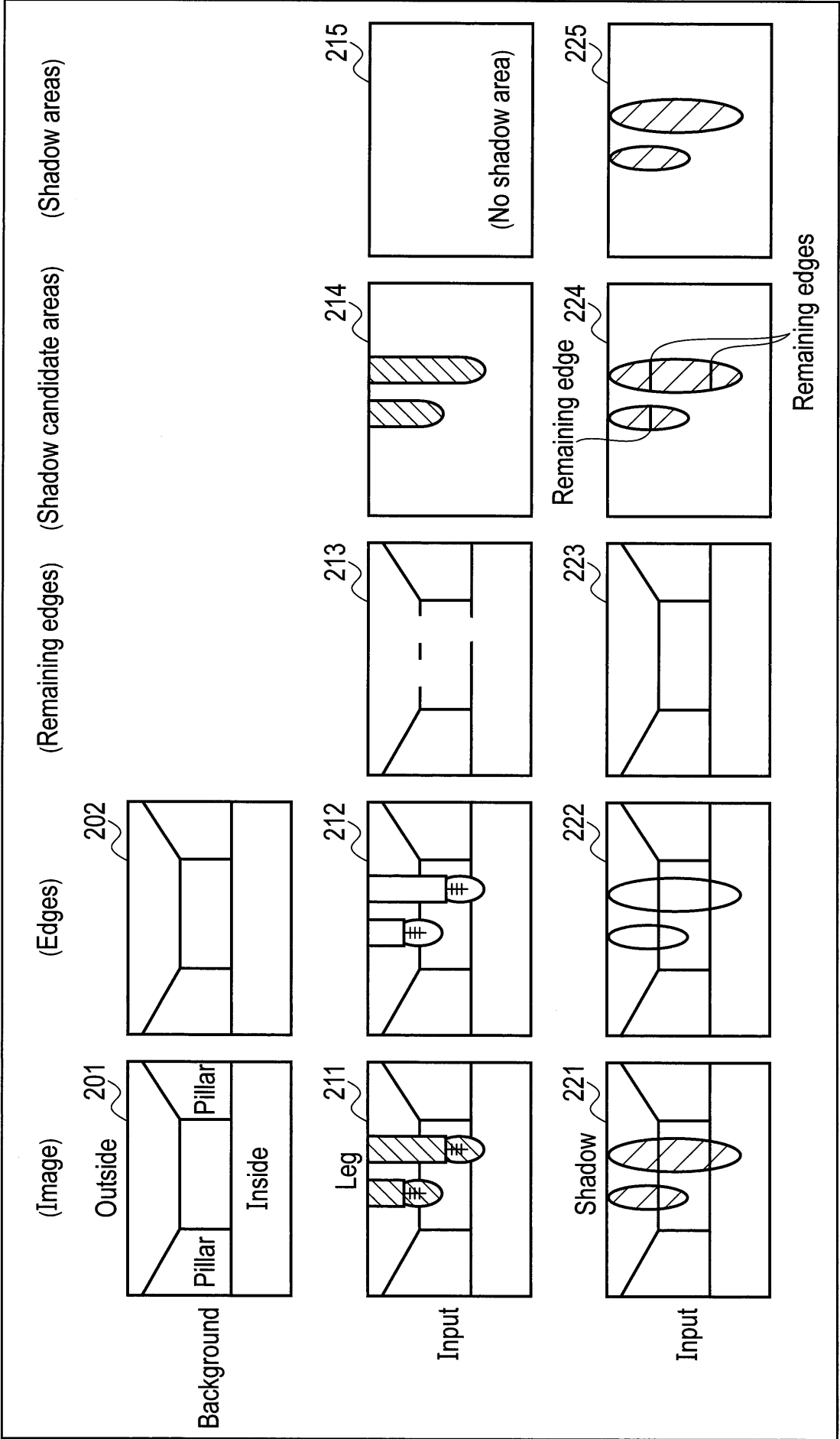


FIG. 3

Input image Background image	Areas with edge(s)	Areas with no edge
Areas with edge(s)	(a) Remaining edges (inside of shadow: e1/background: e2)	(b) Disappearing edges (inside of area overwritten with foreground: e3)
Areas with no edge	(c) Added edges (edge of foreground: e4/contour of foreground: e5/contour of shadow: e6)	(d) No edge (inside of any of foreground/ background/shadow: e7, e8, e9)

FIG. 4

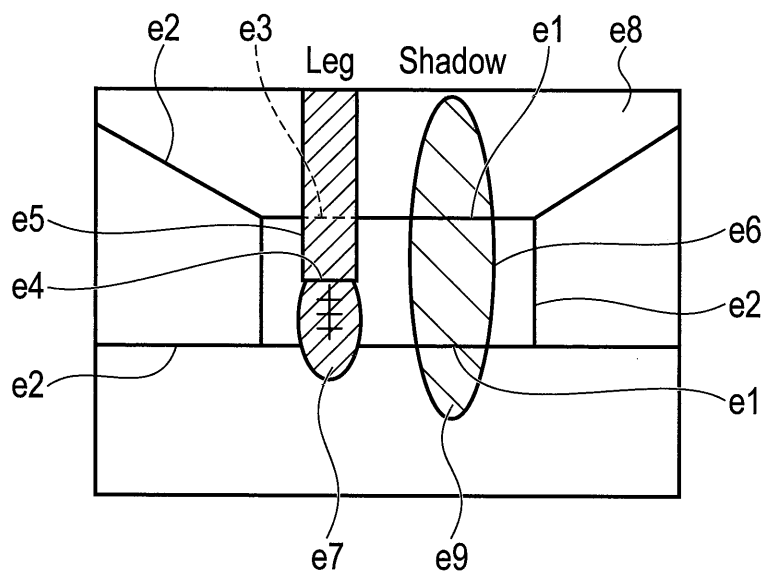


FIG. 5

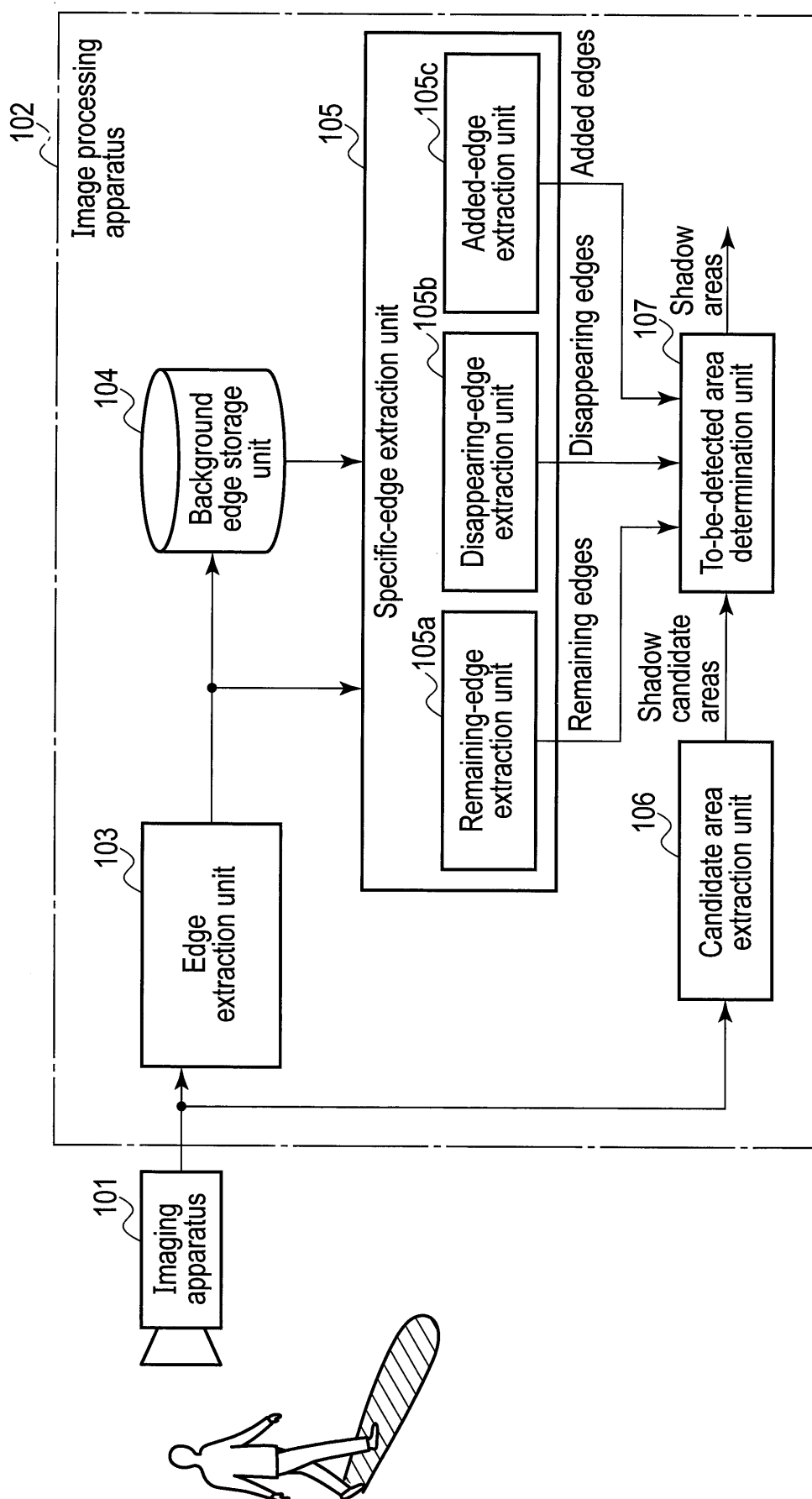


FIG. 6

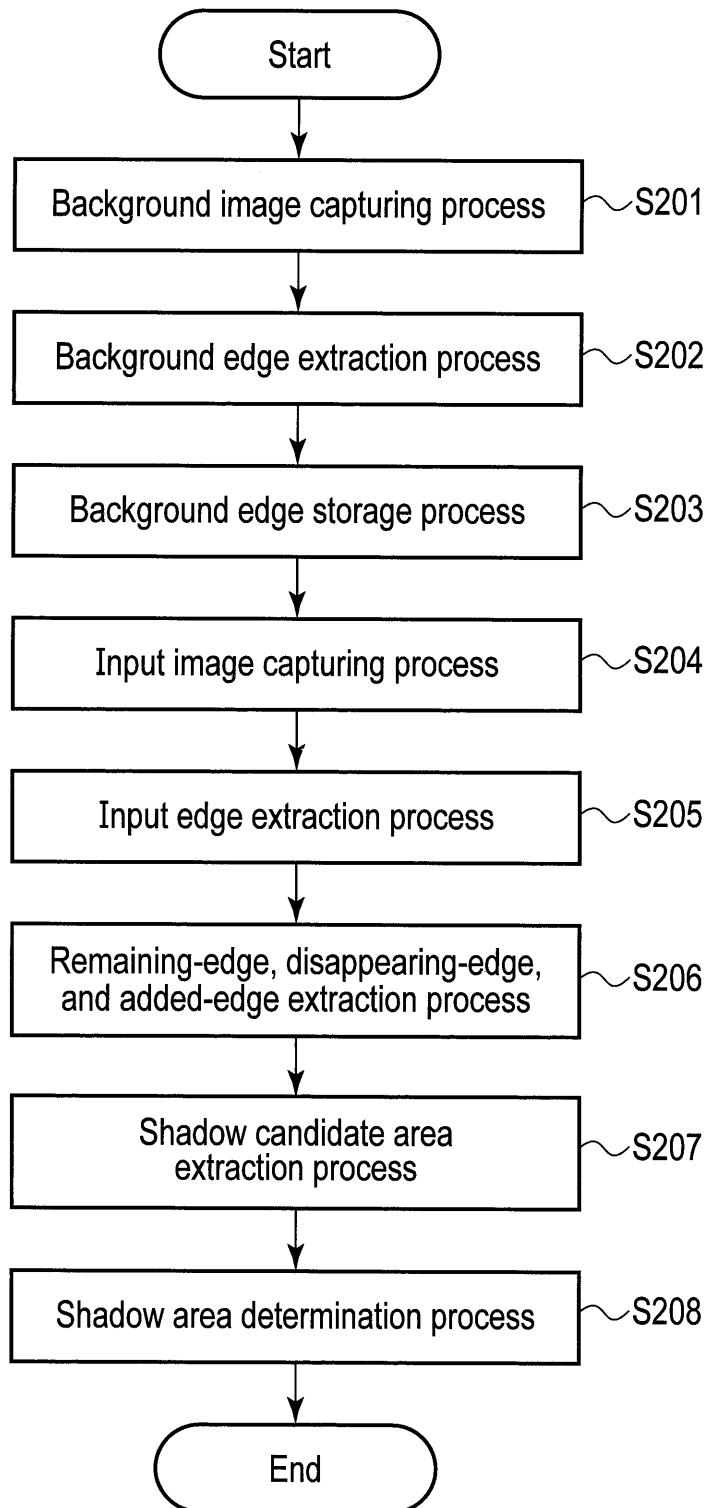
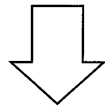


FIG. 7

Remaining edges	Small amount of edge	Large amount of edge
Disappearing edges	Large amount of edge	Small amount of edge
Added edges	Large amount of edge	Small amount of edge



Determination result	Foreground (not shadow)	Shadow
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FIG. 8

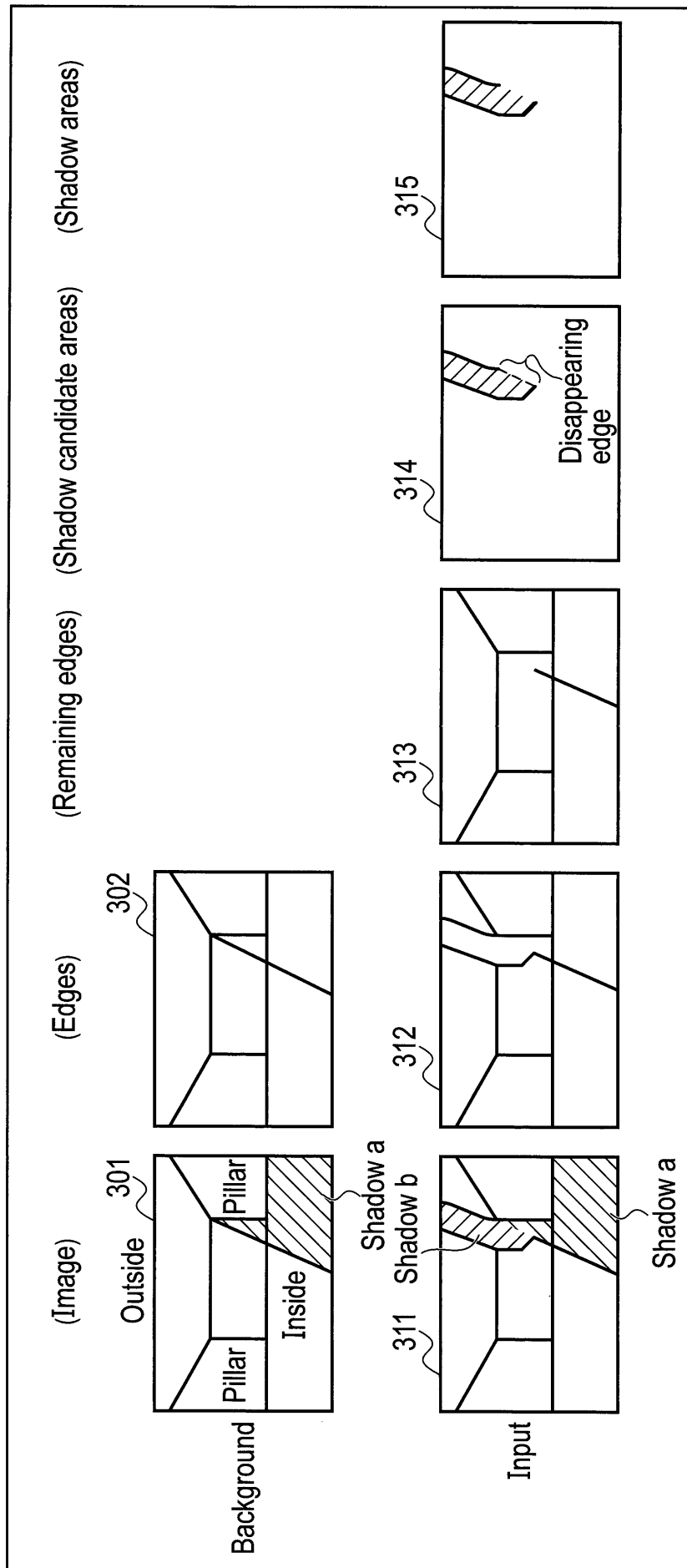


FIG. 9

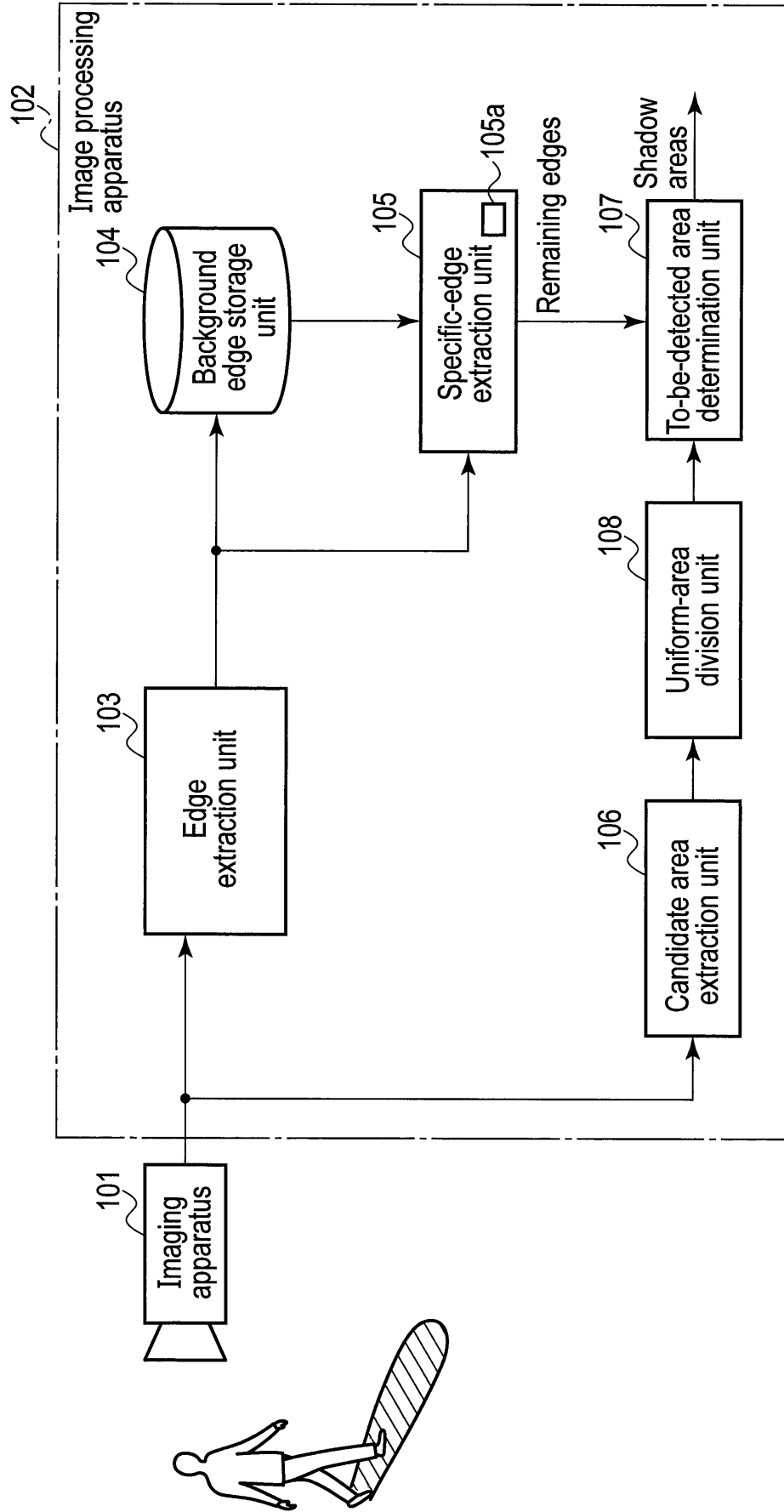


FIG. 10

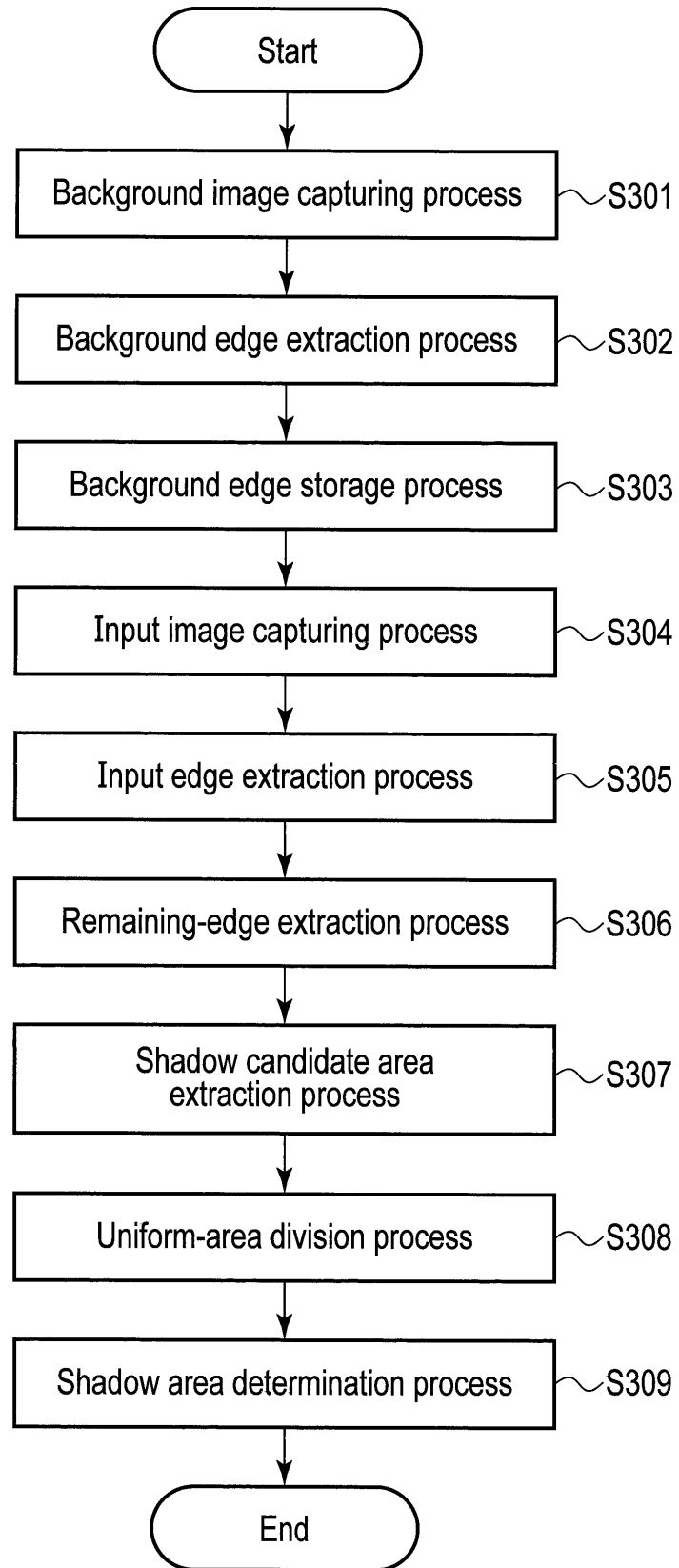


FIG. 11

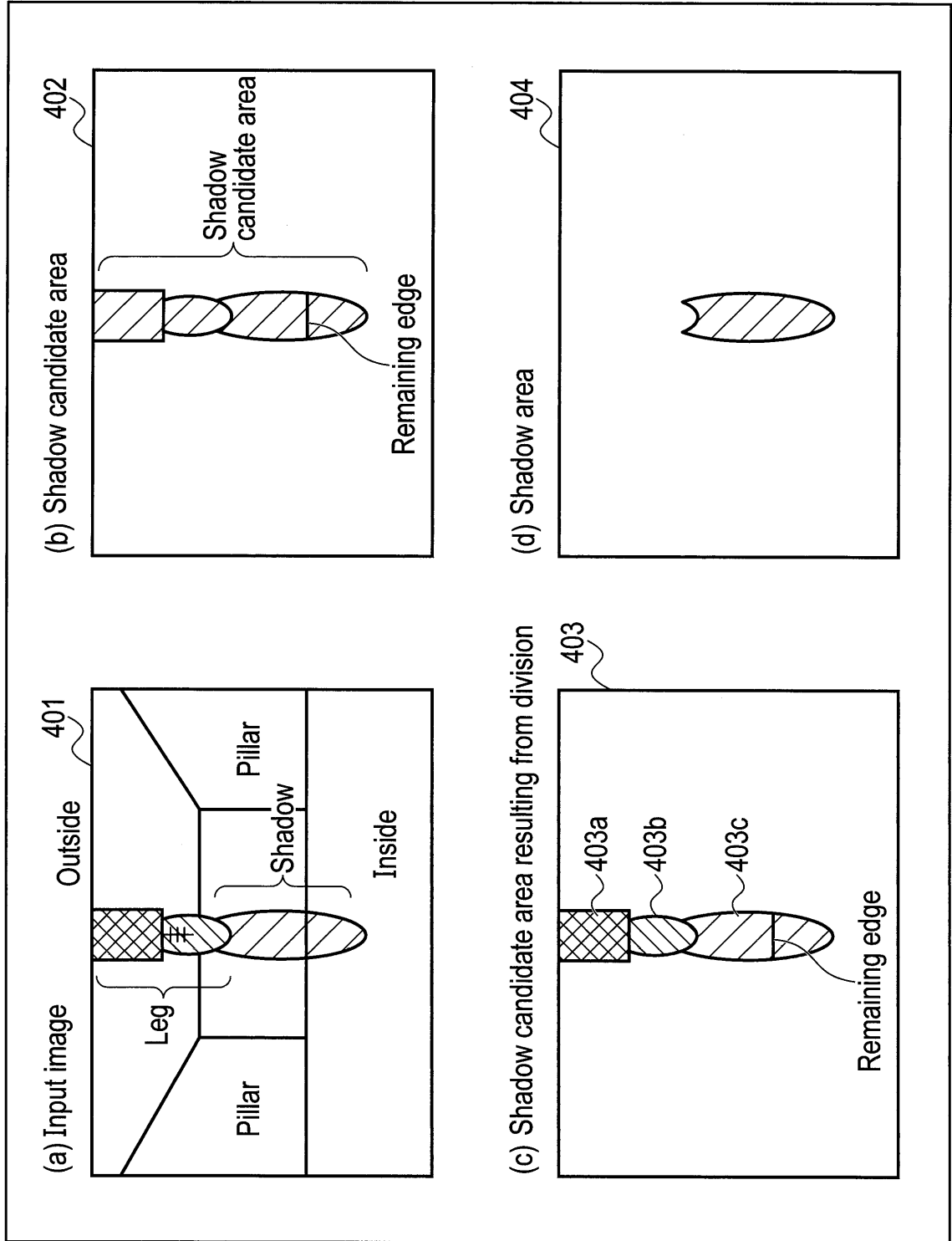


FIG. 12

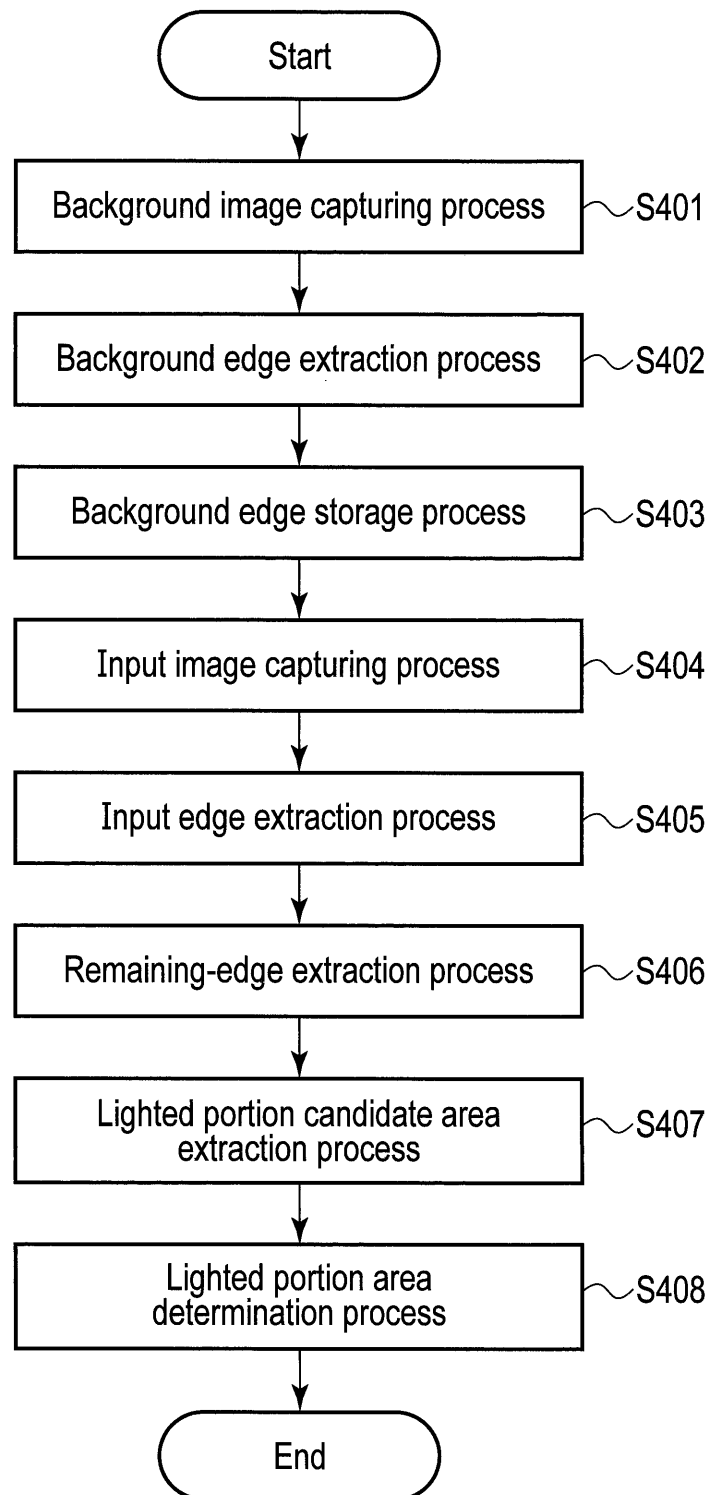


FIG. 13

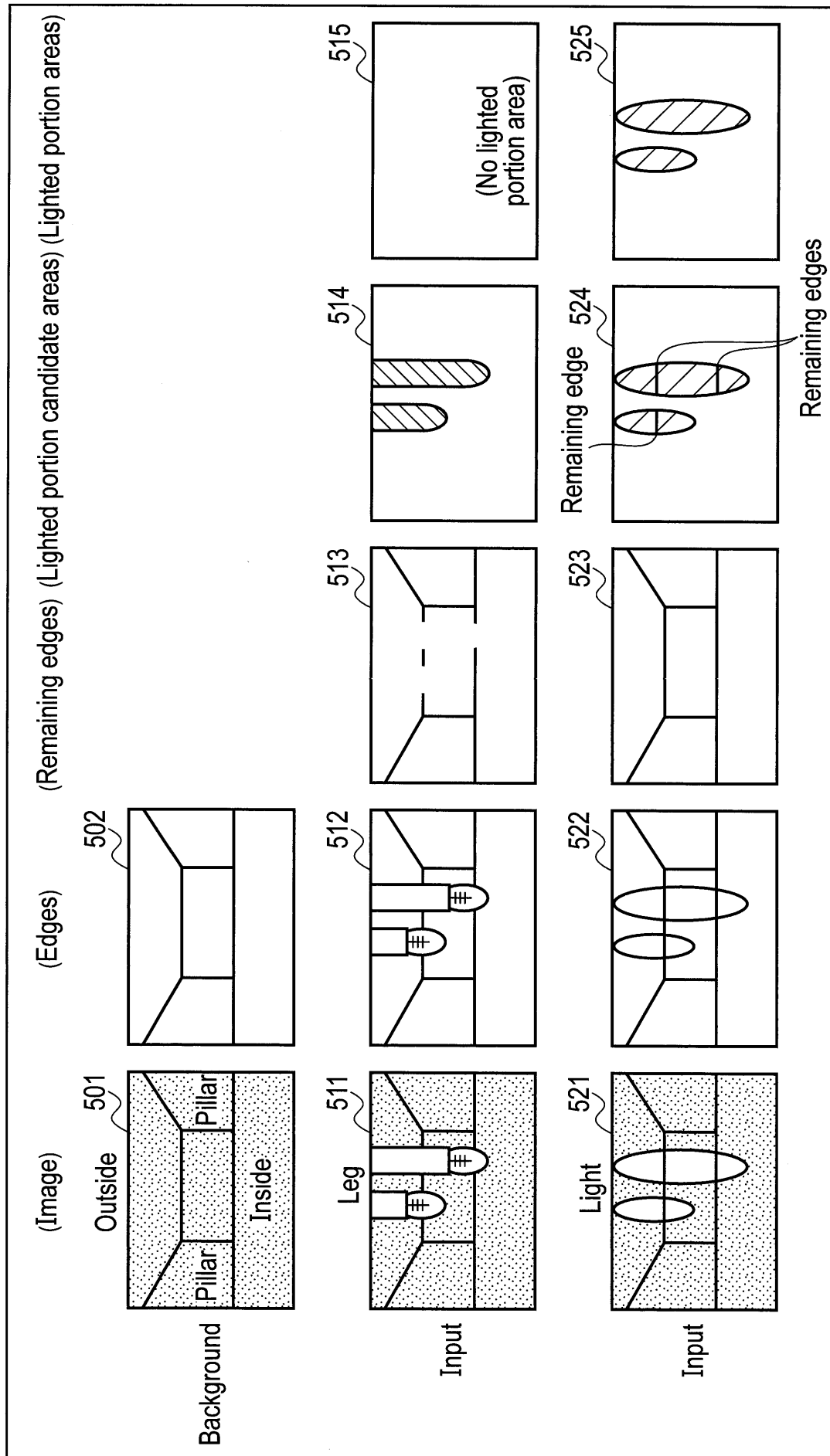


FIG. 14

Input image Background image	Areas with edge(s)	Areas with no edge
Areas with edge(s)	(a) Remaining edges (inside of lighted portion: e11/background: e12)	(b) Disappearing edges (inside of area overwritten with foreground: e13)
Areas with no edge	(c) Added edges (edge of foreground: e14/contour of foreground: e15/contour of lighted portion: e16)	(d) No edge (inside of any of foreground/ background/lighted portion: e17, e18, e19)

FIG. 15

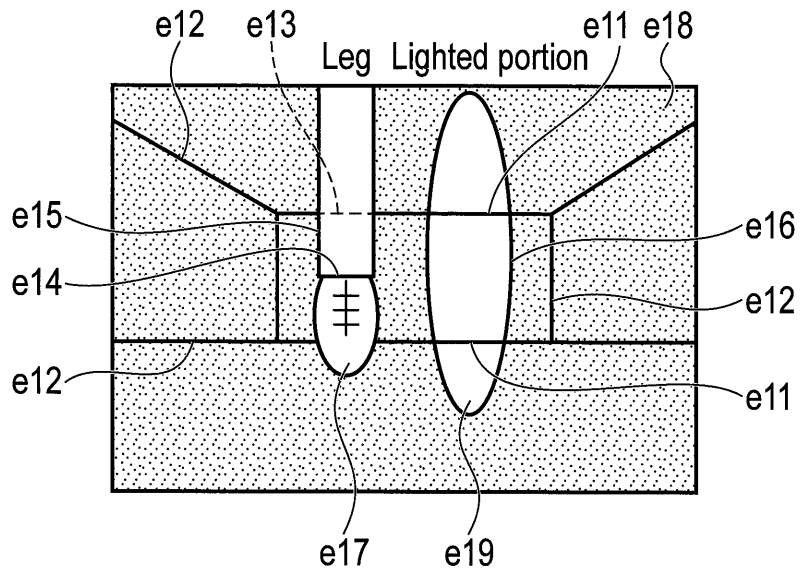


FIG. 16

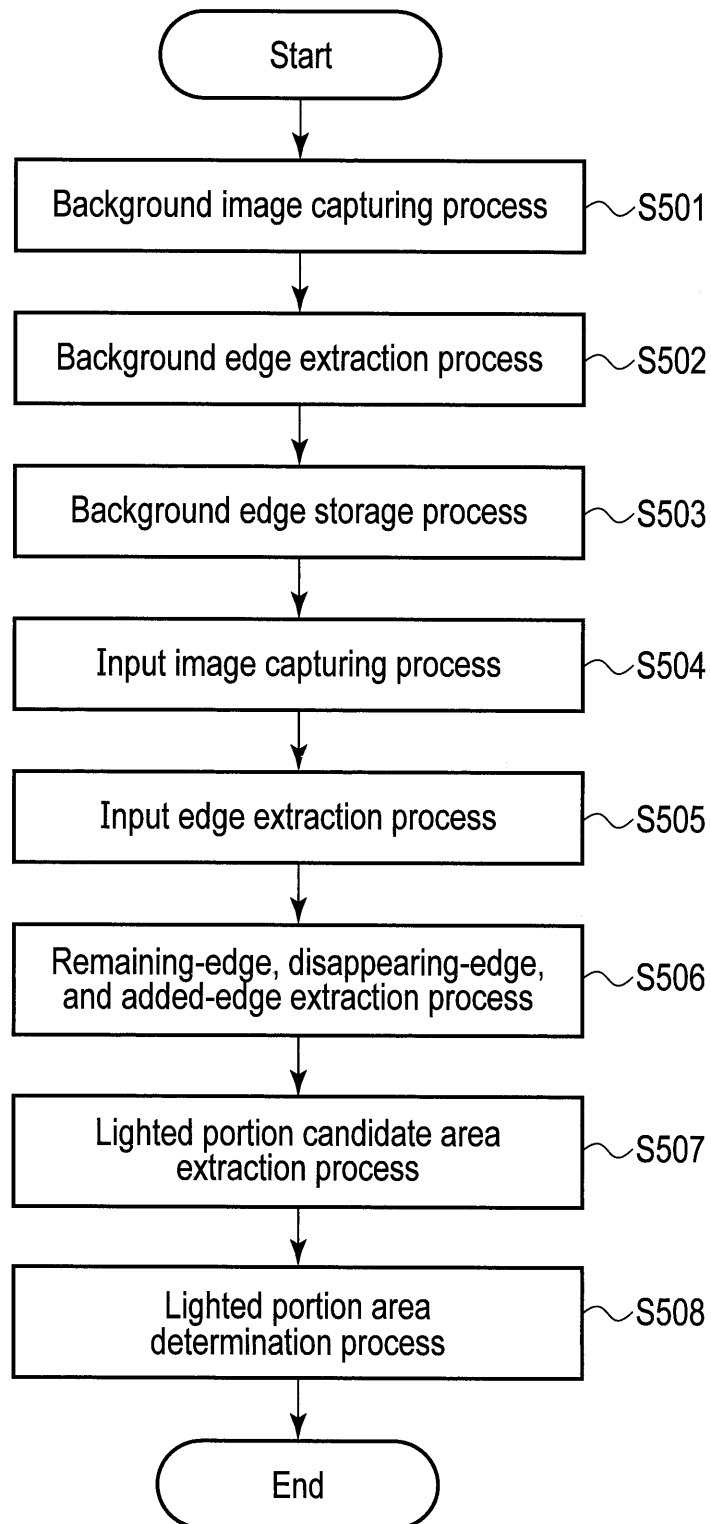
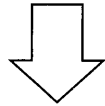


FIG. 17

Remaining edges	Small number of edges	Large number of edges
Disappearing edges	Large number of edges	Small number of edges
Added edges	Large number of edges	Small number of edges



Determination result	Foreground (not lighted portion)	Lighted portion
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FIG. 18

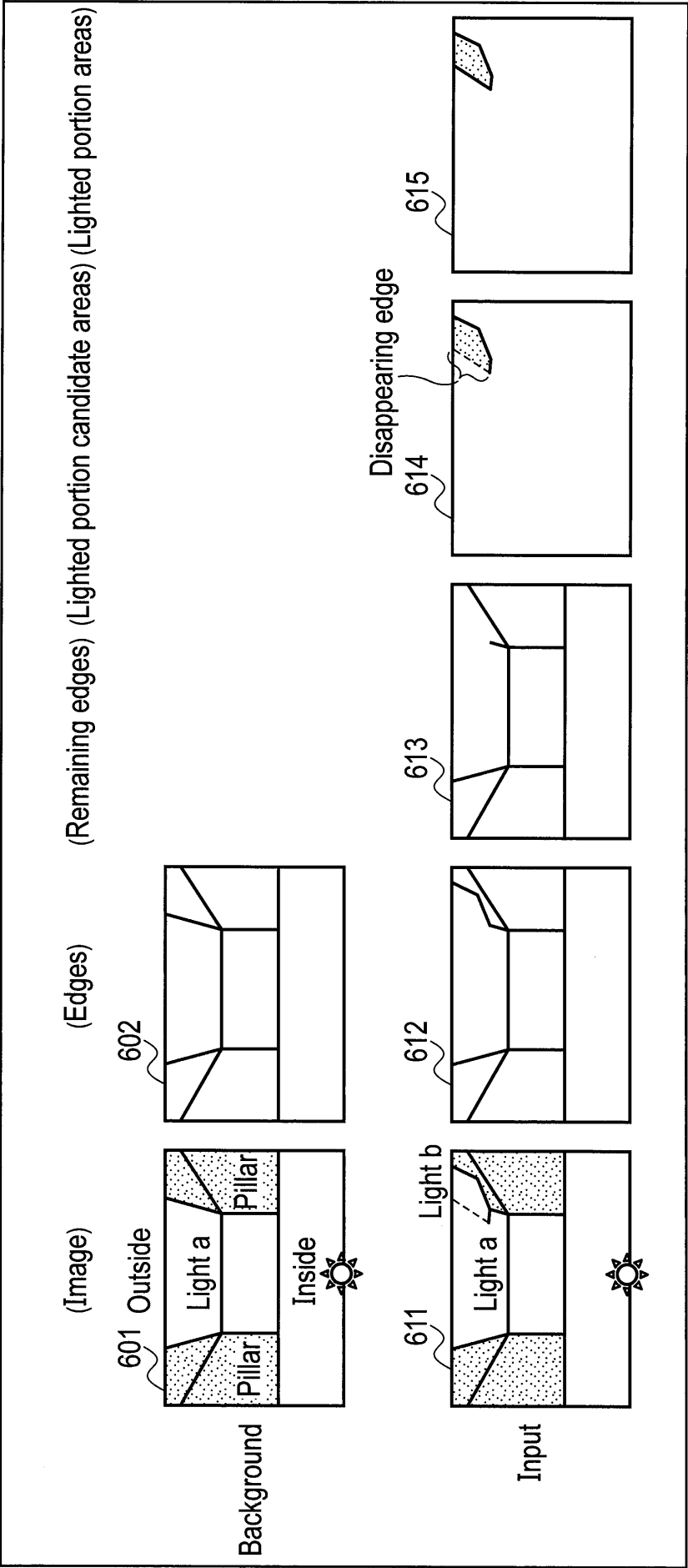


FIG. 19

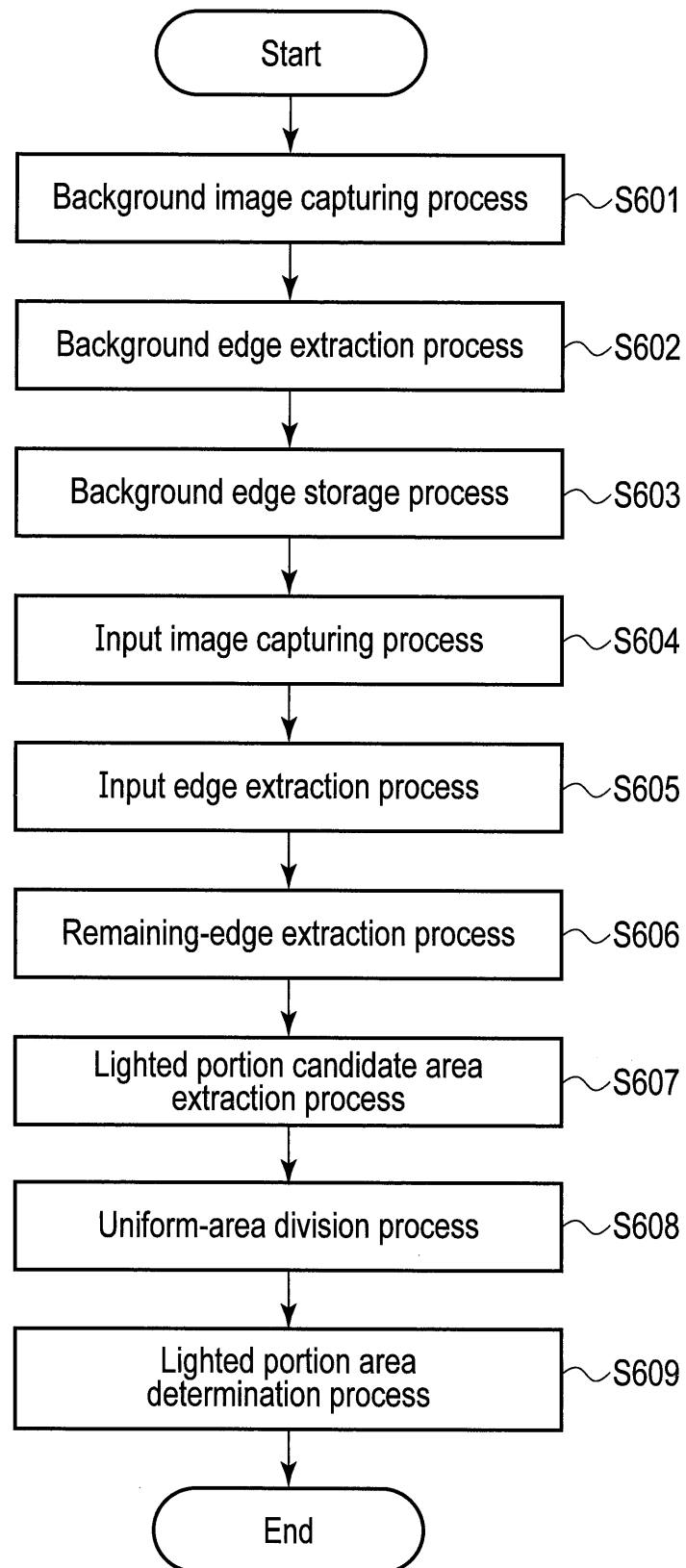


FIG. 20

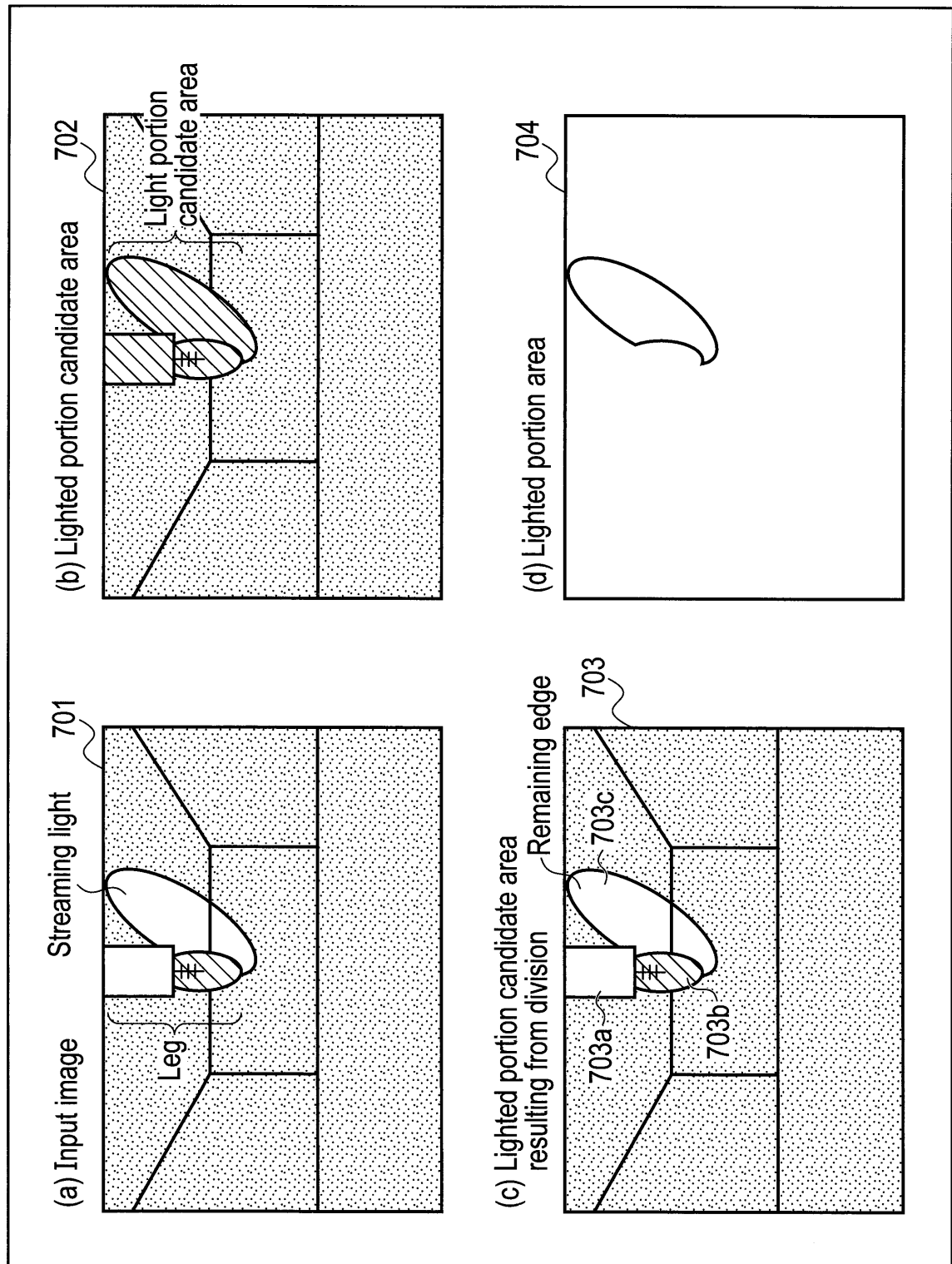


FIG. 21

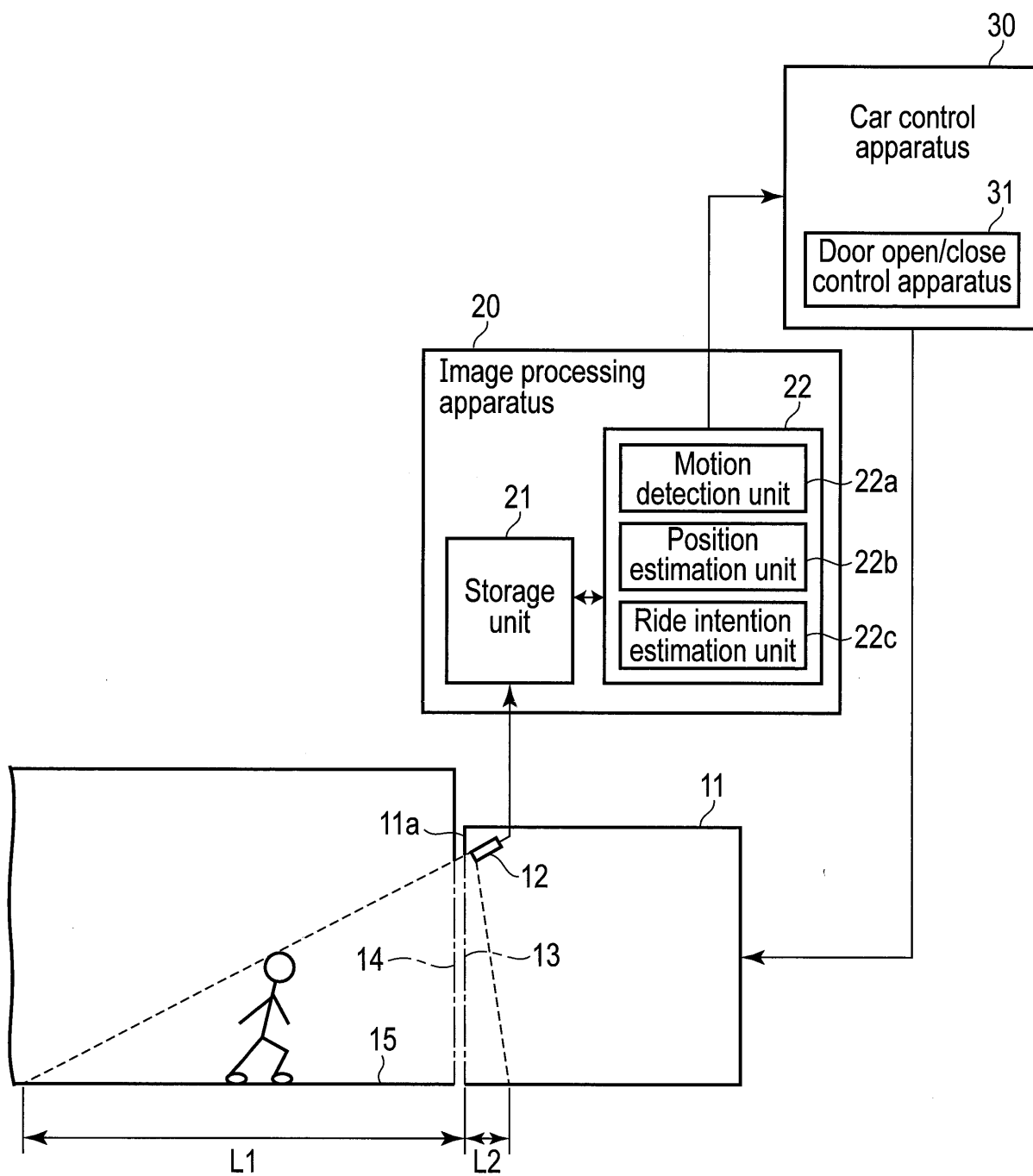


FIG. 22

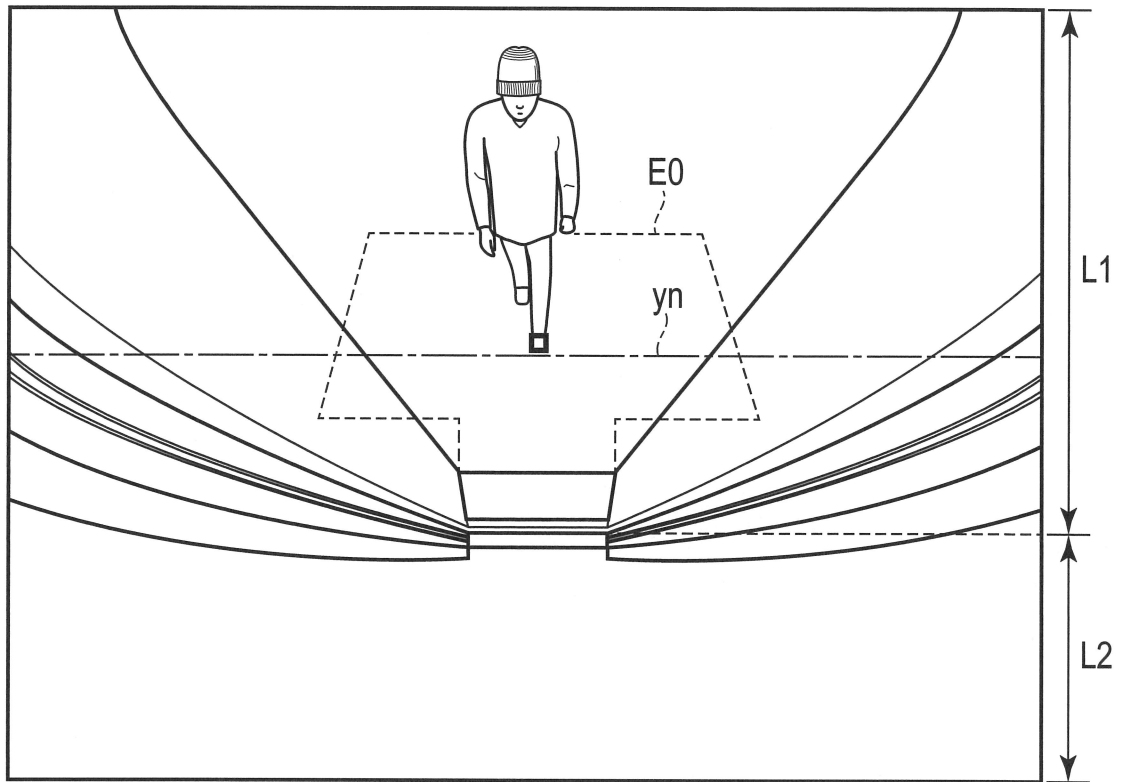


FIG. 23