

FIG. 1

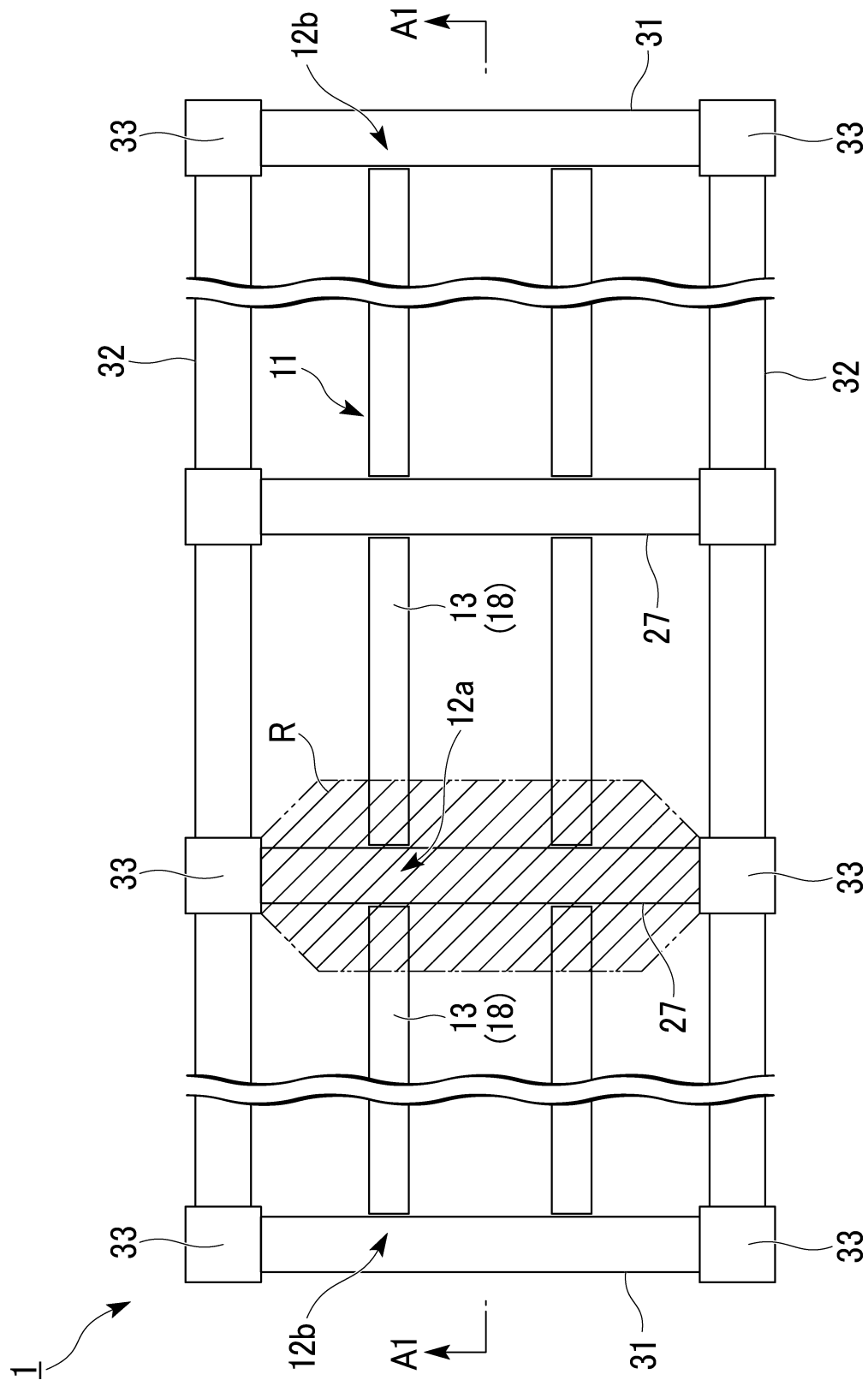


FIG. 2

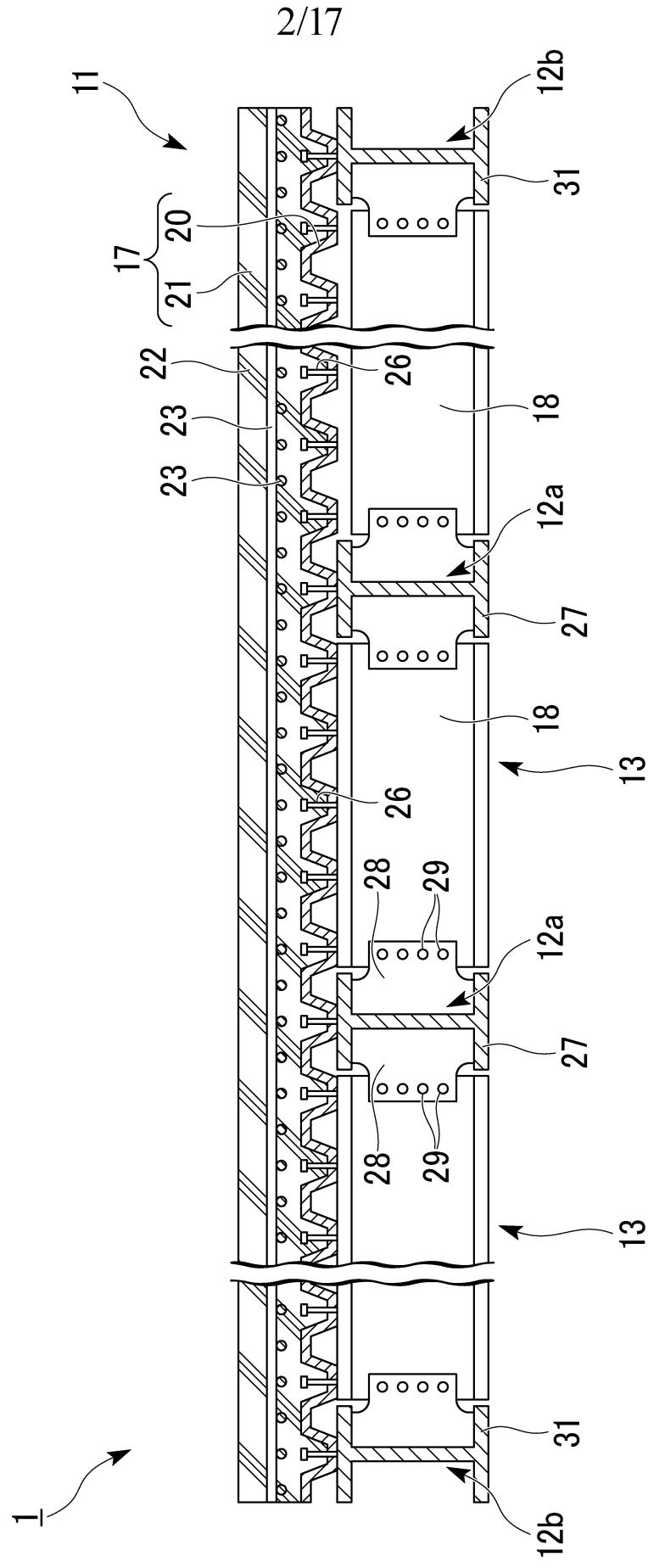


FIG. 3

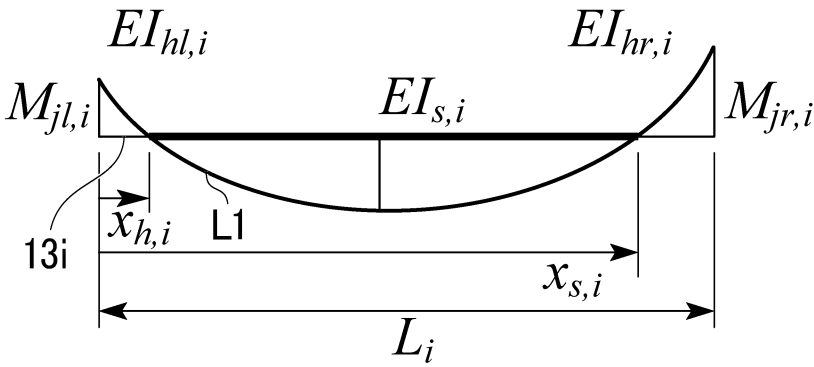


FIG. 4

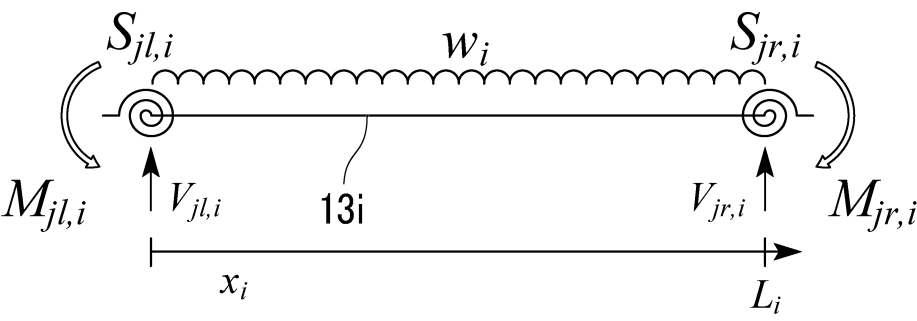


FIG. 5

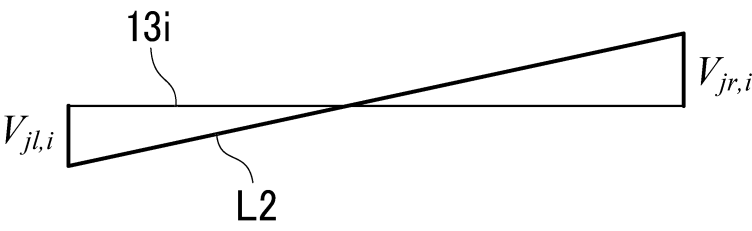


FIG. 6

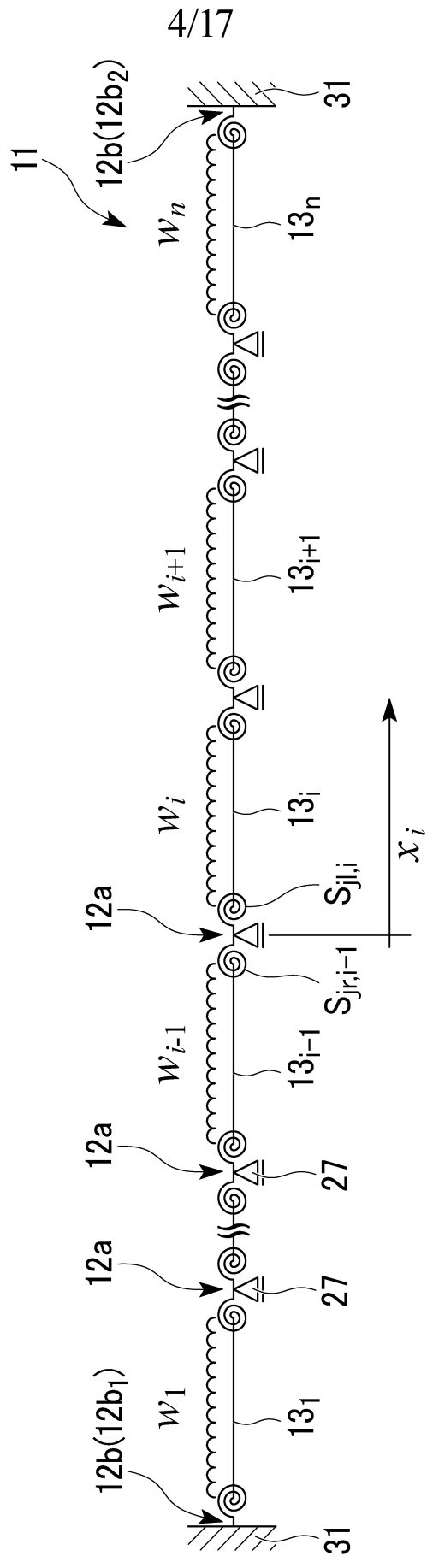


FIG. 7

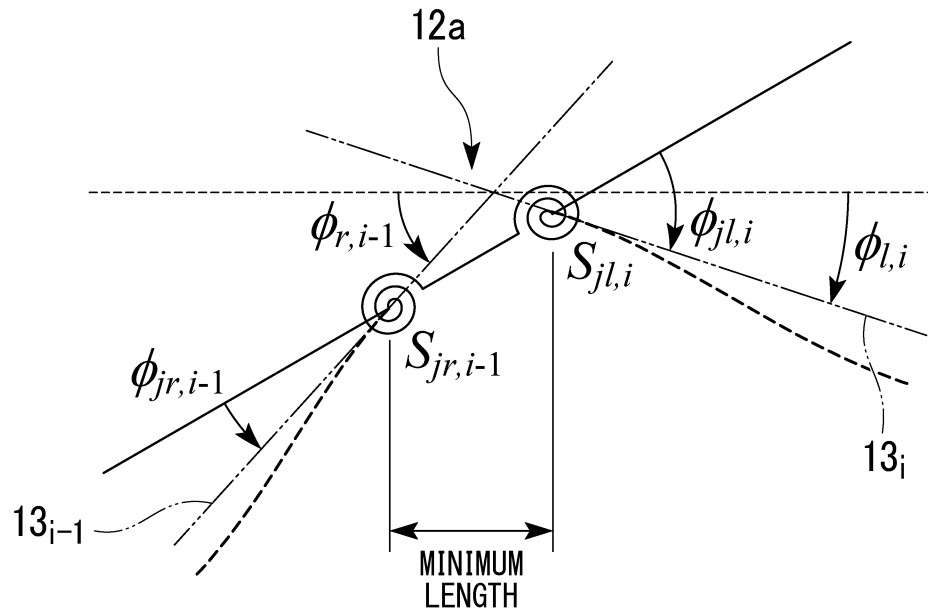


FIG. 8

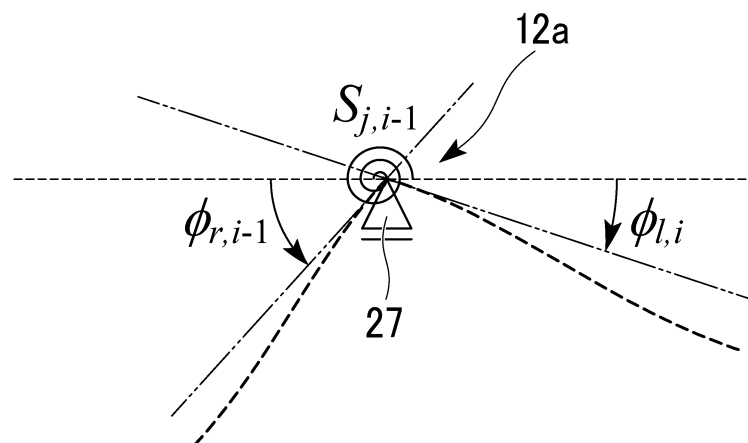


FIG. 9

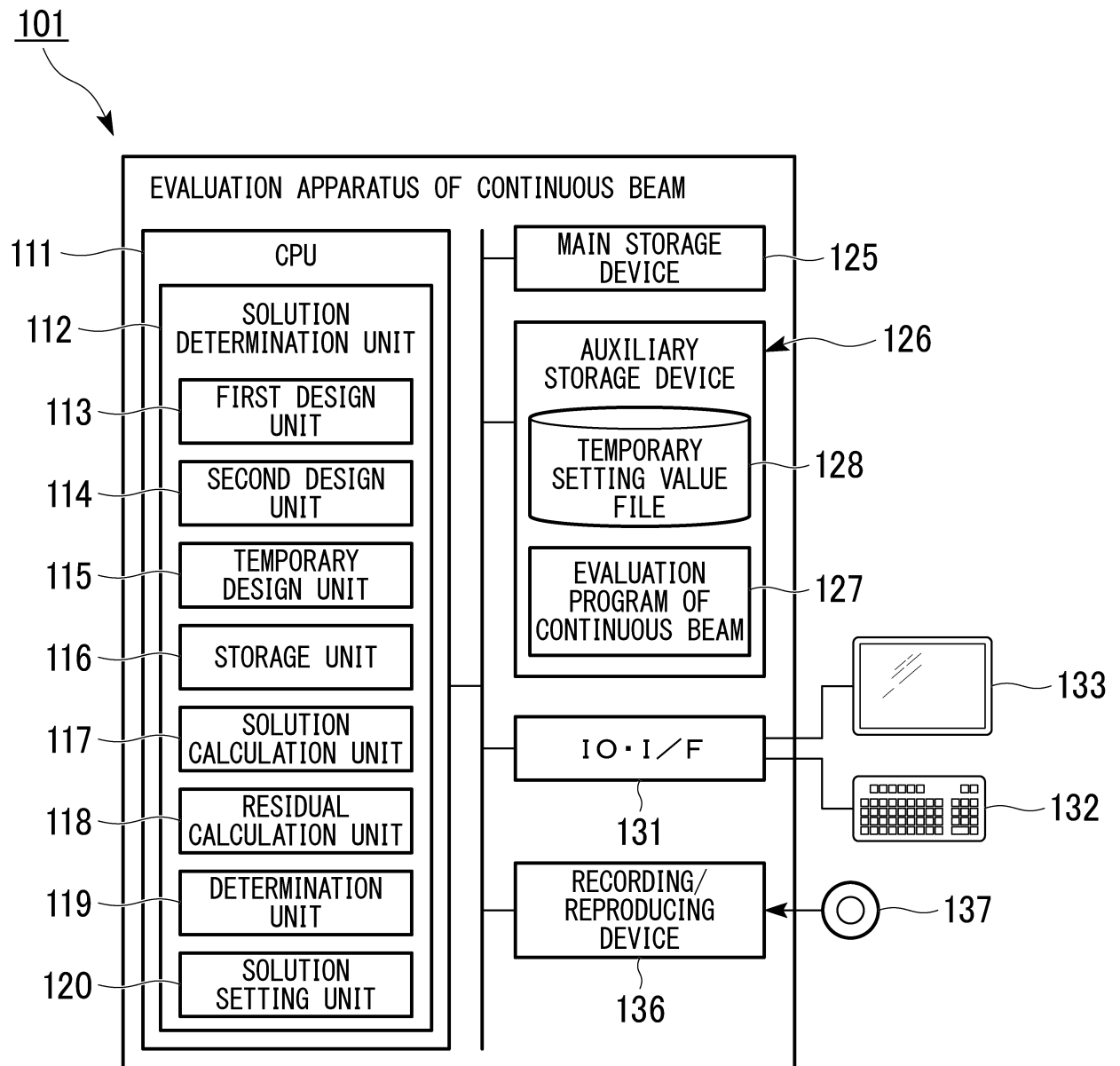


FIG. 10

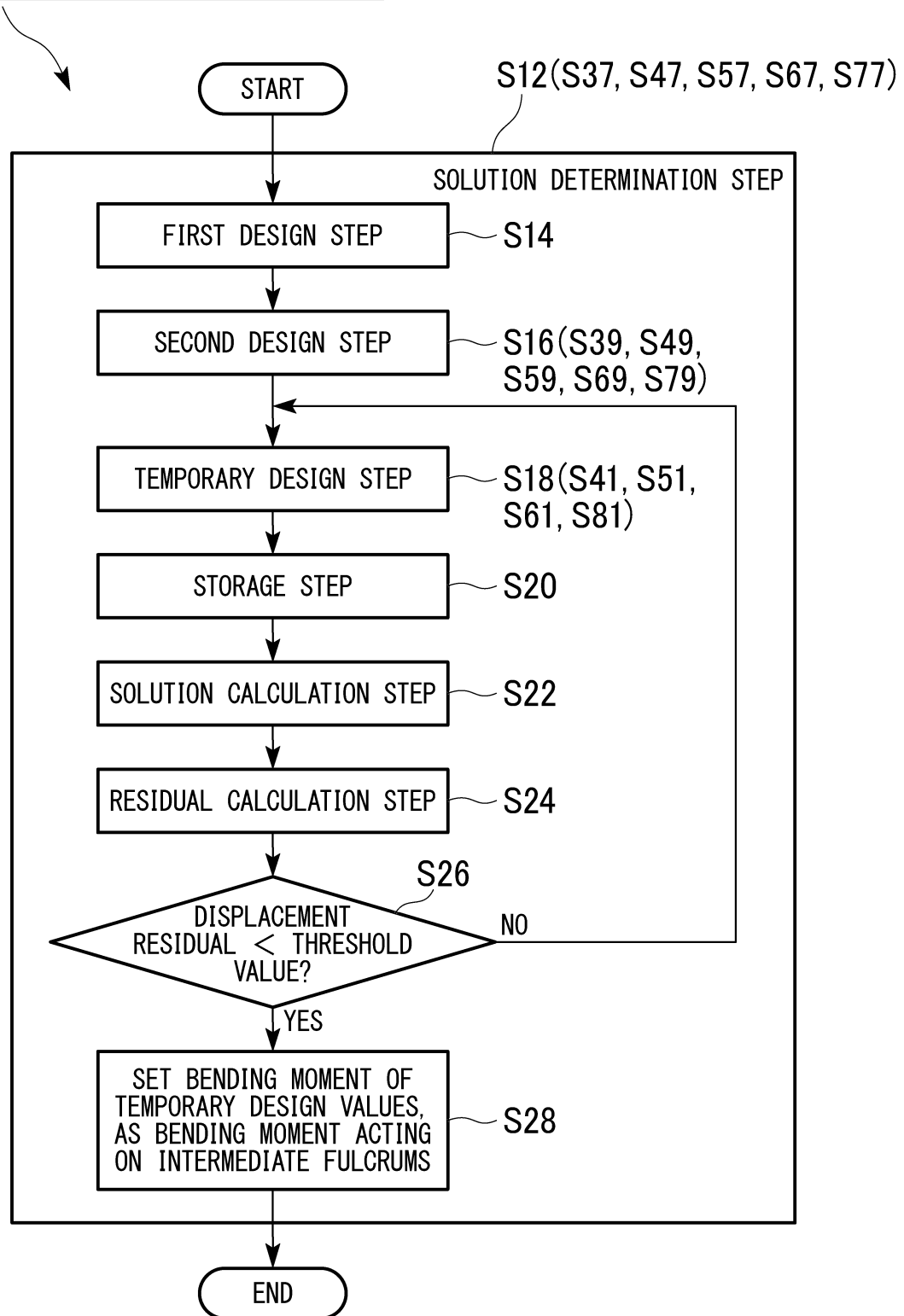
S11(S36, S46, S56, S66, S76)

FIG. 11

C

Number of continuous beam span (n)		5					C1					C2					C3					C6					C7				
Threshold for ending convergence		1.38.E-02																													
Span	i span	1					2					3					4					5									
Length between supports	LL	13800					13800					13800					13800					13800									
Flexure stiffness against hogging bending	El _h , i	2.29.E+14					2.24.E+14					2.24.E+14					2.24.E+14					2.29.E+14									
Flexure stiffness against sagging bending	El _s , i	5.10.E+14					4.90.E+14					4.90.E+14					4.90.E+14					5.10.E+14									
Rotational rigidity of joint on lefthand end	S _{j,l} , i	0.00.E+00					1.91.E+11					1.91.E+11					1.91.E+11					1.51.E+11									
Rotational rigidity of joint on righthand end	S _{j,r} , i	1.51.E+11					1.91.E+11					1.91.E+11					1.91.E+11					0.00.E+00									
Composite stage load	ww	28.56					28.56					28.56					28.56					28.56									
Self weight (If separated)	ww_SW	15.529096					15.529096					15.529096					15.529096					15.529096									

■ Determining moment, rotation and deflection		0.00.E+00																											
Determined rotation at lefthand end of span		φ _l , i	rad	0.0046432																									
Initial joint moment at lefthand of span (for convergence)		M _{j,l} , i	Nmm	0.00.E+00																									
Determined joint moment at righthand of span		M _{j,r} , i	Nmm	3.25E+08																									
Determined shear force on the lefthand end of span		V _{j,l} , i	N	173526																									
Determined shear force on the righthand end of span		V _{j,r} , i	N	220602																									
Determined zero moment point location (Lefthand)		x _h , i	mm	0																									
Determined zero moment point location (Righthand)		x _s , i	mm	12152																									
For Calculation		xn=x _h , n	mm	0.00.E+00																									
		xn=x _s , n	mm	4.27.E+12																									
		xn=h	mm	4.01.E+12																									
		xn=x _h , n	mm	0.00.E+00																									
		xn=x _s , n	mm	2.59.E+16																									
Determined rotation at righthand end of span		φ _r , i(xn=h)	mm	3.28.E+16																									
Equivalent rotational rigidity at righthand internal support		S _{j,eq} , i	Nmm/rad	-2.61.E-03																									
Deflection at internal vertical support (Should be zero)		δ _c , i(xn=h)	mm	4.E-14																									
Absolute value of δ _c , i(xl)		δ _c , i(xn=h)^2	mm ²	2.E-27																									
Through length from the lefthand edge of continuous beam		x whole	mm	1.E+04																									
Moment correspond to rotation and stiffness (Lefthand)		M _{j,l} , i by S _{j,l} , i*(φ _{j,r} , i)	Nmm	0.00.E+00																									
Check boundary condition satisfied				OK																									
Moment correspond to rotation and stiffness (Righthand)		M _{j,r} , i by S _{j,r} , i*(φ _{j,r} , i)	Nmm	3.25.E+08																									
Check boundary condition satisfied				OK																									
		※0: Lefthand end, c	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Total load in each span		I x w	kN	394																									
Total load		Σ kw	kN	1971																									
Total reaction force		Σ V	kN	1971																									
Optimization																													
Objective variable (Target cell to be minimized)		Σ (δ c _j)^2	mm ²	2.E-27																									
Dominant variables		φ _{0,i} or M _{j,l} , i	M _{j,r} , i																										
Result (Changing cells)																													
Search range (Bound constraints for changing cells)		Low																											
		High																											

FIG. 12

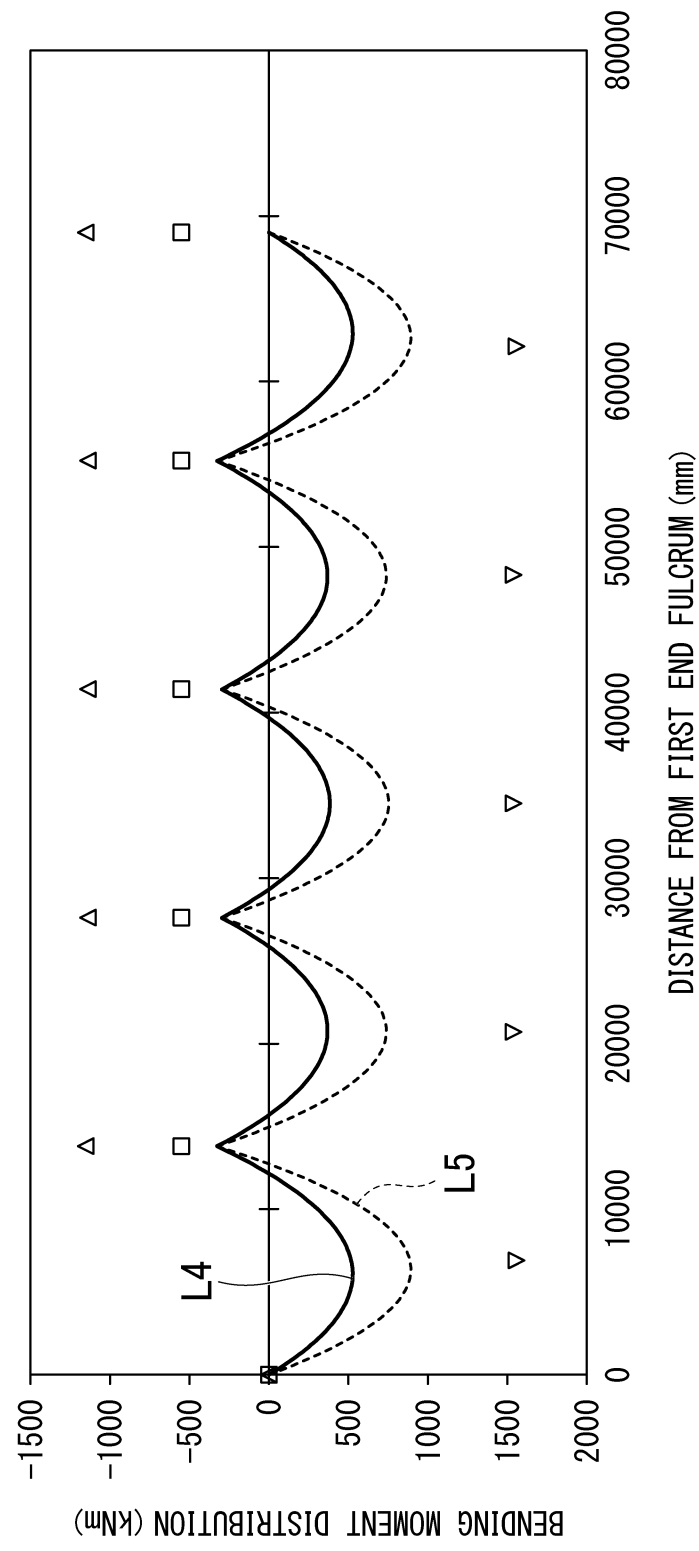


FIG. 13

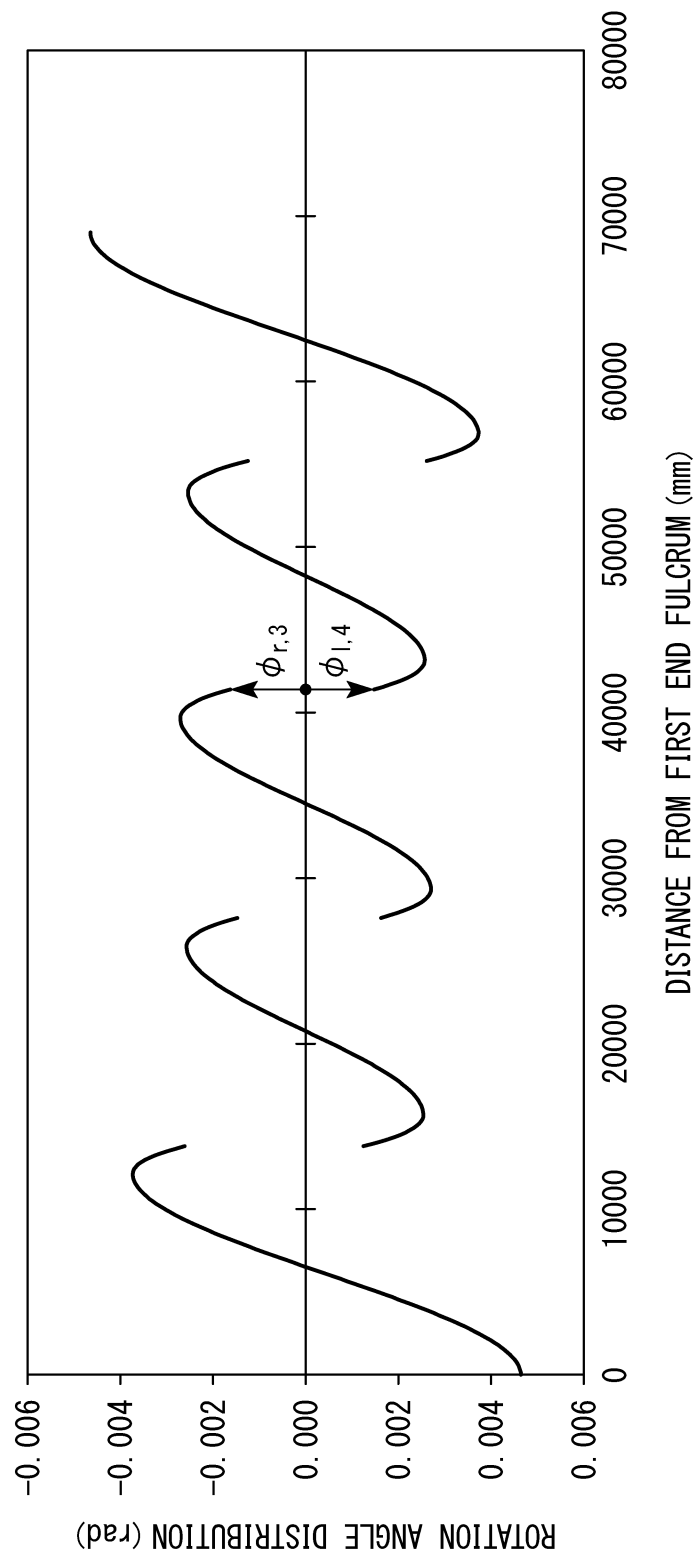


FIG. 14

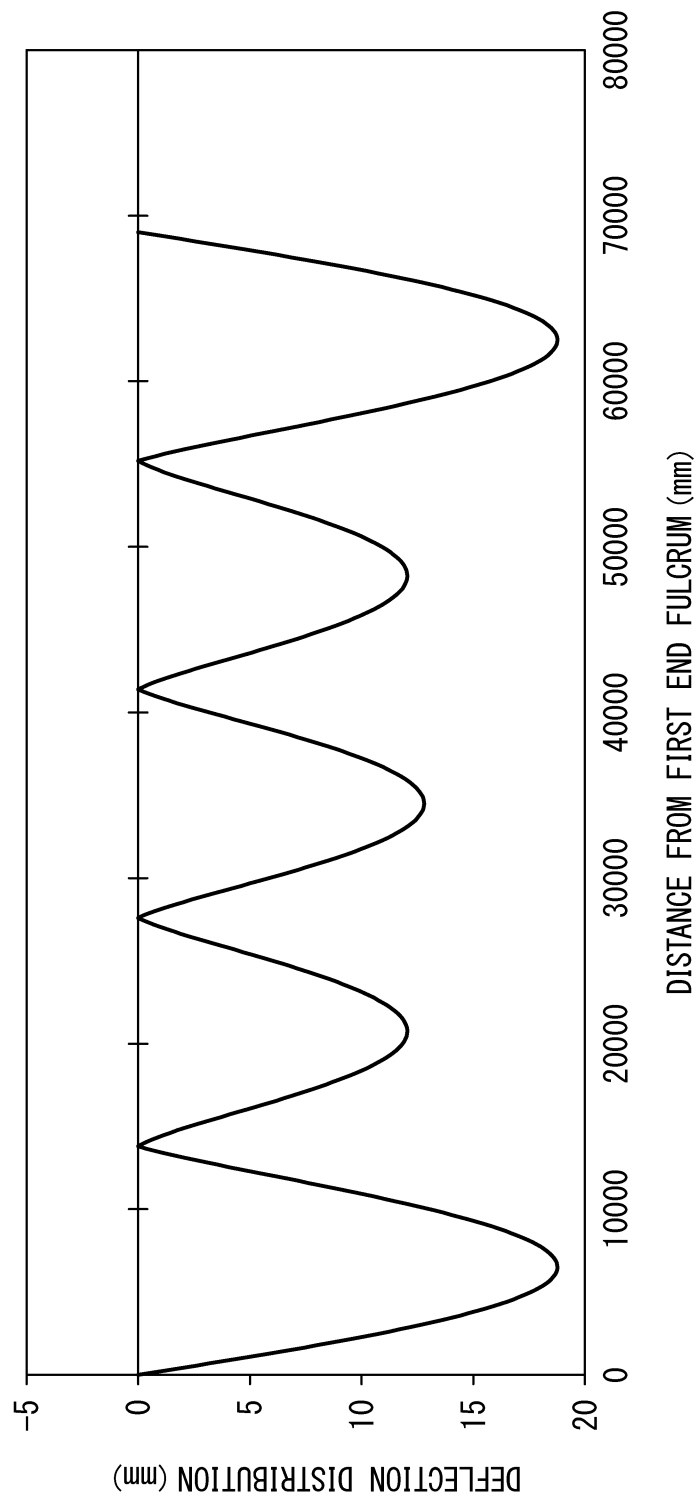


FIG. 15

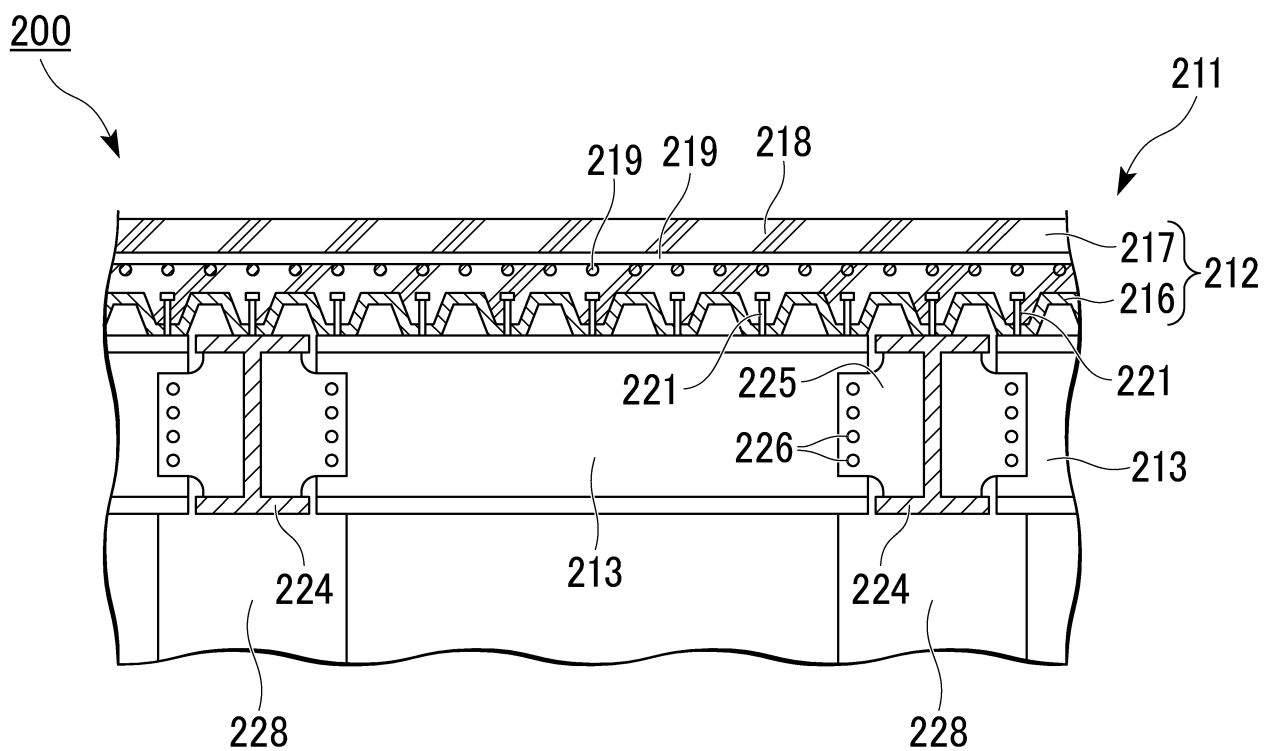


FIG. 16

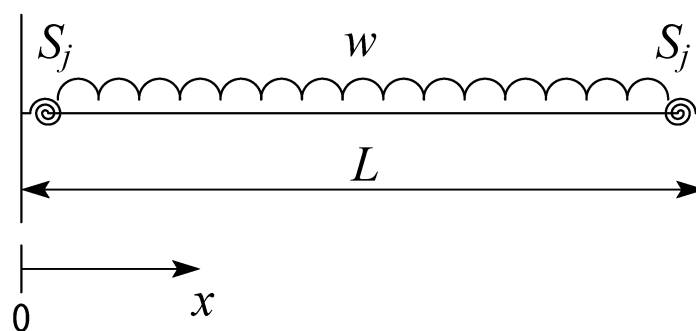


FIG. 17

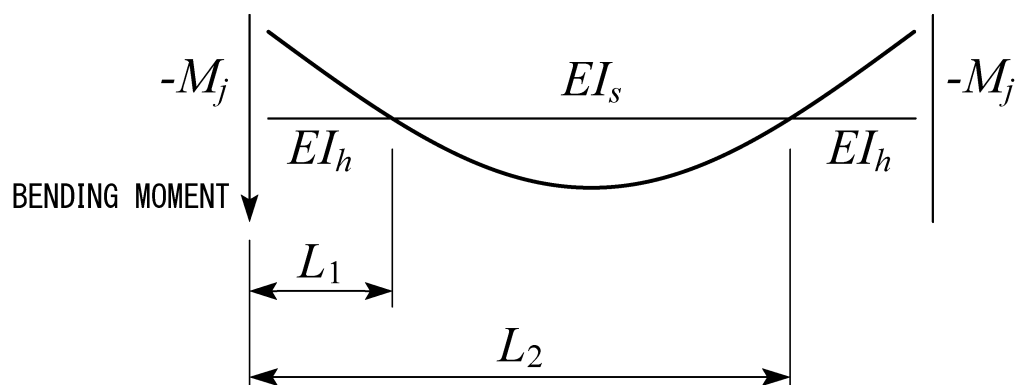


FIG. 18

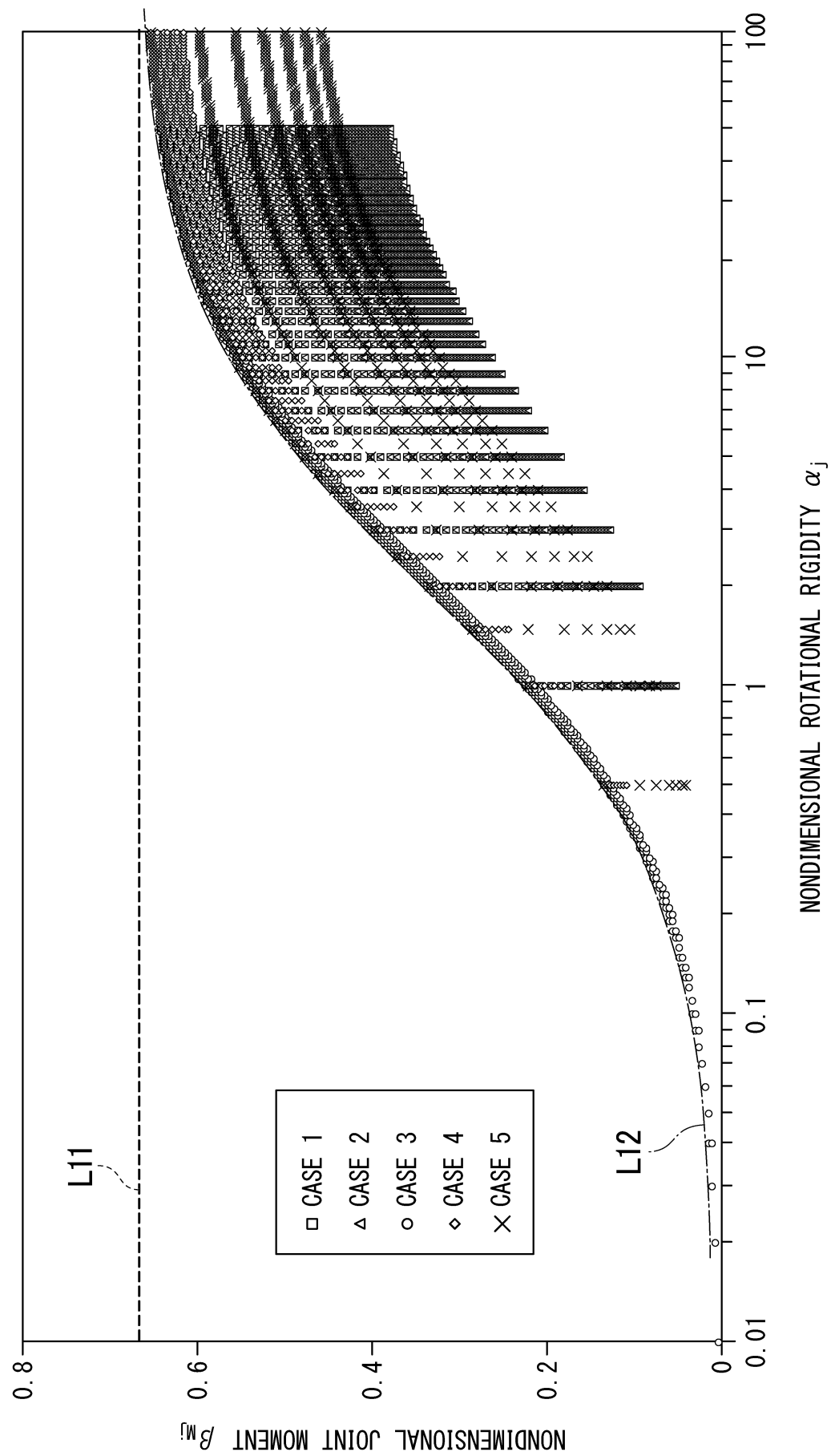


FIG. 19

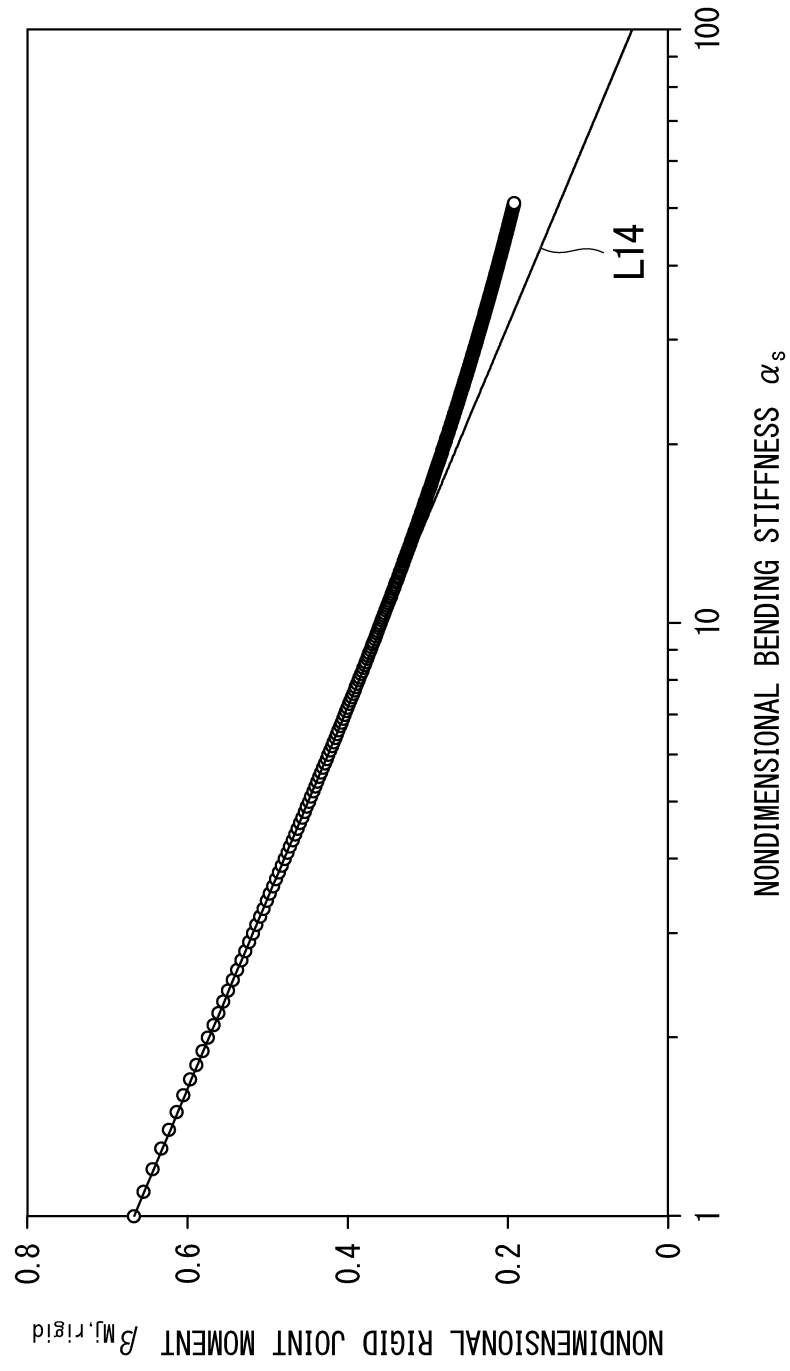


FIG. 20

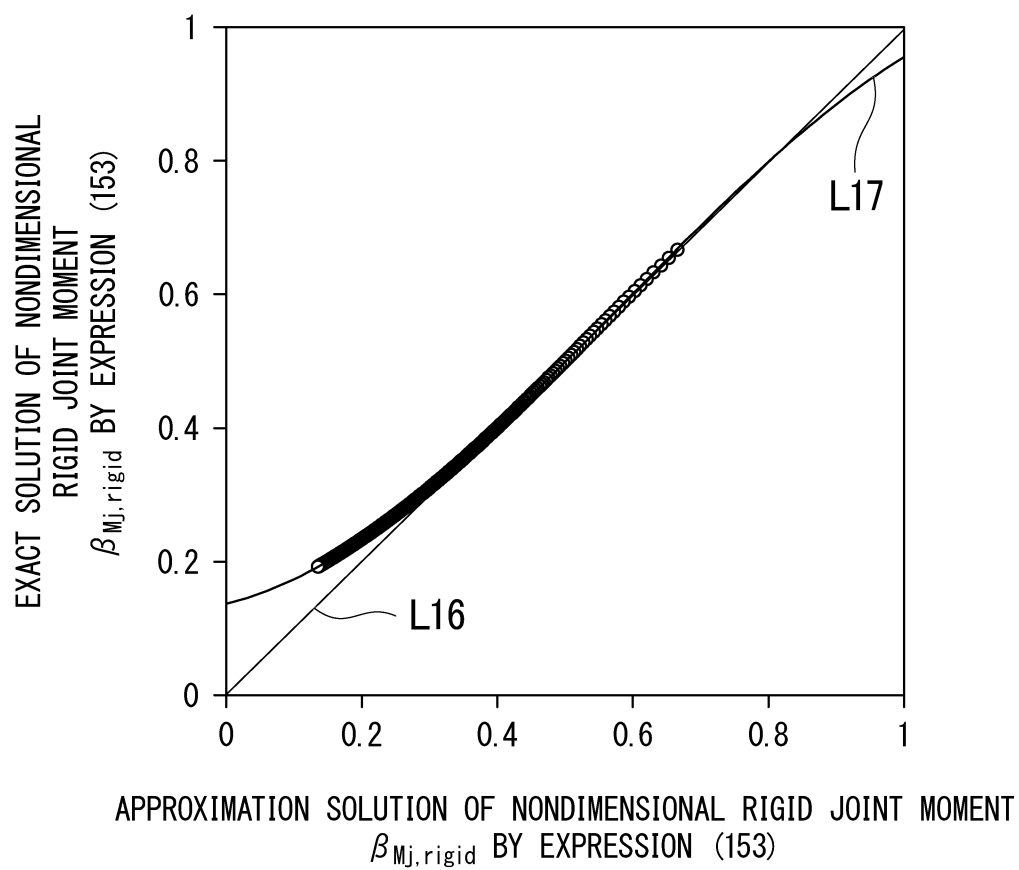


FIG. 21

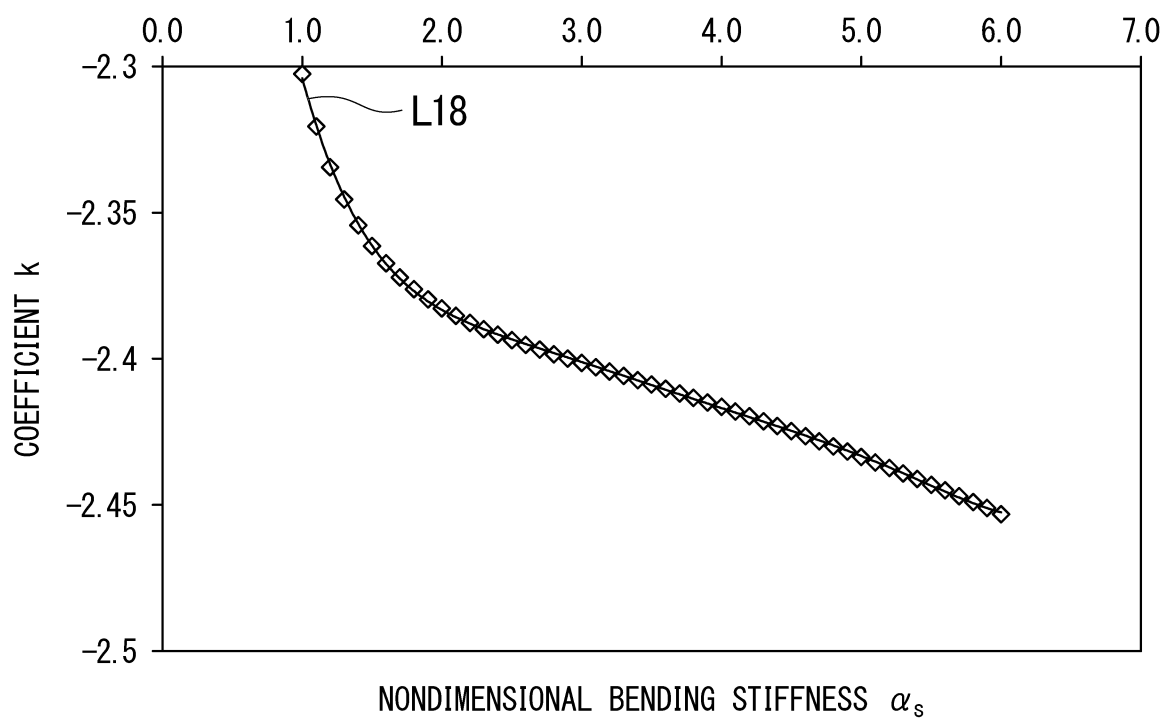


FIG. 22

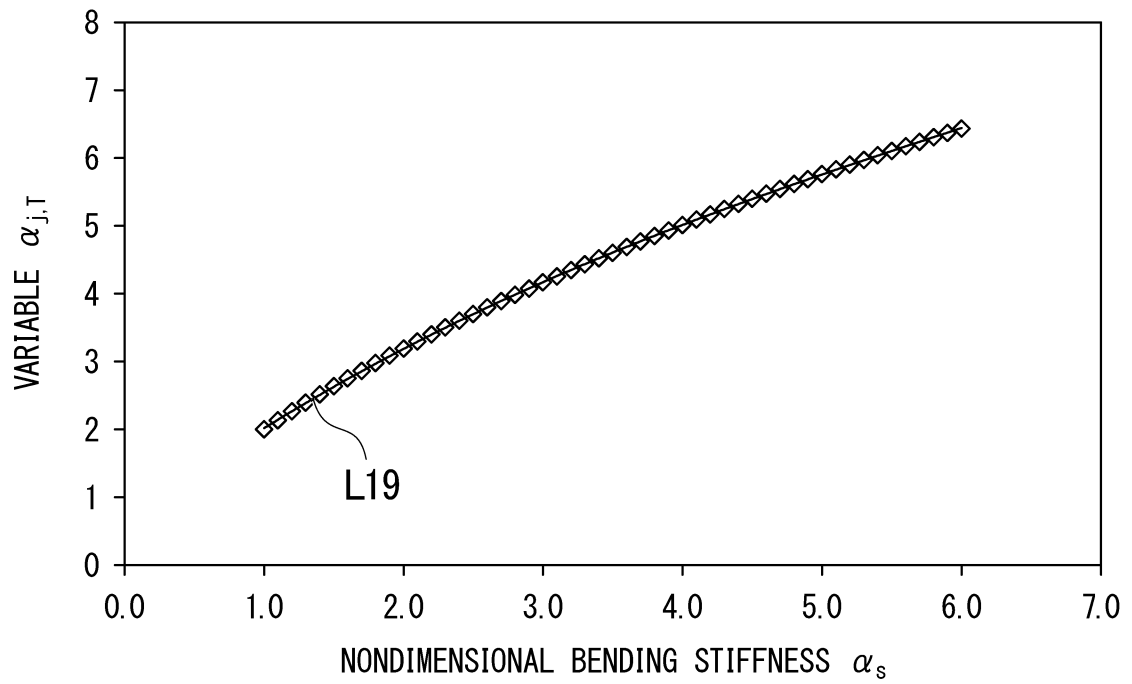


FIG. 23

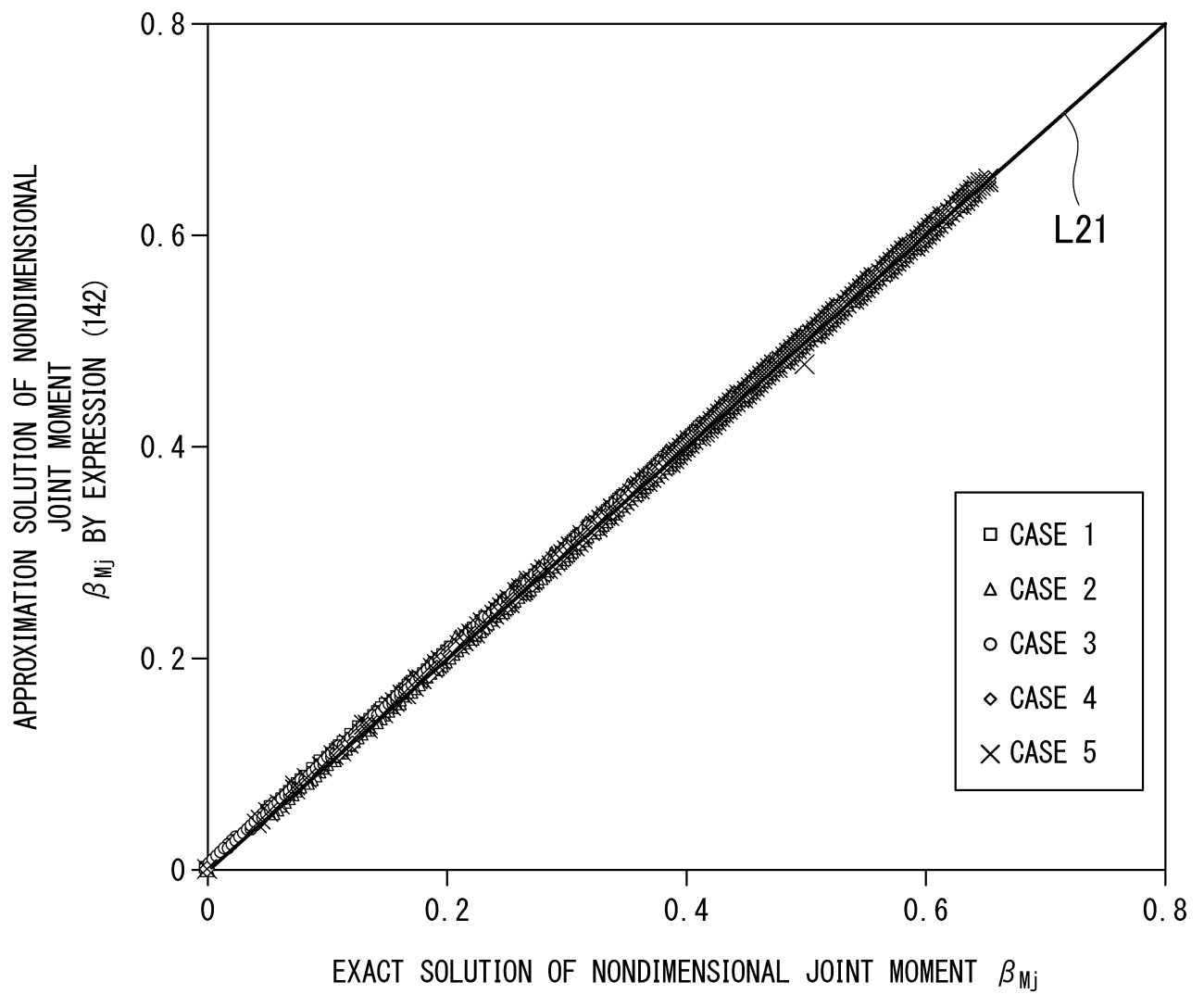


FIG. 24

