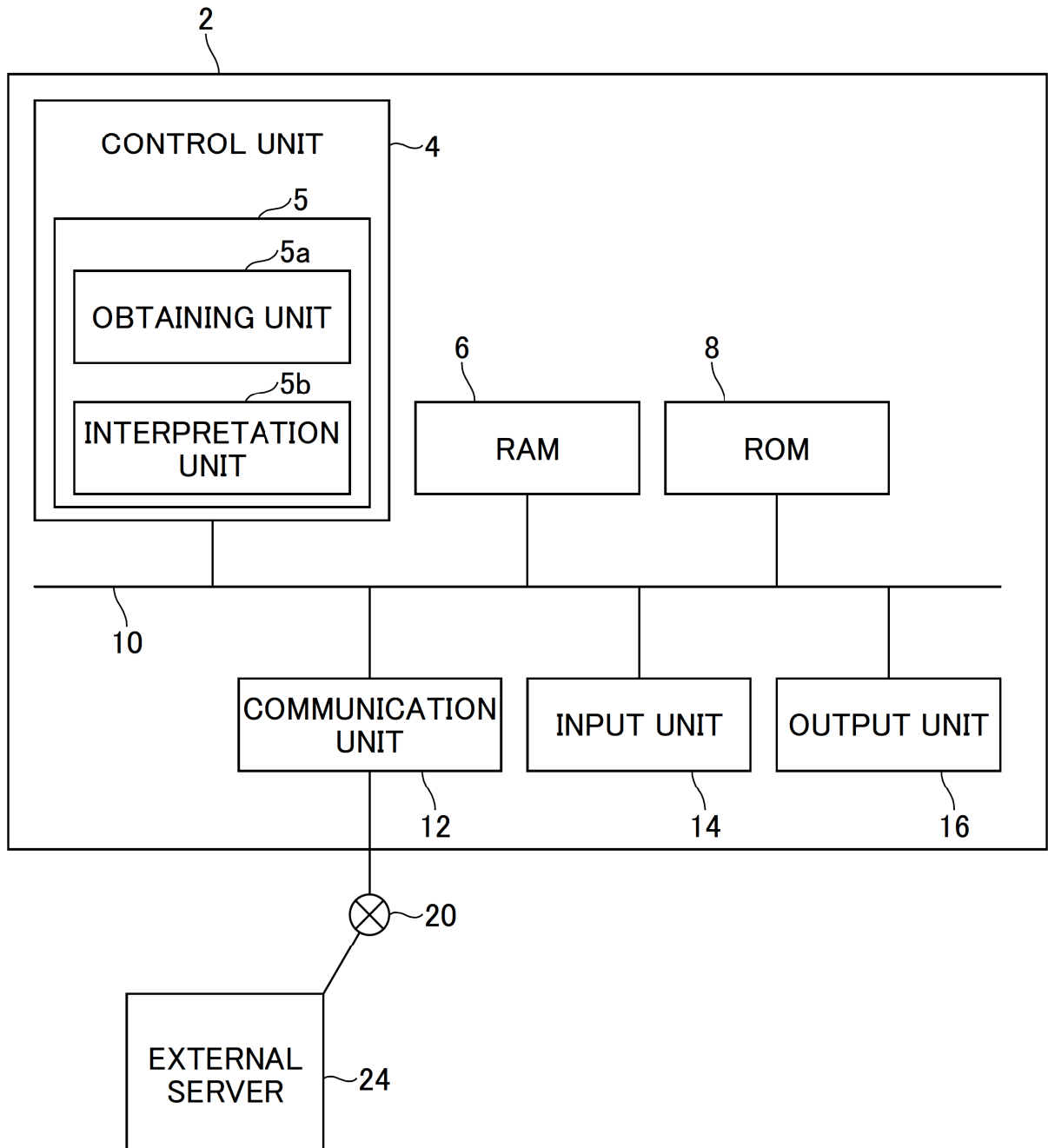


1/31
FIG.1



2/31
FIG.2A

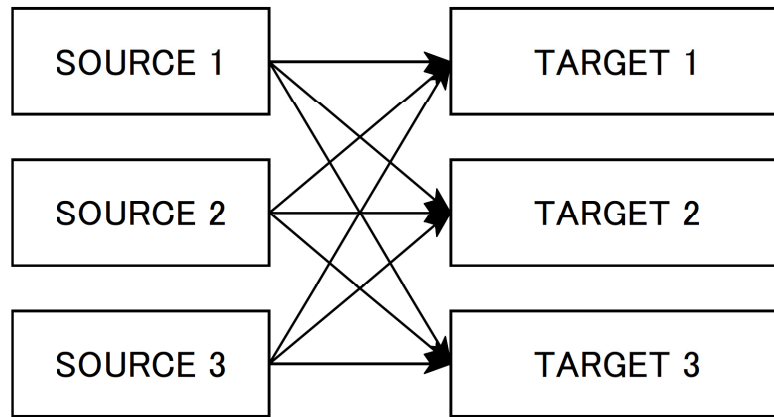
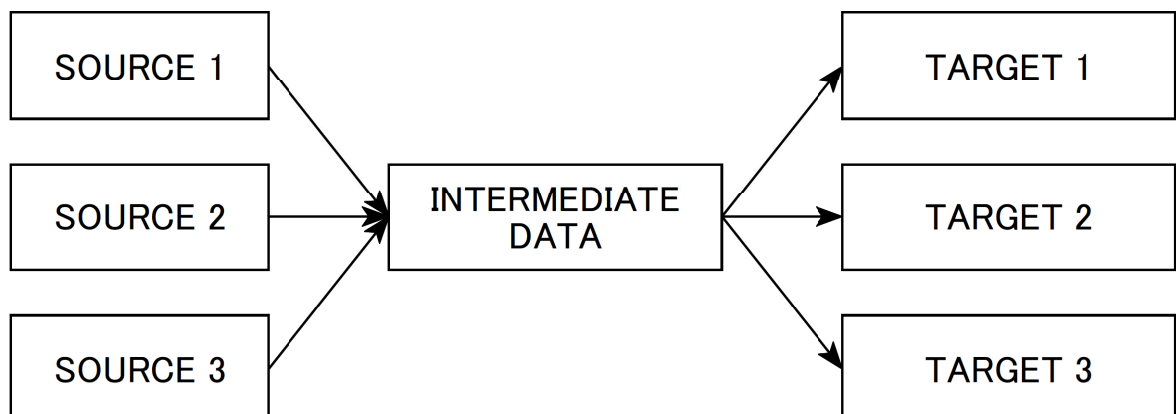


FIG.2B



3/31
FIG.3A

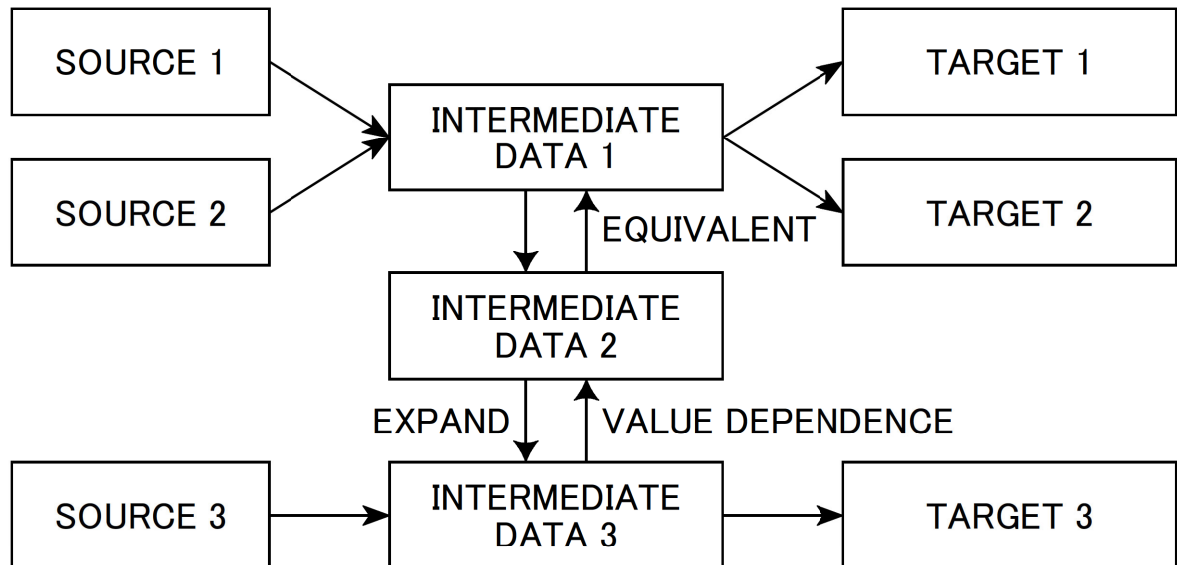
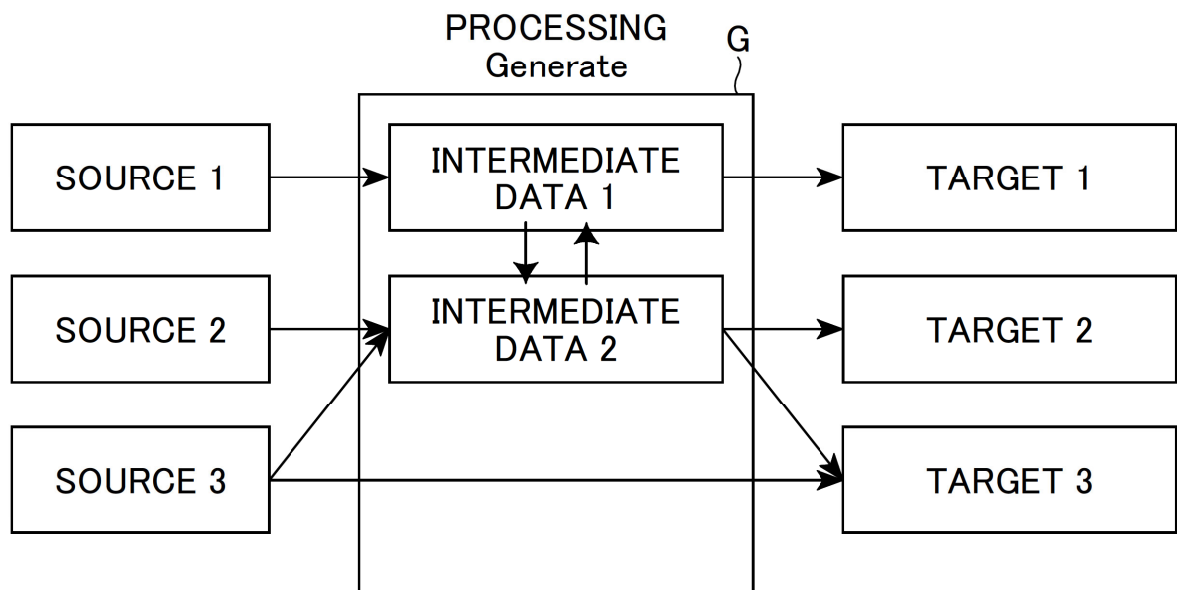


FIG.3B



5/31
FIG.5

NAME OF CONSTRUCTION	CONSTRUCTION OF		
DRAWING NAME	PIER STRUCTURE GENERAL DRAWING		
SCALE	INDICATED IN DRAWING	DRAWING NUMBER	
DESIGN DATE	MONTH: YEAR:		
XXX REGIONAL DEVELOPMENT BUREAU YYY OFFICE			

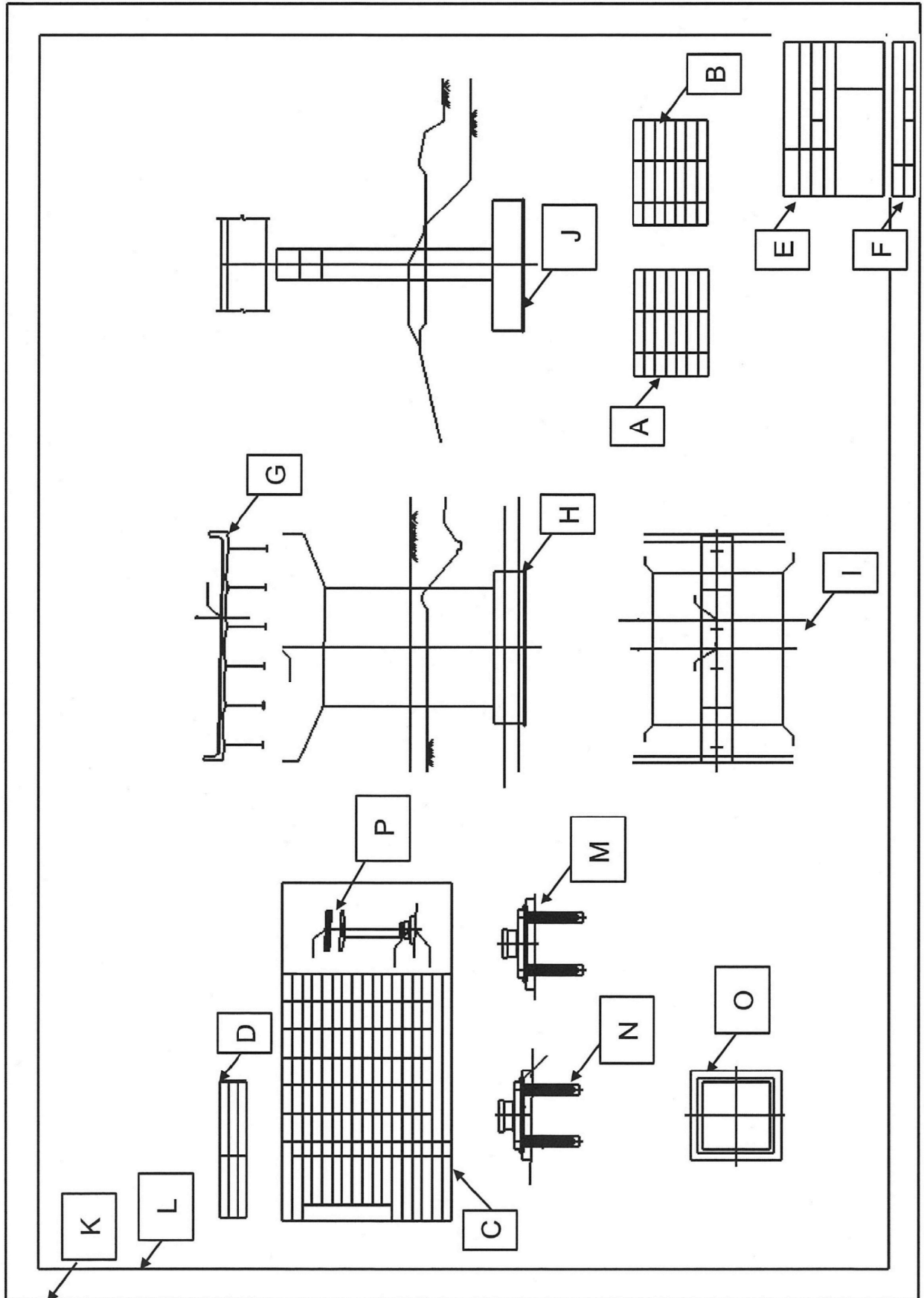


FIG. 6

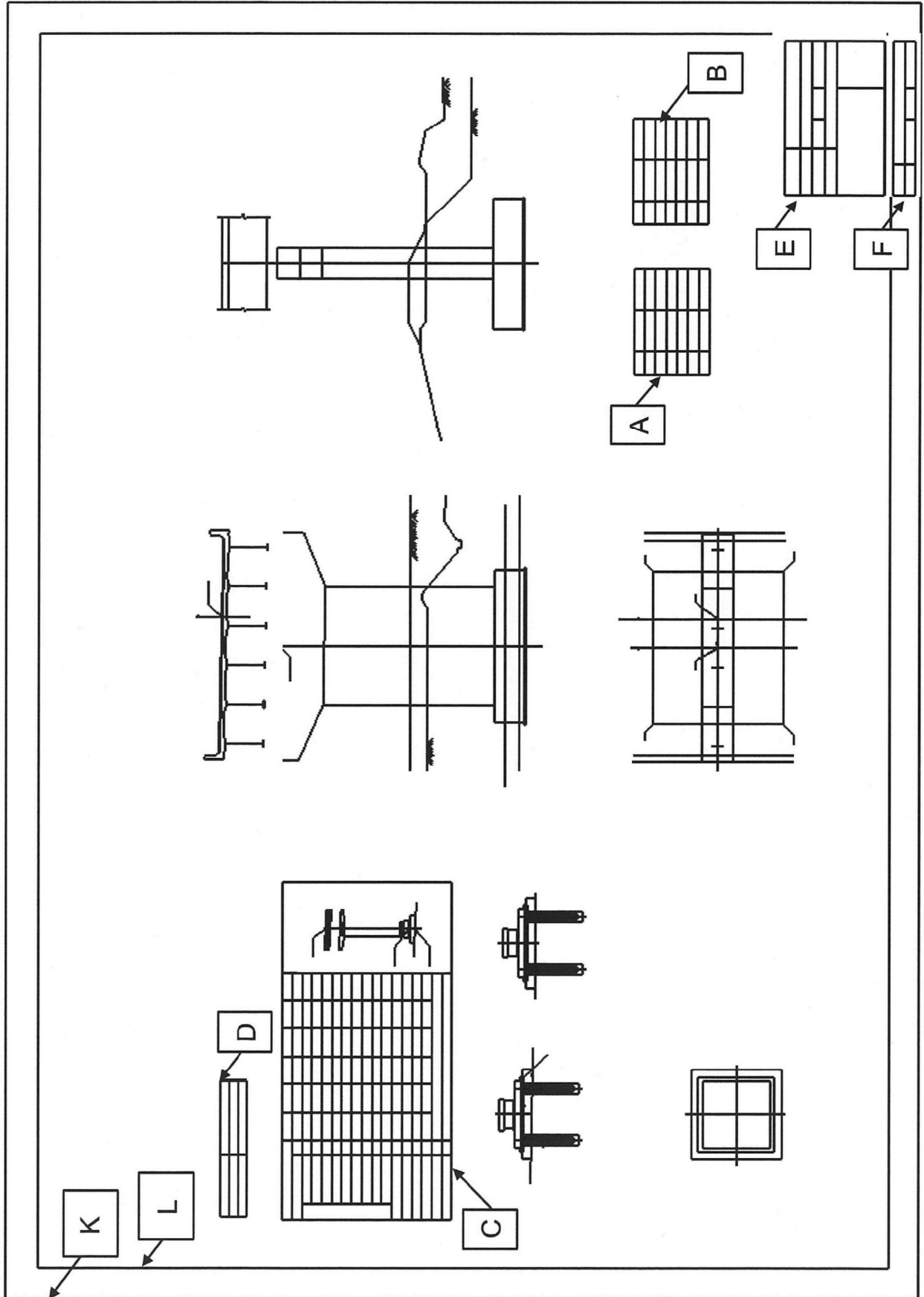


FIG.7

FIG.8A

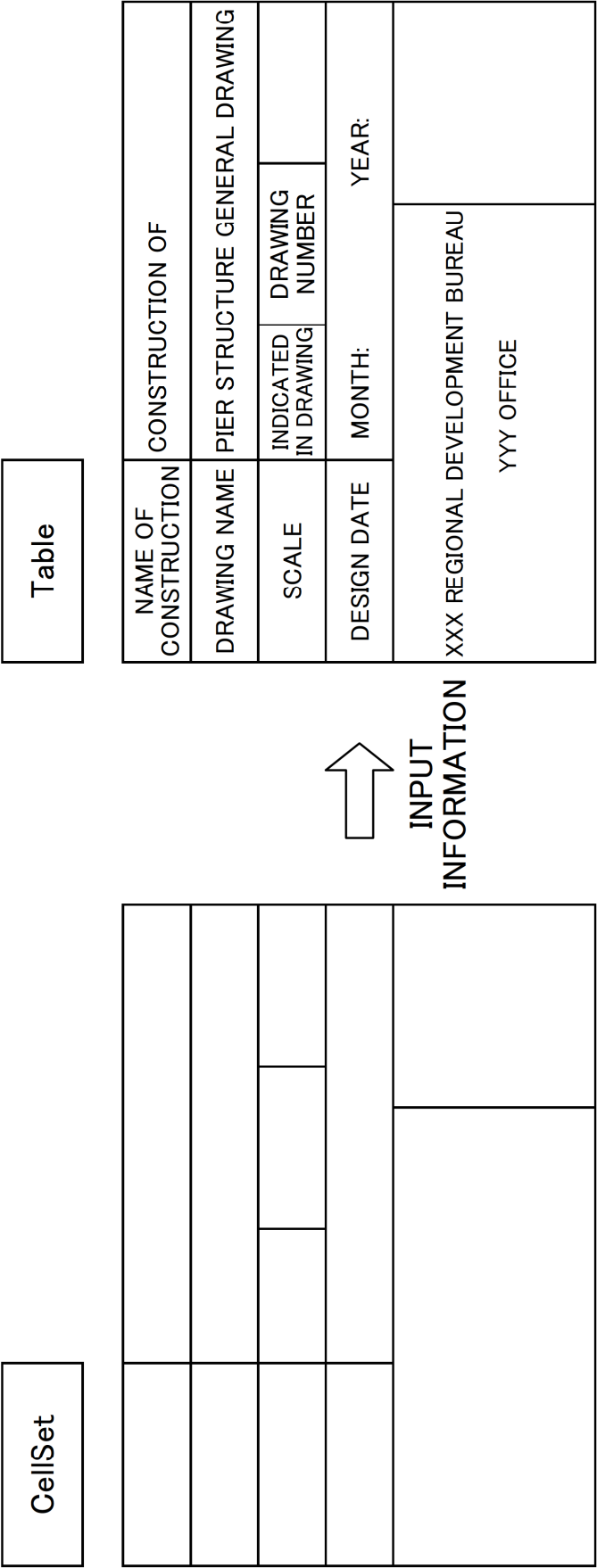


FIG.8B

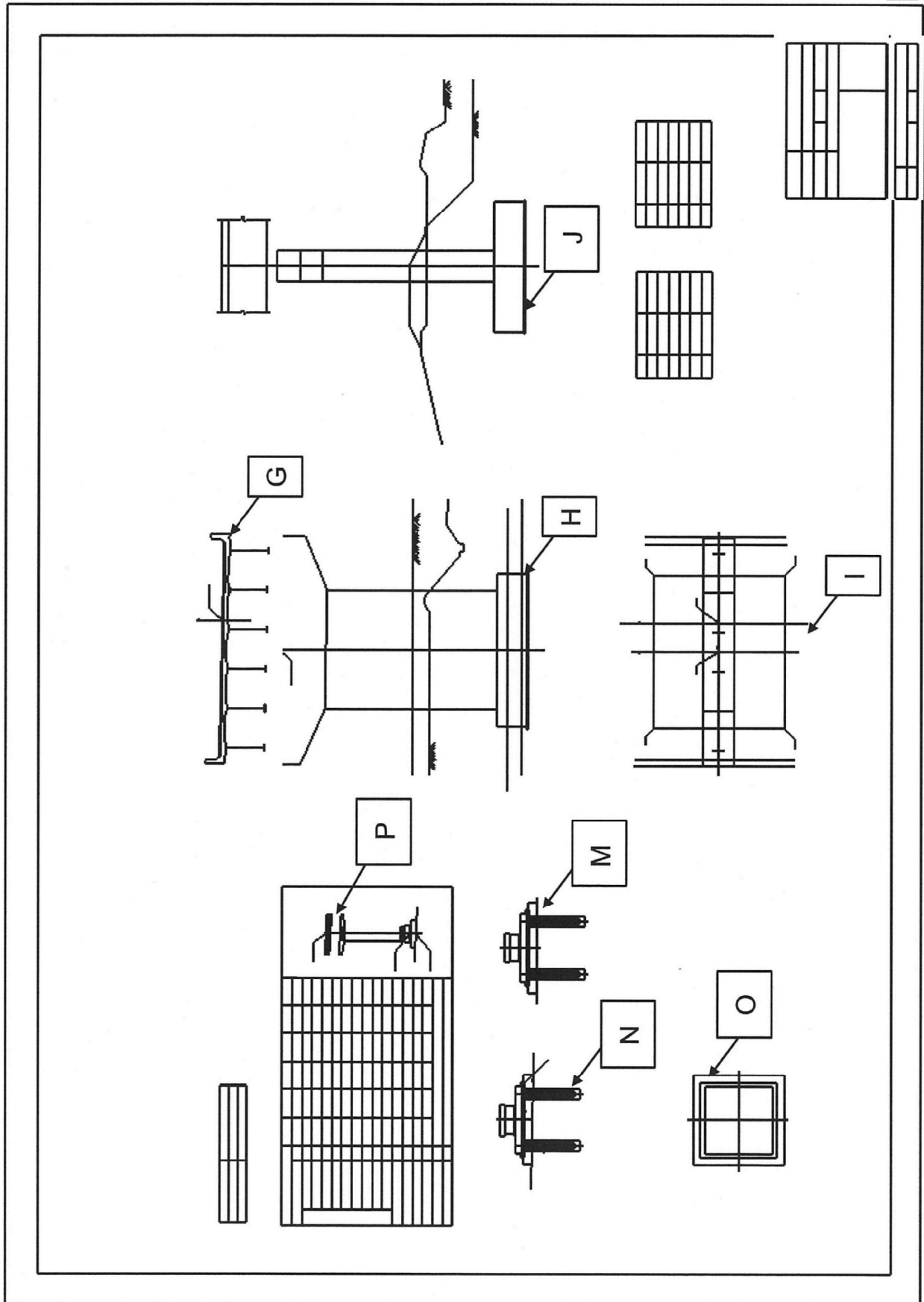
Table					
NAME OF CONSTRUCTION		CONSTRUCTION OF			
DRAWING NAME		PIER STRUCTURE GENERAL DRAWING			
SCALE		INDICATED IN DRAWING	DRAWING NUMBER		
DESIGN DATE		MONTH:		YEAR:	
		XXX REGIONAL DEVELOPMENT BUREAU YYY OFFICE			



ANALYZE
AND
CLASSIFY

TITLE BLOCK

NAME OF CONSTRUCTION	CONSTRUCTION OF			
DRAWING NAME	PIER STRUCTURE GENERAL DRAWING			
SCALE	INDICATED IN DRAWING	DRAWING NUMBER		
DESIGN DATE	MONTH:		YEAR:	
XXX REGIONAL DEVELOPMENT BUREAU YYY OFFICE				



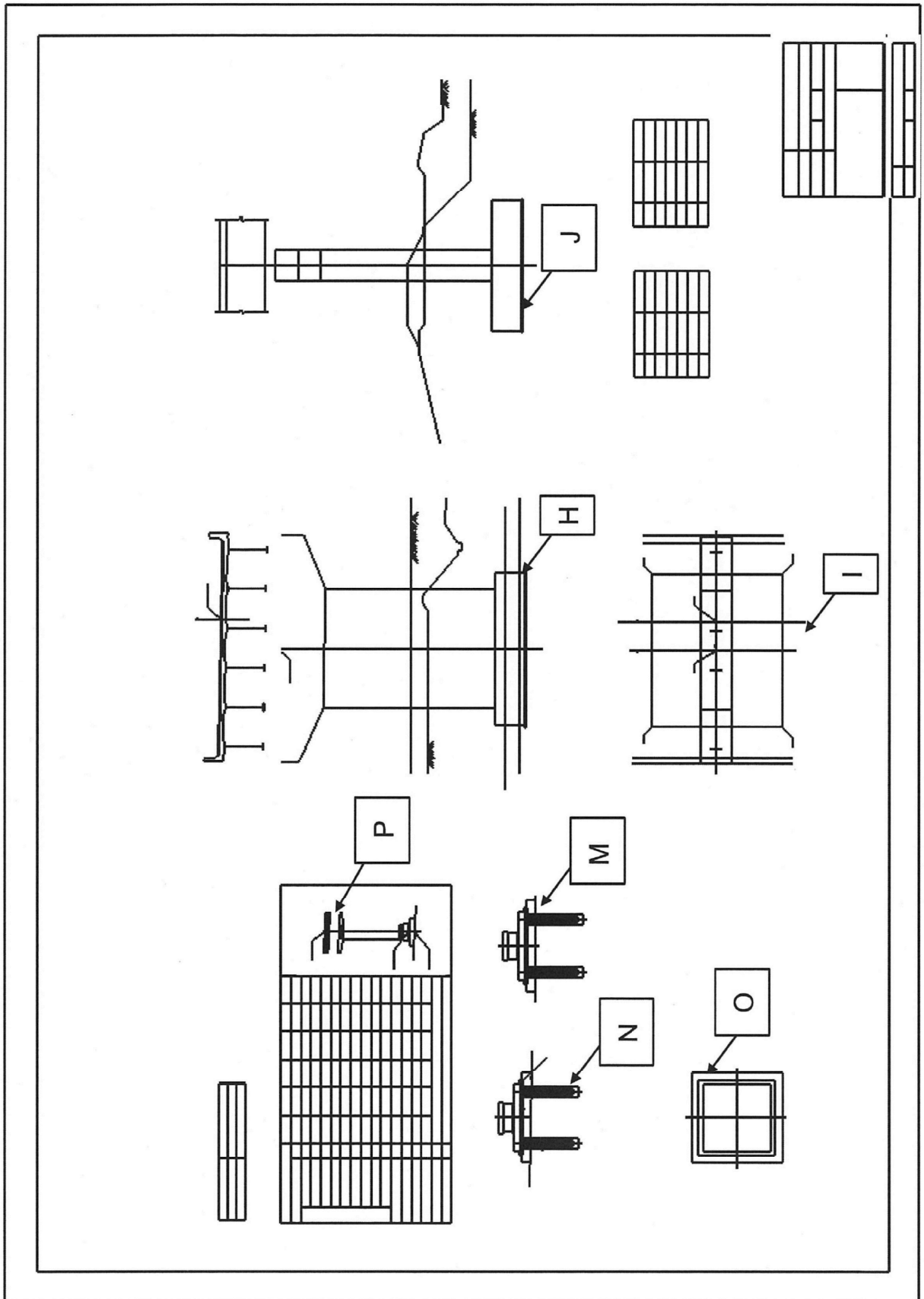


FIG.10

FIG.11

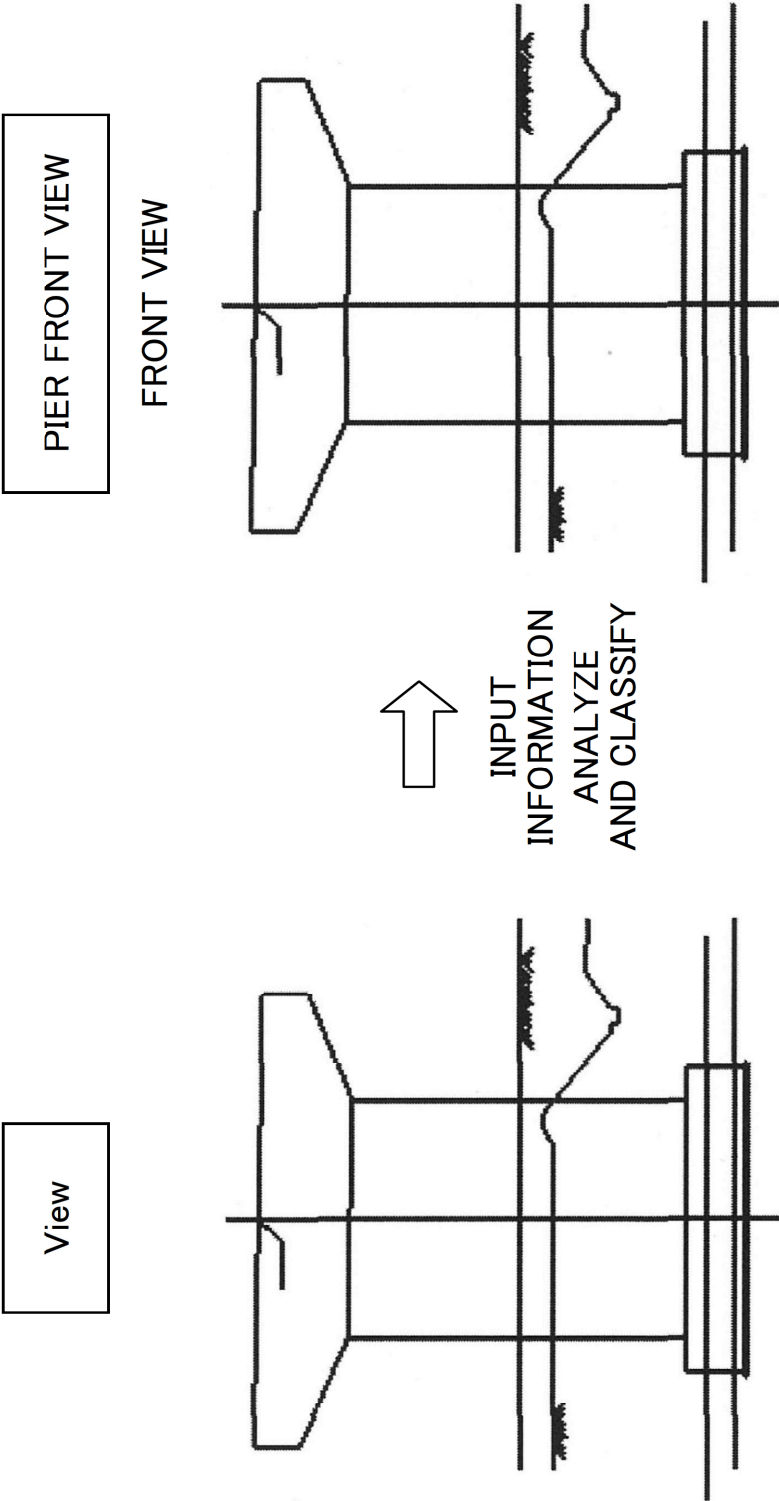


FIG.12A

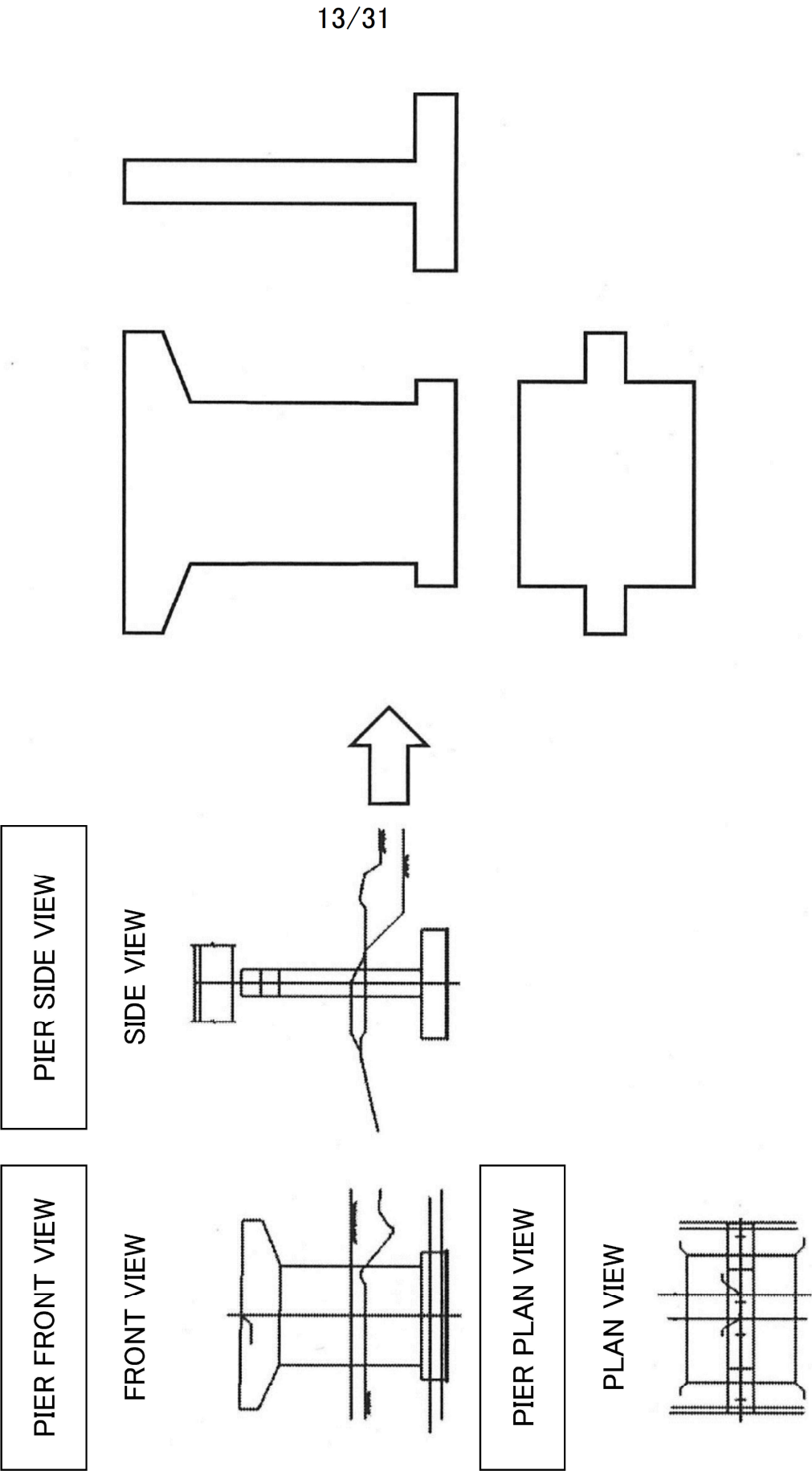


FIG.12B

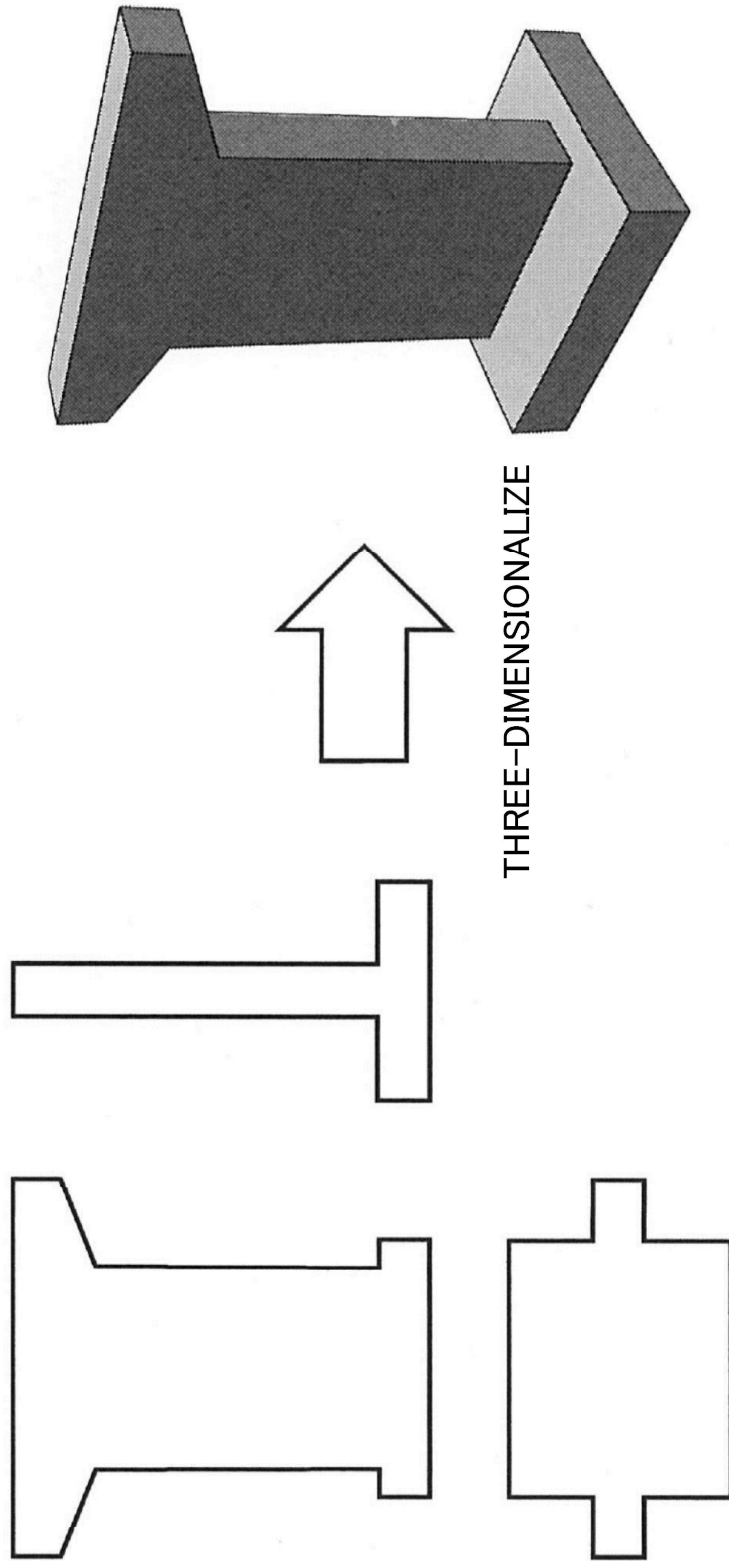


FIG.13

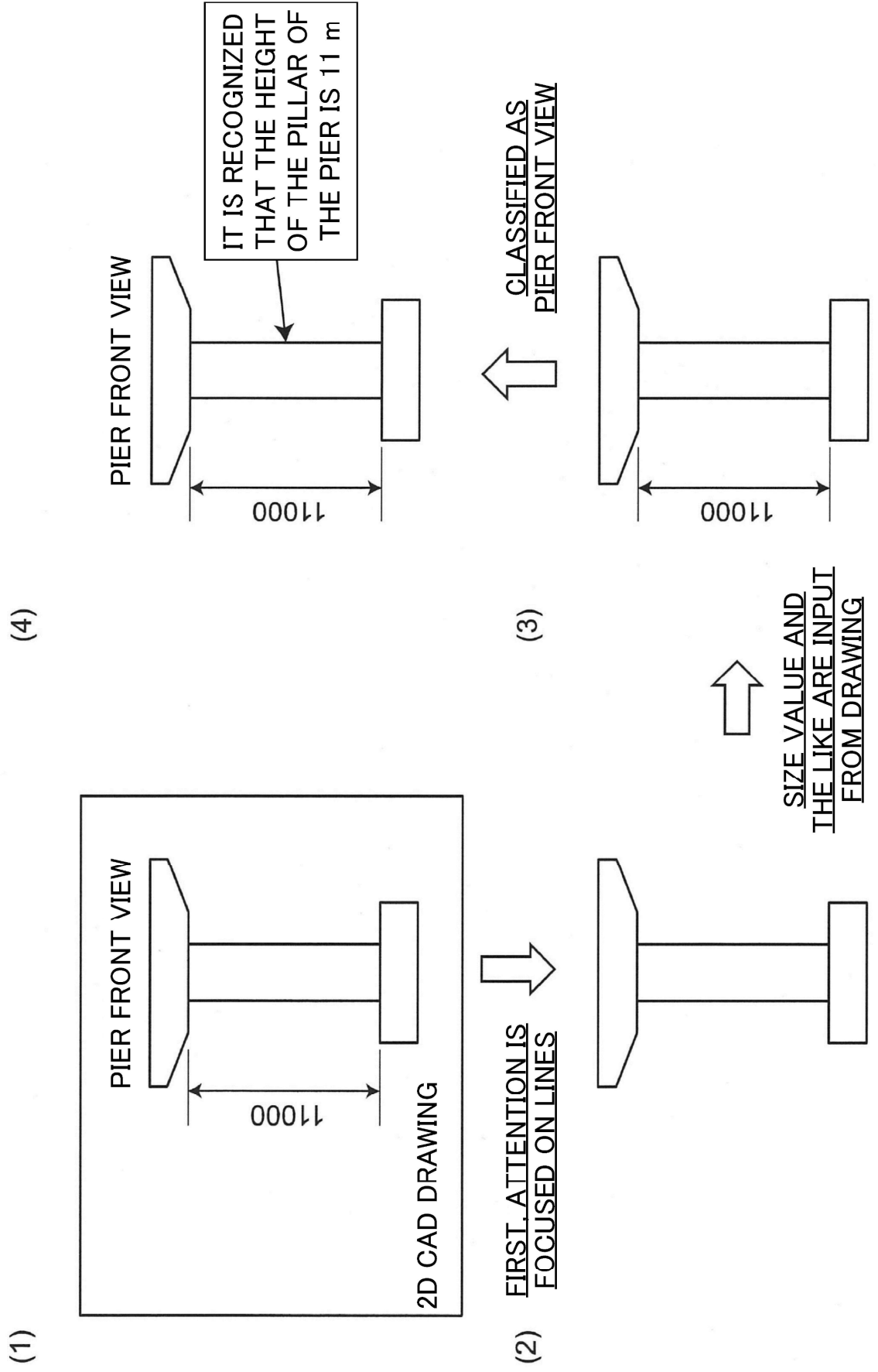


FIG.14

(1)

SUBSTRUCTURE COORDINATES		
	X	Y
①	-97387.2	47546.4
②	-97388.4	47545.1
③	-97388.4	47538.5

2D CAD DRAWING

(4)

SUBSTRUCTURE COORDINATES

	X	Y
①	-97387.2	47546.4
②	-97388.4	47545.1
③	-97388.4	47538.5



FIRST ATTENTION IS
FOCUSED ON LINES



INPUT CONTENTS OF
CELLS FROM DRAWING

(2)



CLASSIFIED AS
SET OF CELLS

RECOGNIZED
CELL

FIG.15

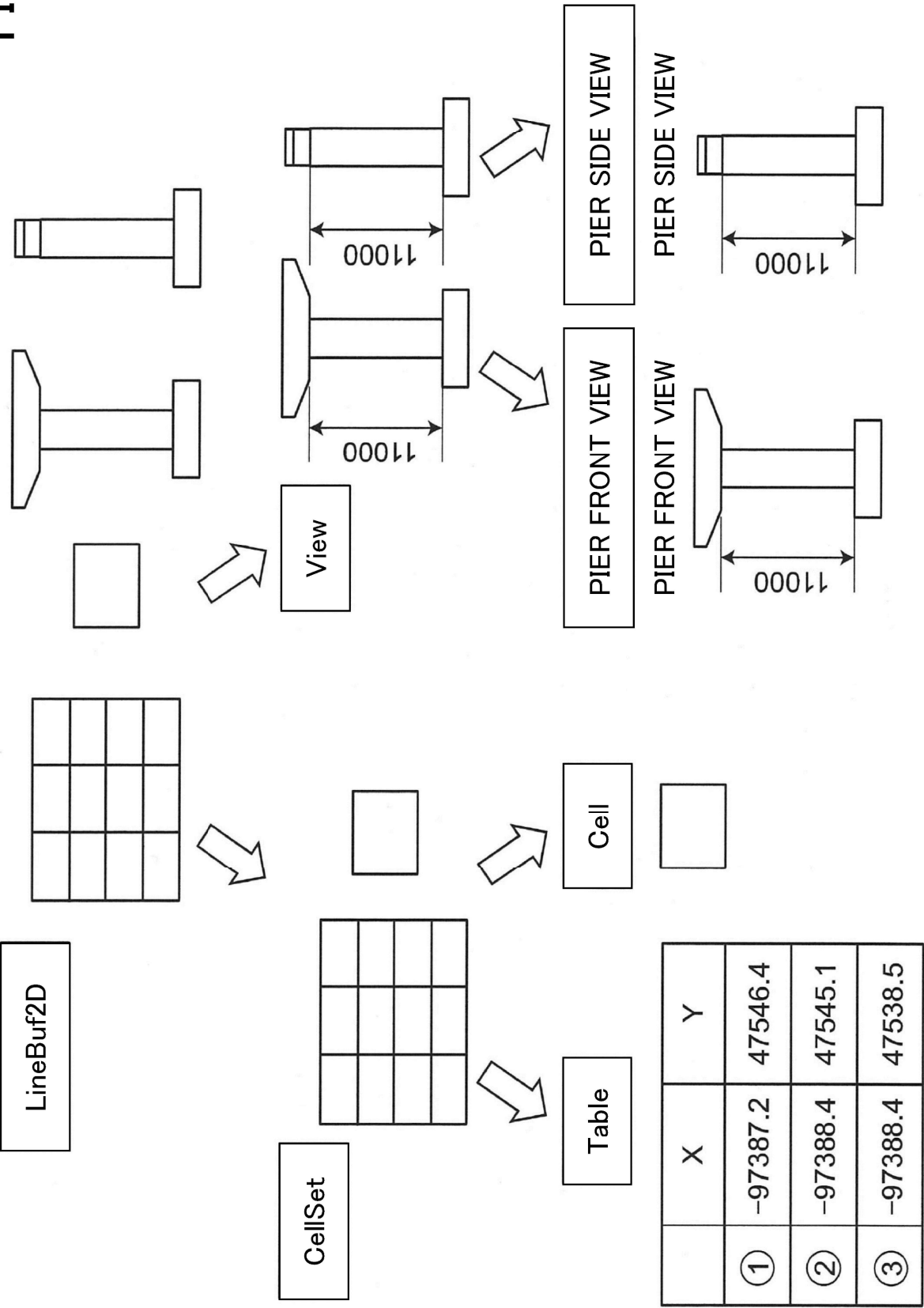
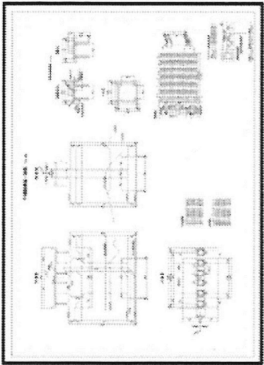
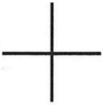


FIG.16

(1) "INPUT INFORMATION"

CellSet



2D CAD DRAWING



Table

	X	Y
①	-97387.2	47546.4
②	-97388.4	47545.1
③	-97388.4	47538.5

(2) "ANALYSIS AND INTERPRETATION"

Table

	NAME OF CONSTRUCTION		CONSTRUCTION OF	
	DRAWING NAME	PIER STRUCTURE GENERAL DRAWING	INDICATED IN DRAWING	DRAWING NUMBER
X	Y			
①	-97387.2	47546.4		
②	-97388.4	47545.1		
③	-97388.4	47538.5		

TITLE BLOCK

NAME OF CONSTRUCTION		CONSTRUCTION OF	
DRAWING NAME		PIER STRUCTURE GENERAL DRAWING	
SCALE	INDICATED IN DRAWING	DRAWING NUMBER	
DESIGN DATE	MONTH: YEAR:		
XXX REGIONAL DEVELOPMENT BUREAU YYY OFFICE			

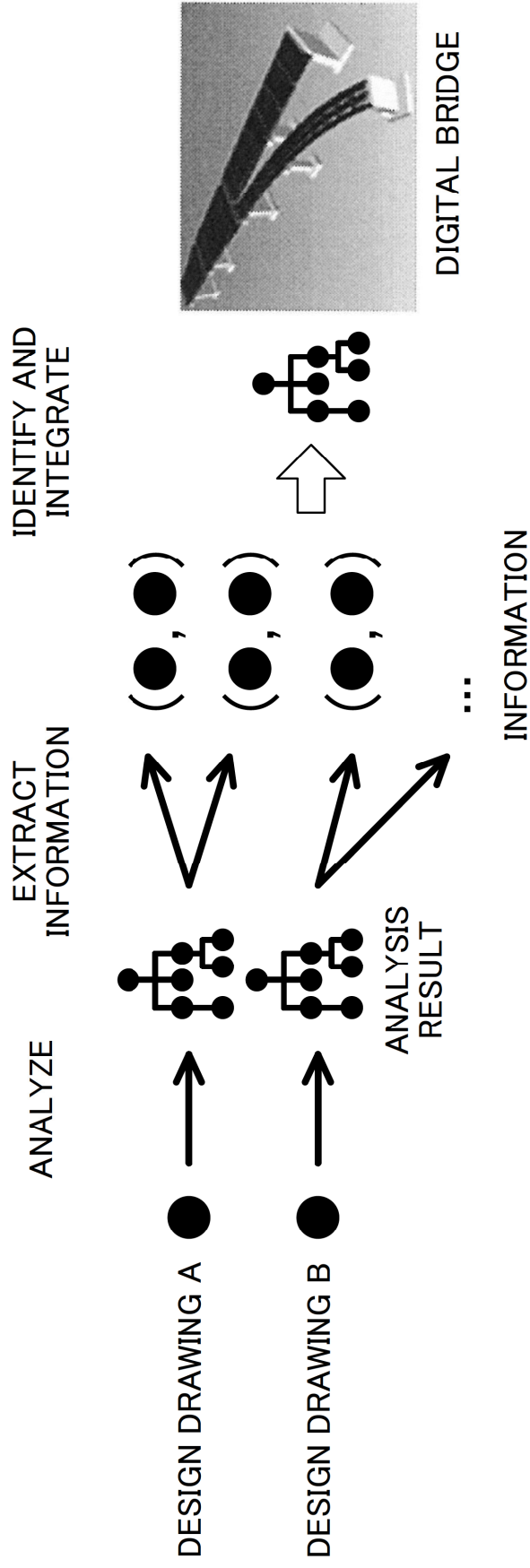


STRUCTURE HEIGHT TABLE

COORDINATES Table

	X	Y
①	-97387.2	47546.4
②	-97388.4	47545.1
③	-97388.4	47538.5

FIG.17



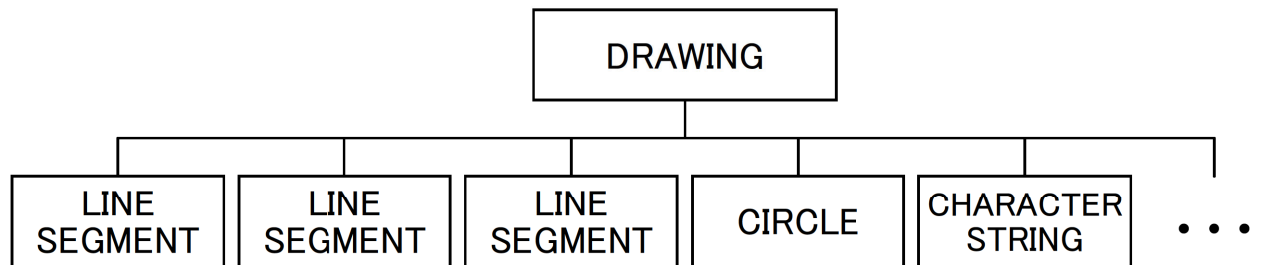
OBJECT

TREE STRUCTURE IN WHICH OBJECTS ARE ASSOCIATED WITH NODES

PAIR OF OBJECTS THAT ARE OBJECT
FOR IDENTIFYING TARGET AND
OBJECT INDICATING THE PROPERTY

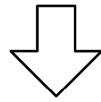
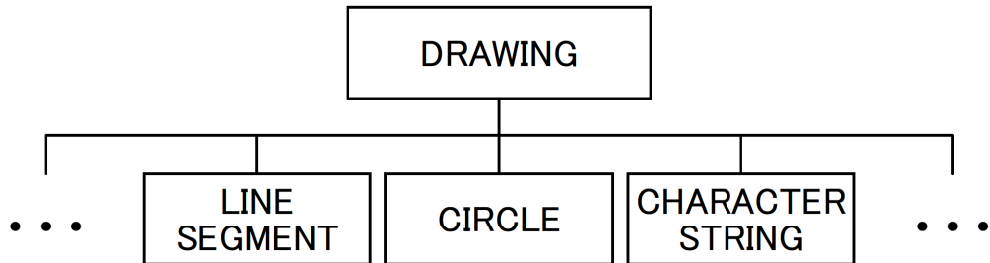
⌈
⌋

20/31
FIG.18

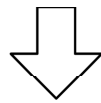
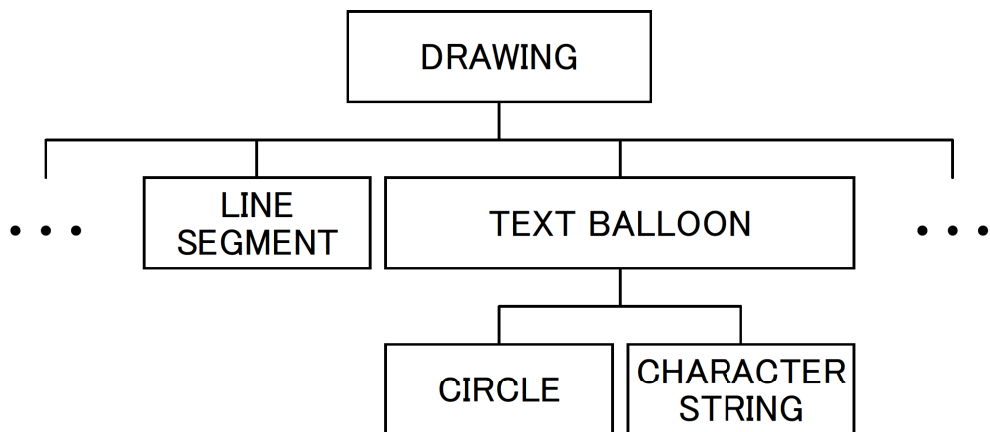


21/31
FIG.19

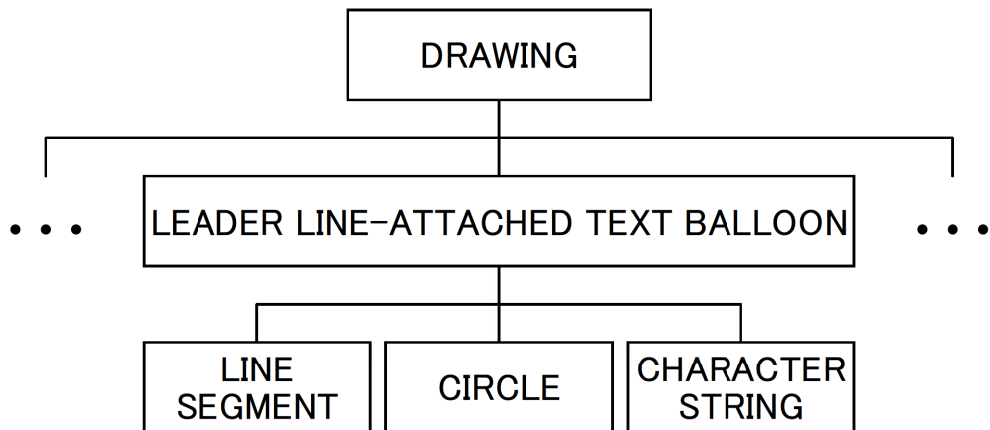
(1)



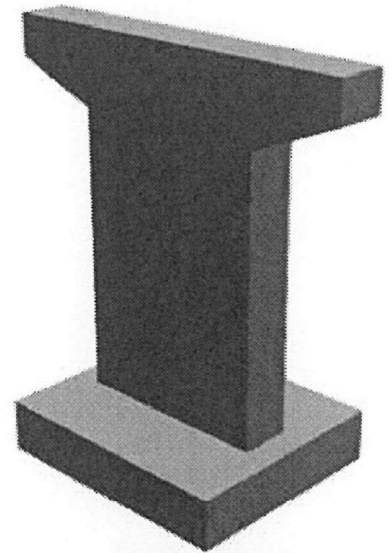
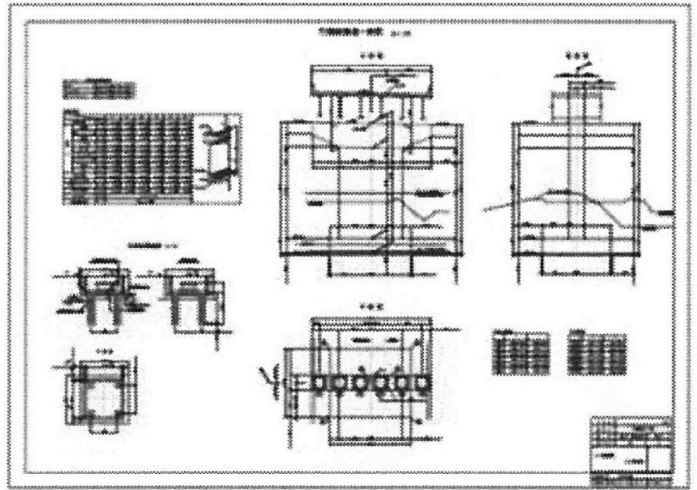
(2)



(3)

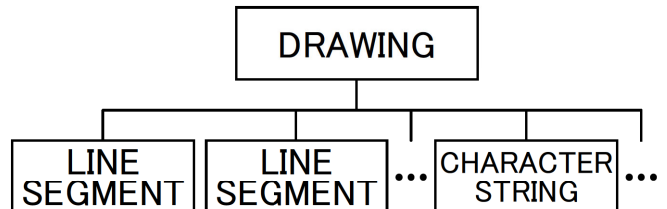


22/31
FIG.20

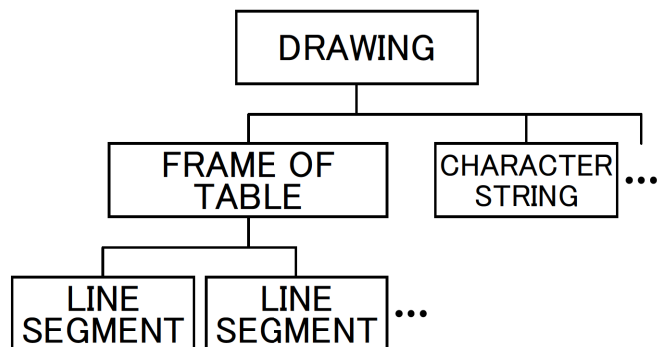


23/31
FIG.21

(1)

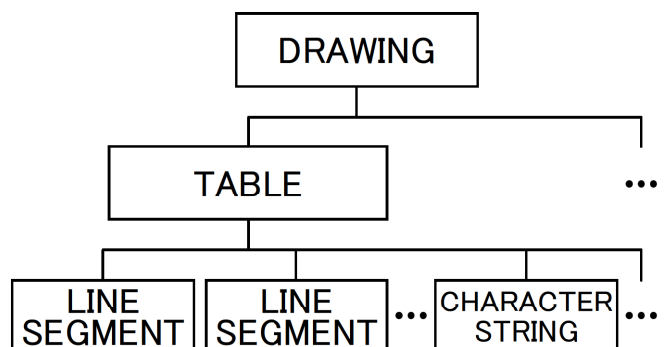


(2)



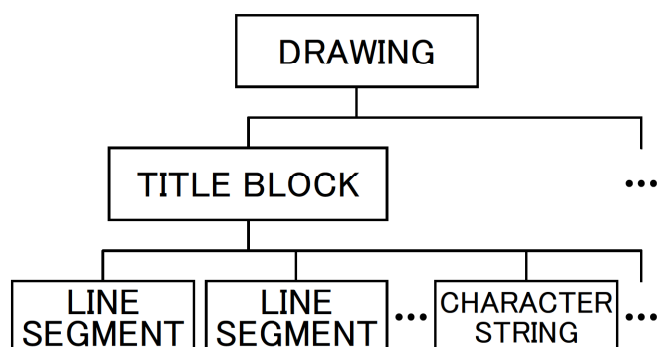
(3)

NAME OF CONSTRUCTION		CONSTRUCTION OF	
DRAWING NAME		PIER STRUCTURE GENERAL DRAWING	
SCALE	INDICATED IN DRAWING	DRAWING NUMBER	
DESIGN DATE	MONTH:		YEAR:
XXX REGIONAL DEVELOPMENT BUREAU			
YYY OFFICE			



(4)

NAME OF CONSTRUCTION		CONSTRUCTION OF	
DRAWING NAME		PIER STRUCTURE GENERAL DRAWING	
SCALE	INDICATED IN DRAWING	DRAWING NUMBER	
DESIGN DATE	MONTH:		YEAR:
XXX REGIONAL DEVELOPMENT BUREAU			
YYY OFFICE			



24/31
FIG.22

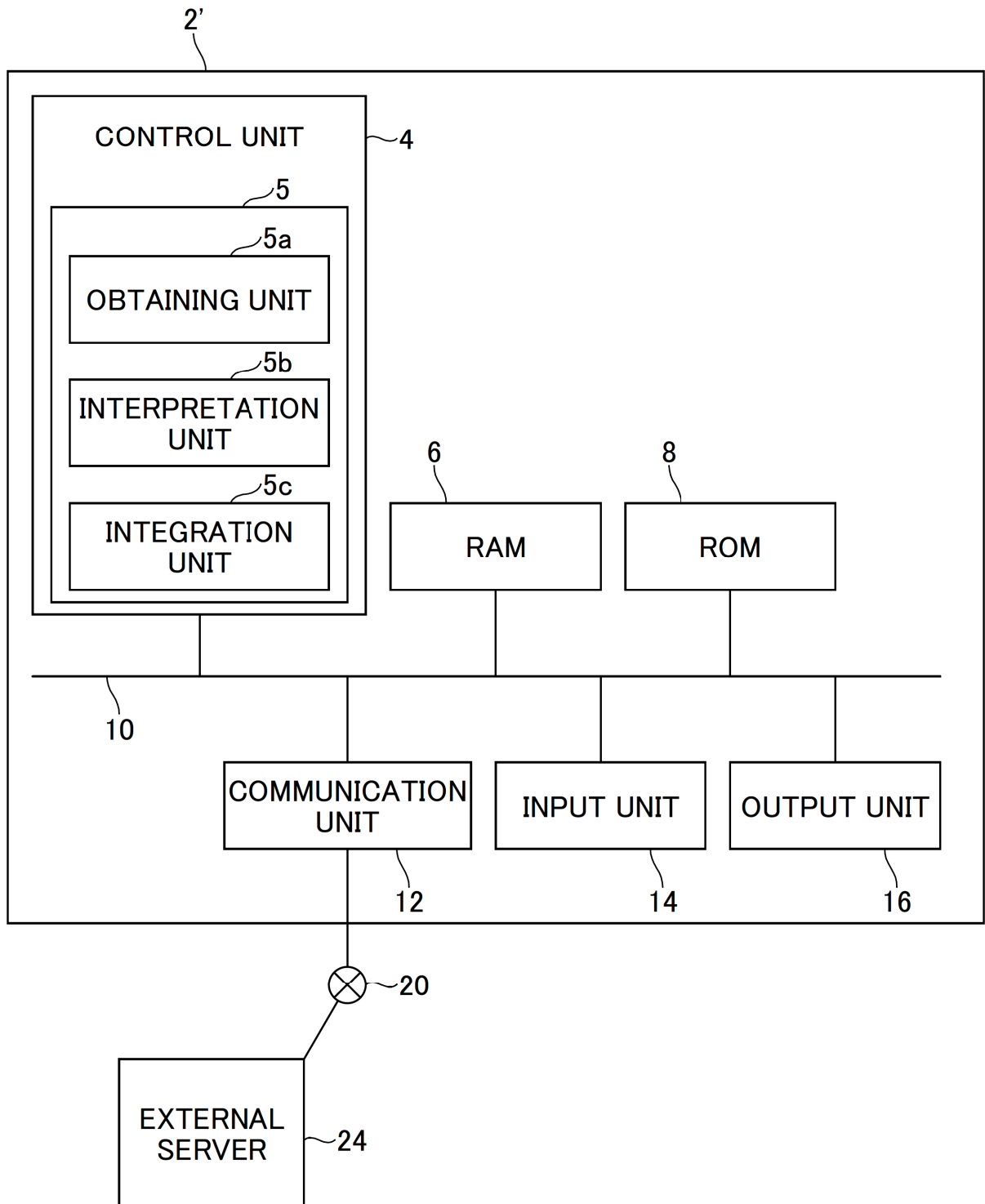


FIG.23A

INDIVIDUAL DEVELOPMENT

$$F(X_1, Y_1)$$

$$F(X_1, Y_2)$$

$$F(X_1, Y_3)$$

...

$$F(X_2, Y_1)$$

$$F(X_2, Y_2)$$

...

$$F(X_i, Y_j)$$

...

FIG.23B

USE OF STANDARD FORMAT

$$F(X_1, Y_1)$$

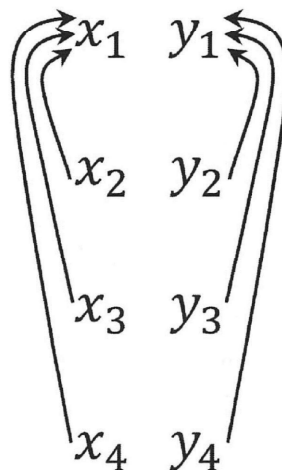
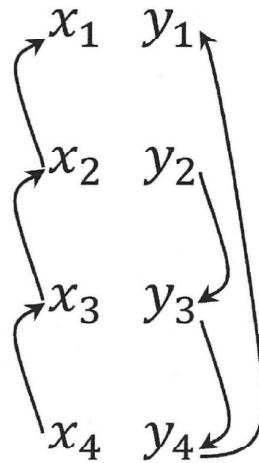


FIG.23C

USE OF AUTOMATIC CONVERSION

$$F(X_1, Y_1)$$



27/31

FIG.24A

STAR-SHAPED NETWORK IN WHICH STANDARD
EXPRESSION FORMAT IS IN THE CENTER

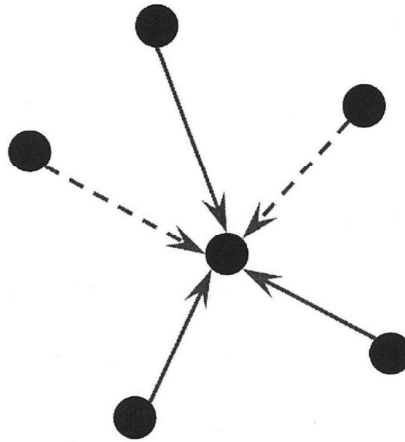


FIG.24B

FREE NETWORK BASED ON AUTOMATIC CONVERSION OF
EXPRESSION FORMATS

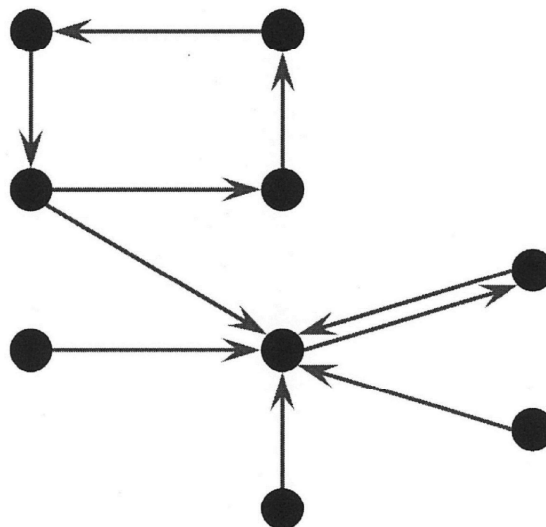


FIG.25A

DIGITAL CITY IN FIXED MANNER BASED ON STANDARD FORMAT

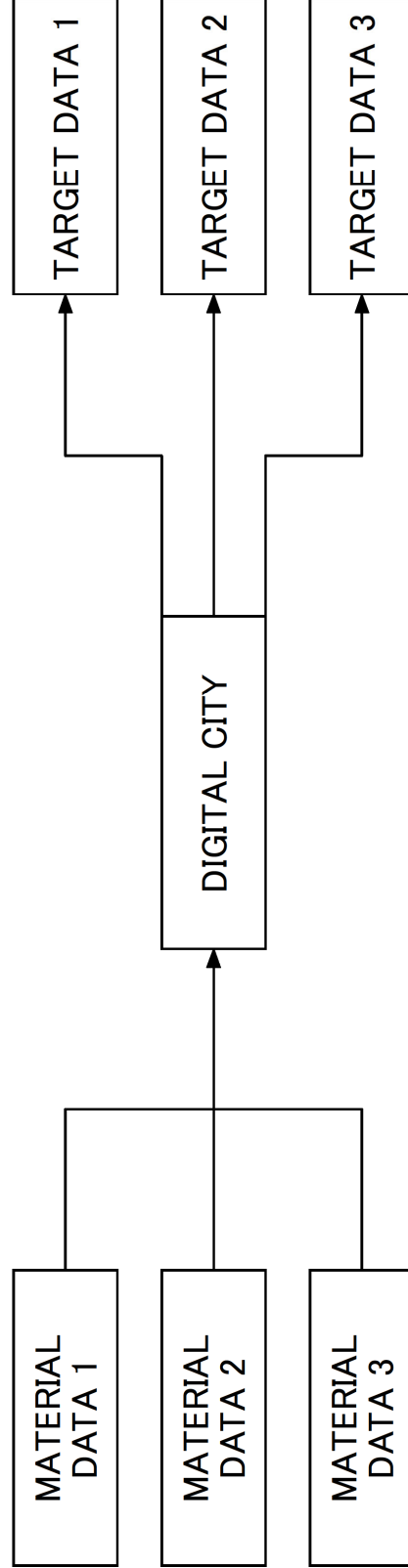
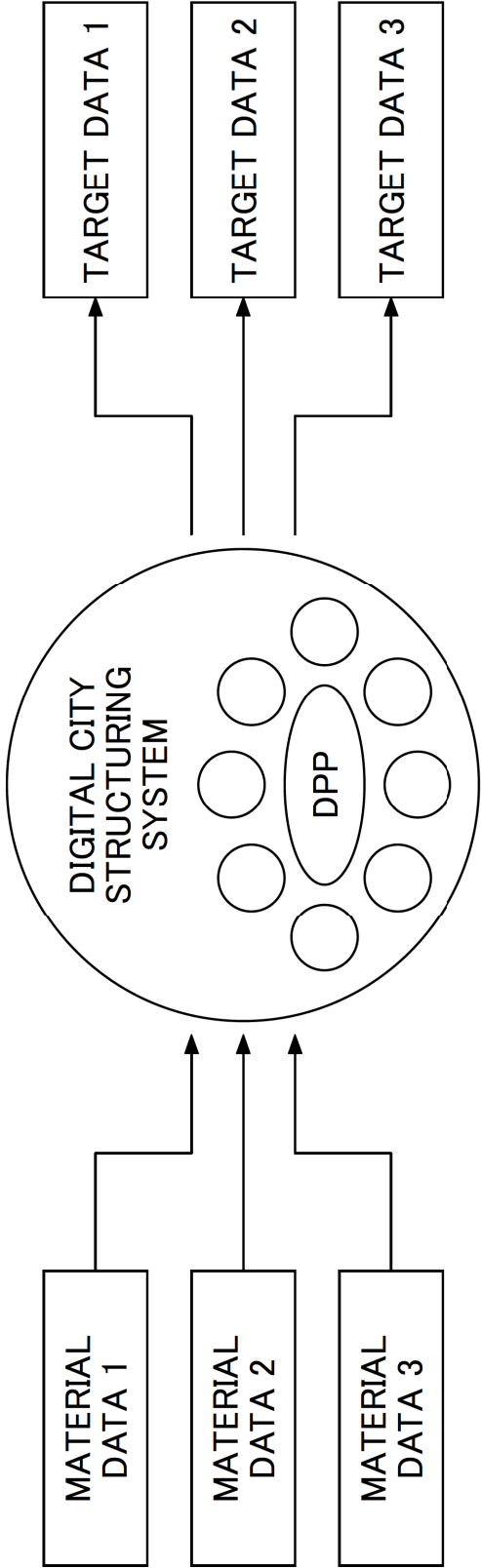
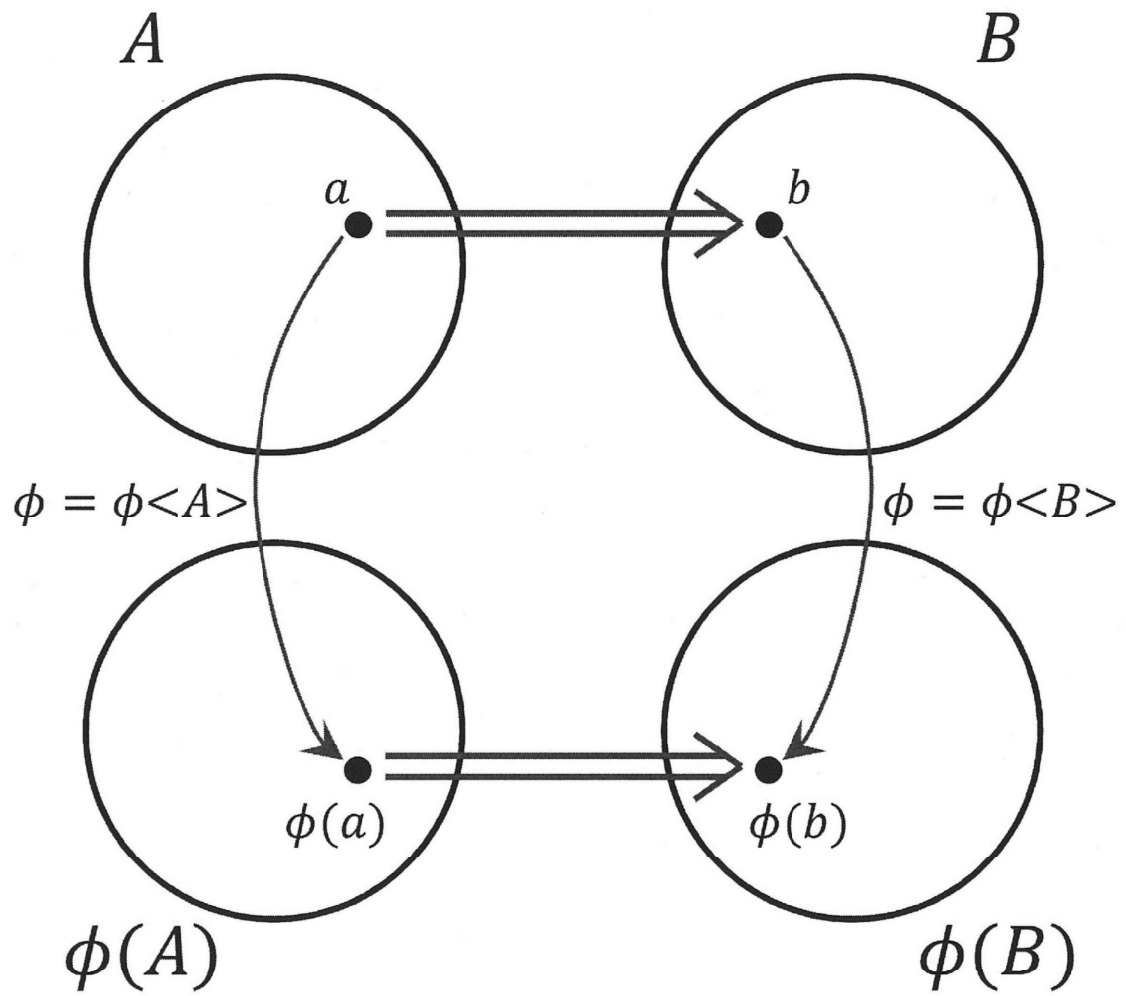


FIG.25B

DIGITAL CITY ESTABLISHING SYSTEM HAVING DEVELOPMENT SUSTAINABILITY



30/31
FIG.26



31/31
FIG.27

```
//  
  
//Load library  
  
//  
library("DXF");  
library("Interpreted");  
  
//  
  
//Read DXF file (obtained as object of DXF class)  
  
//  
data = DXF("006_P2 pier structure general drawing.dxf");  
  
//  
  
//Convert from DXF to ED_FeatureSet (intermediate data of DPP data type)  
  
//Generate ED_FeatureSet_Interpreted (data of ED_FeatureSet in DPP data type attached with analyzed result)  
  
//ED_FeatureSet_Interpreted can be treated as a type of ED_FeatureSet by automatic data conversion technique  
  
//Being able to be treated as a type of ED_FeatureSet means that functions for visualization and the like defined in ED_FeatureSet are usable without any modification.  
  
//  
data = MakeInterpret(data);  
  
//  
  
//Output VTK file  
  
//  
  
//data$PierSideView [0] : Pier side view included in "006_P2 pier structure general drawing.dxf"  
  
//data$PierSideView indicates a portion "PierSideView" of ED_FeatureSet_Interpreted  
  
//Multiple pier side view may be included in the same design drawing, and [0] indicates the first one.  
  
//data$PierPlanView [0] : Pier plan view included in "006_P2 pier structure general drawing.dxf"  
  
//data$PierFrontView [0] : Pier front view included in "006_P2 pier structure general drawing.dxf"  
  
//  
if( data$PierSideView [0] != NA ) OutputVTK( data$PierSideView [0], output_path="tmp1.vtk");  
if( data$PierPlanView [0] != NA ) OutputVTK( data$PierPlanView [0], output_path="tmp2.vtk");  
if( data$PierFrontView [0] != NA ) OutputVTK( data$PierFrontView [0], output_path="tmp3.vtk");  
  
return;
```