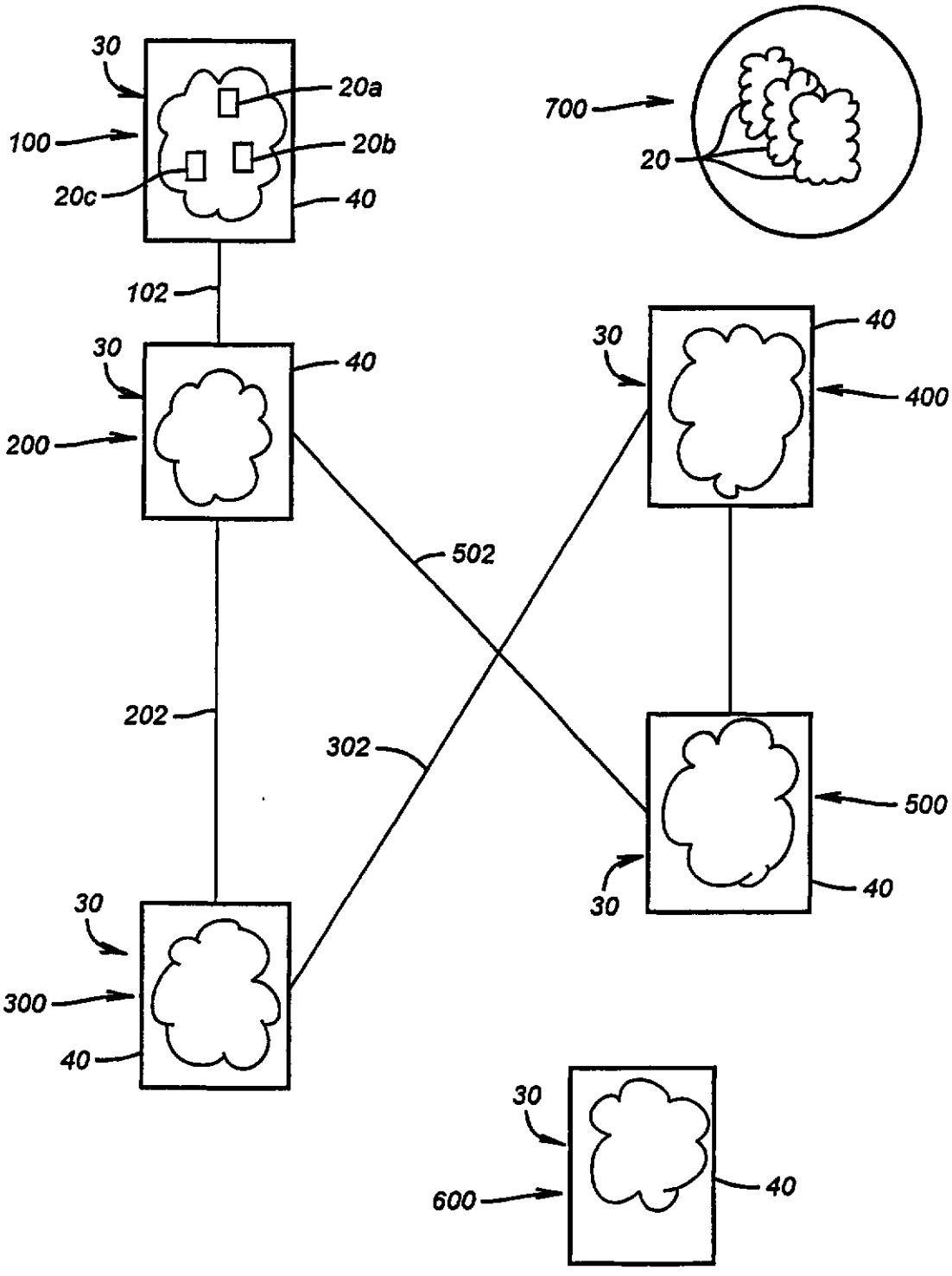

30
20a
100
20b
20c
40
700
20
102
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40
200
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40
400
502
202
302
500
30
40
30
300
40
30
600
40

FIG. 1

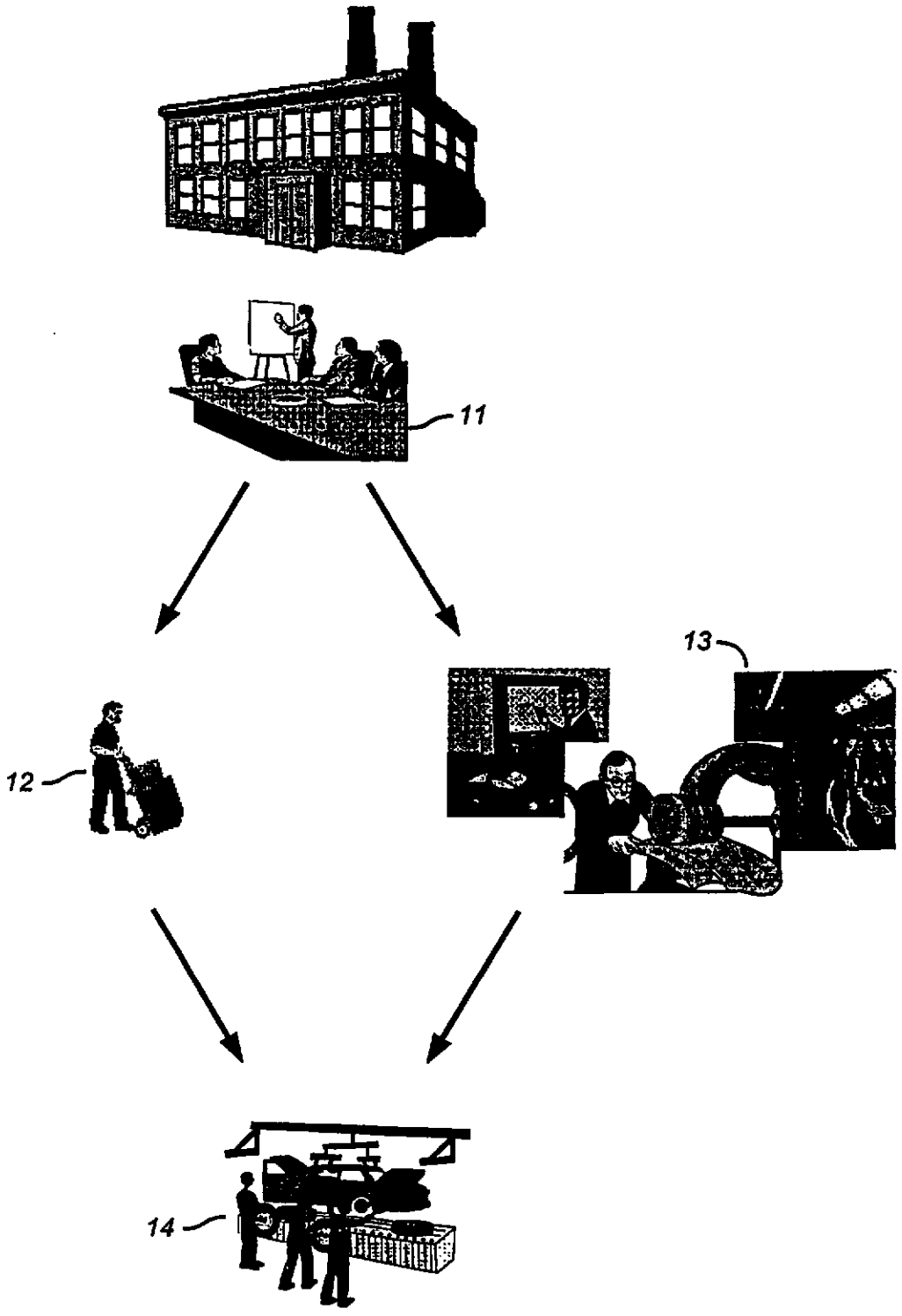


FIG. 2

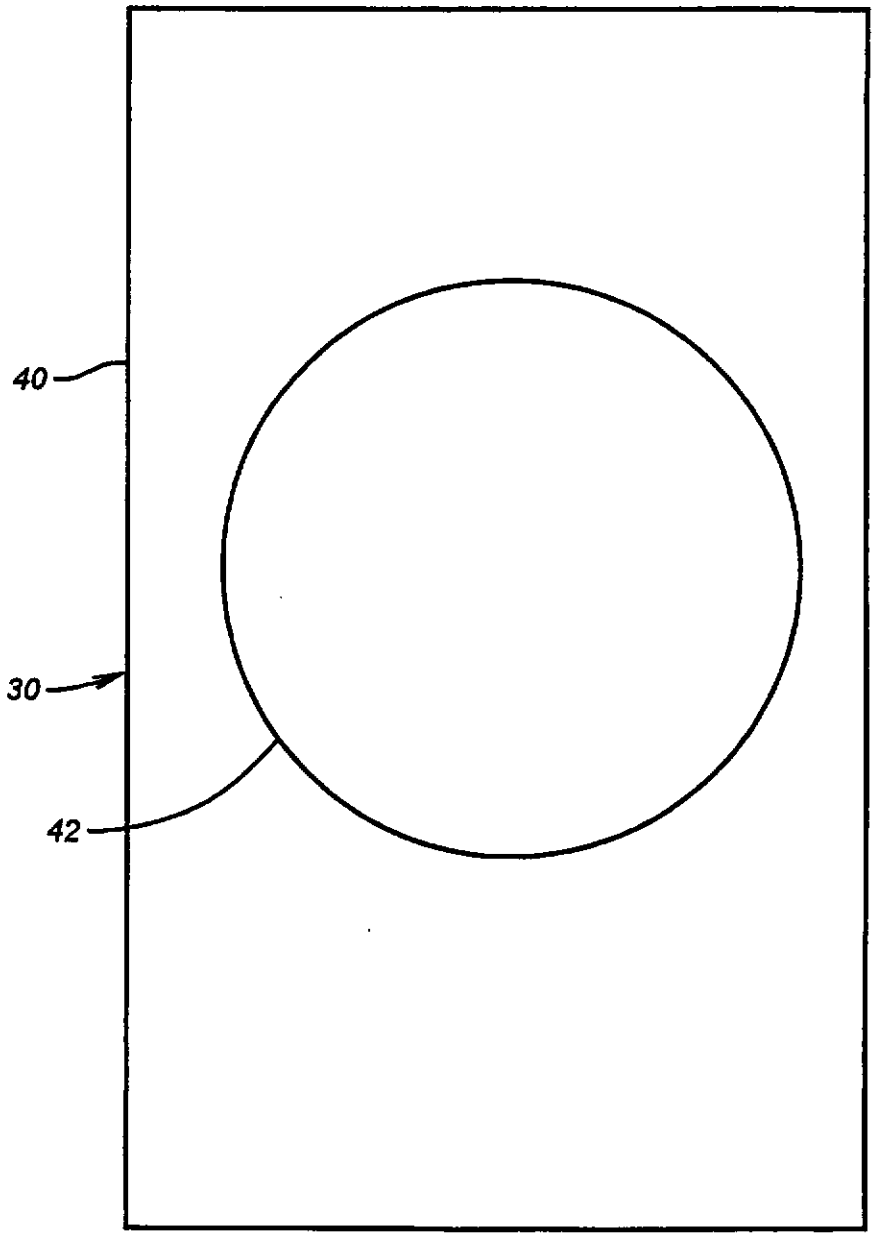


FIG. 3

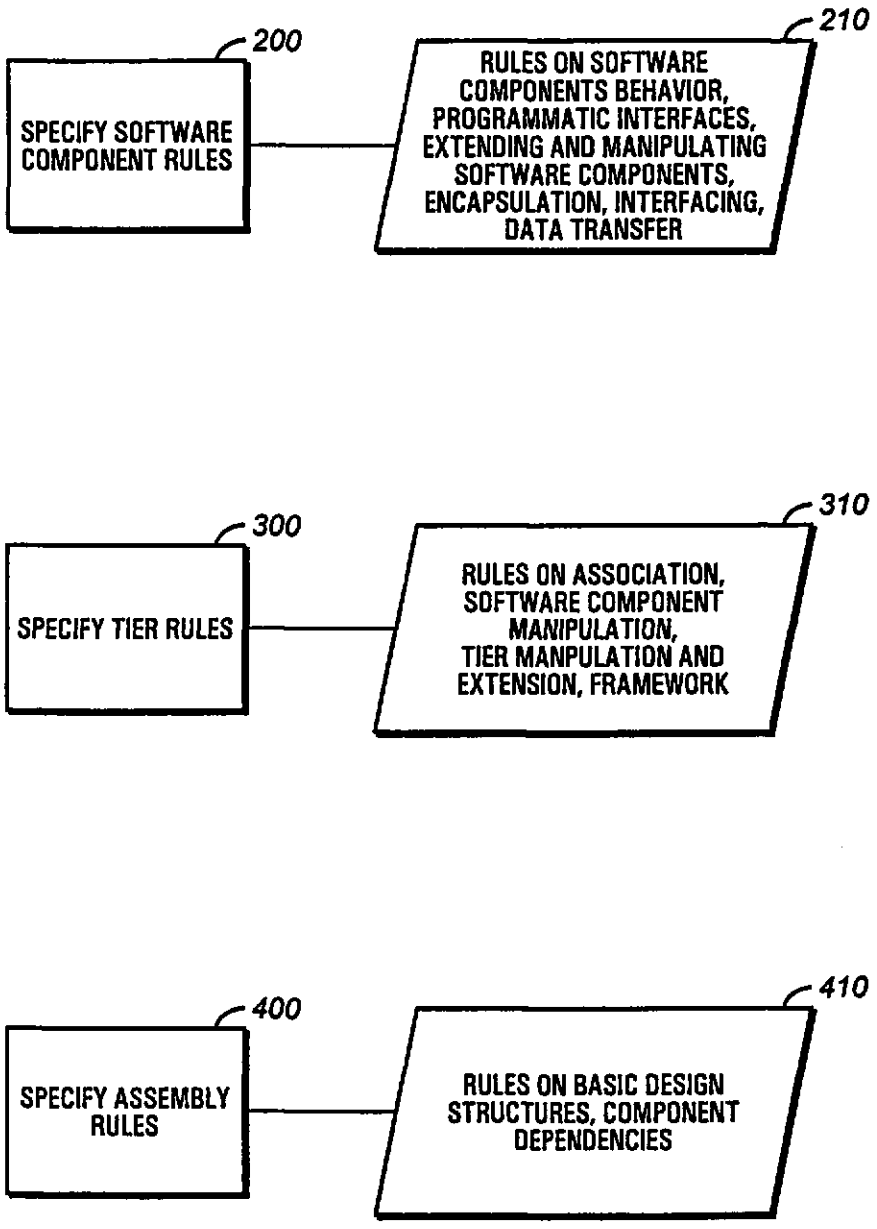

200
SPECIFY SOFTWARE COMPONENT RULES
210
RULES ON SOFTWARE COMPONENTS BEHAVIOR, PROGRAMMATIC INTERFACES, EXTENDING AND MANIPULATING SOFTWARE COMPONENTS, ENCAPSULATION, INTERFACING, DATA TRANSFER
300
SPECIFY TIER RULES
310
RULES ON ASSOCIATION, SOFTWARE COMPONENT MANIPULATION, TIER MANPULATION AND EXTENSION, FRAMEWORK
400
SPECIFY ASSEMBLY RULES
410
RULES ON BASIC DESIGN STRUCTURES, COMPONENT DEPENDENCIES

FIG. 4

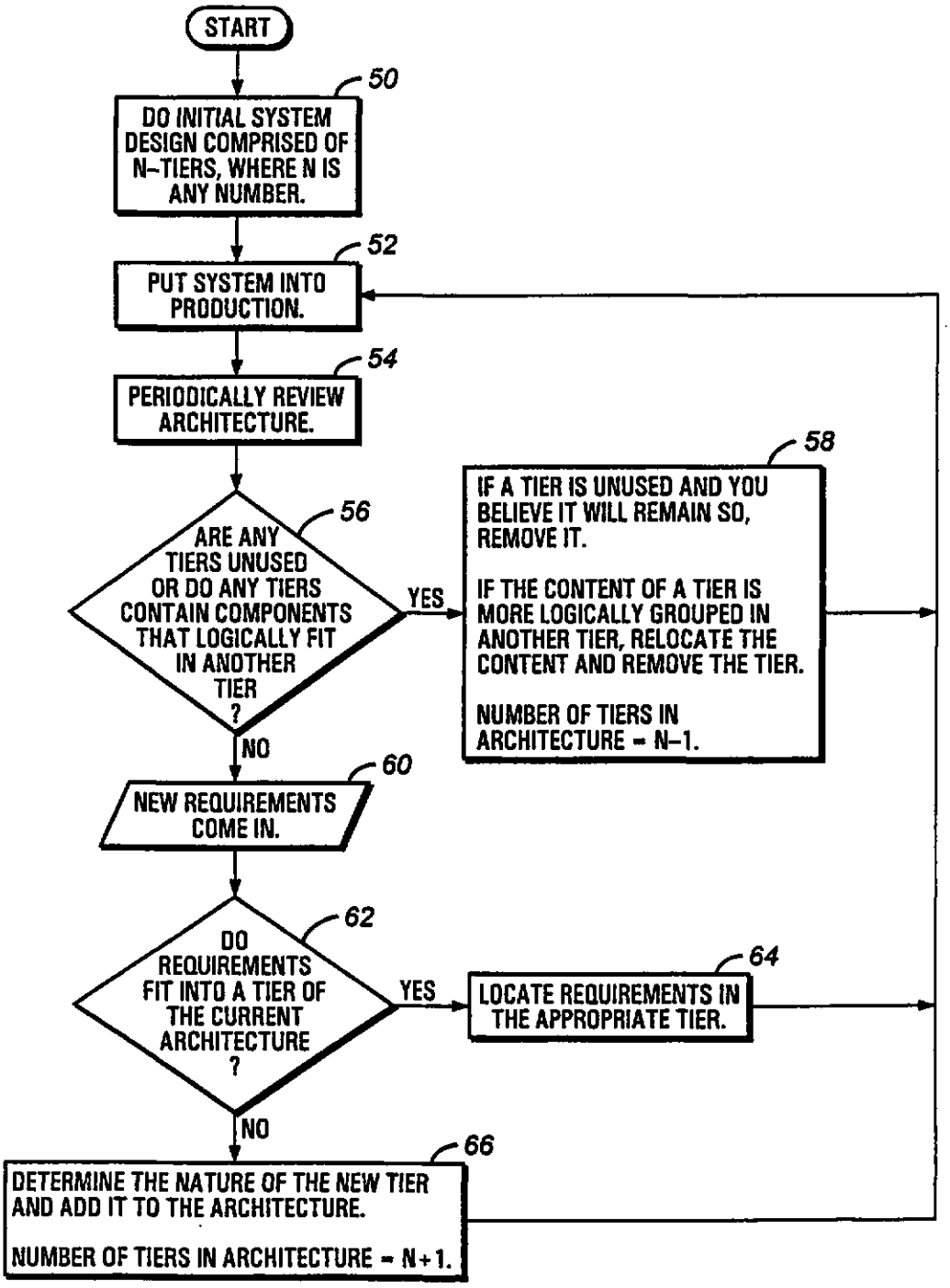

START
50
DO INITIAL SYSTEM DESIGN COMPRISED OF N-TIERS, WHERE N IS ANY NUMBER.
52
PUT SYSTEM INTO PRODUCTION.
54
PERIODICALLY REVIEW ARCHITECTURE.
56
ARE ANY TIERS UNUSED OR DO ANY TIERS CONTAIN COMPONENTS THAT LOGICALLY FIT IN ANOTHER TIER ?
YES
58
IF A TIER IS UNUSED AND YOU BELIEVE IT WILL REMAIN SO, REMOVE IT.
IF THE CONTENT OF A TIER IS MORE LOGICALLY GROUPED IN ANOTHER TIER, RELOCATE THE CONTENT AND REMOVE THE TIER.
NUMBER OF TIERS IN ARCHITECTURE = N-1.
NO
60
NEW REQUIREMENTS COME IN.
62
DO REQUIREMENTS FIT INTO A TIER OF THE CURRENT ARCHITECTURE ?
YES
64
LOCATE REQUIREMENTS IN THE APPROPRIATE TIER.
NO
66
DETERMINE THE NATURE OF THE NEW TIER AND ADD IT TO THE ARCHITECTURE.
NUMBER OF TIERS IN ARCHITECTURE = N+1.

FIG. 5

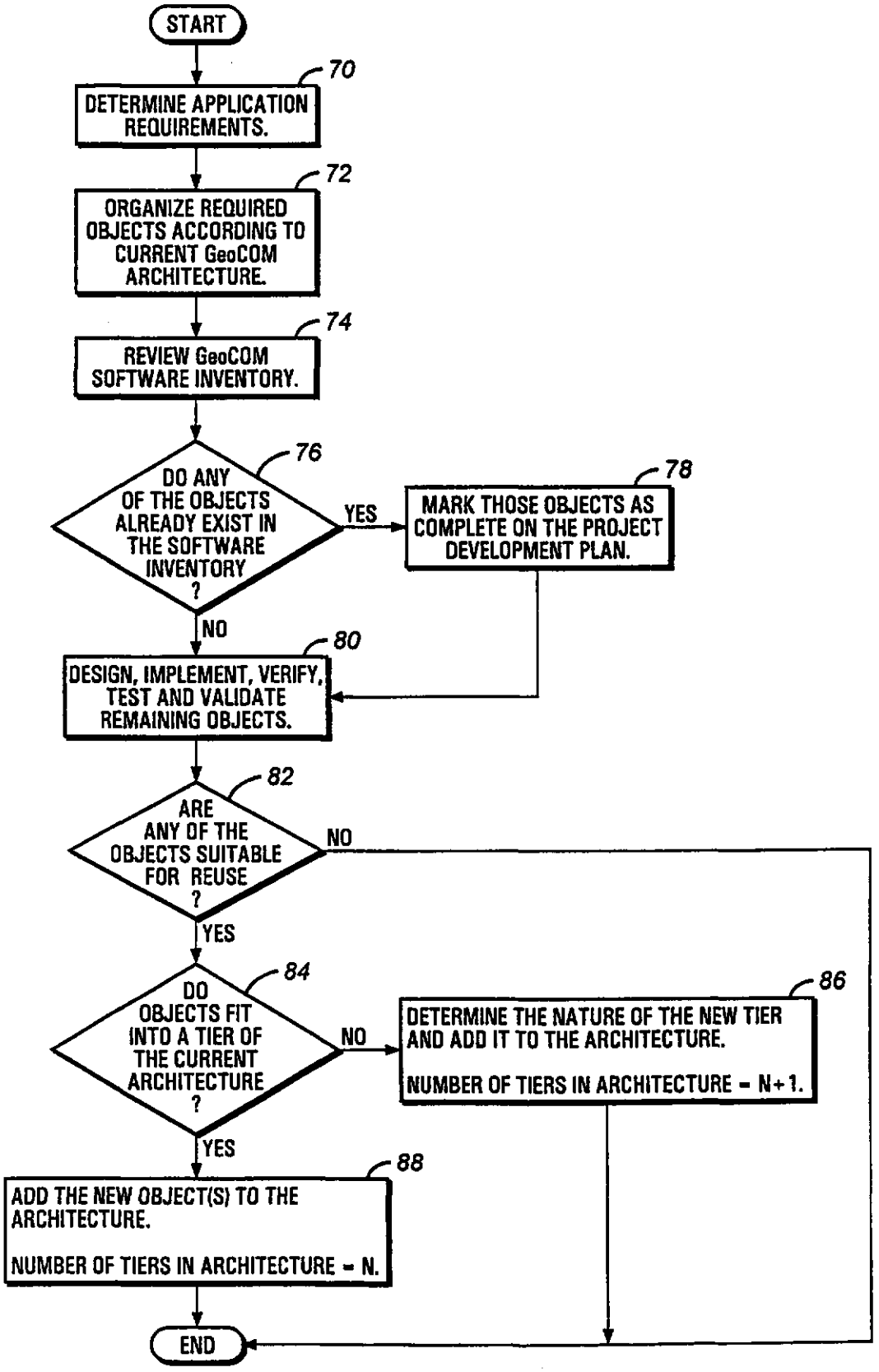

START
70
DETERMINE APPLICATION REQUIREMENTS.
72
ORGANIZE REQUIRED OBJECTS ACCORDING TO CURRENT GeoCOM ARCHITECTURE.
74
REVIEW GeoCOM SOFTWARE INVENTORY.
76
DO ANY OF THE OBJECTS ALREADY EXIST IN THE SOFTWARE INVENTORY ?
YES
78
MARK THOSE OBJECTS AS COMPLETE ON THE PROJECT DEVELOPMENT PLAN.
NO
80
DESIGN, IMPLEMENT, VERIFY, TEST AND VALIDATE REMAINING OBJECTS.
82
ARE ANY OF THE OBJECTS SUITABLE FOR REUSE ?
NO
YES
84
DO OBJECTS FIT INTO A TIER OF THE CURRENT ARCHITECTURE ?
NO
86
DETERMINE THE NATURE OF THE NEW TIER AND ADD IT TO THE ARCHITECTURE.
NUMBER OF TIERS IN ARCHITECTURE = N+1.
YES
88
ADD THE NEW OBJECT(S) TO THE ARCHITECTURE.
NUMBER OF TIERS IN ARCHITECTURE = N.
END

FIG. 6

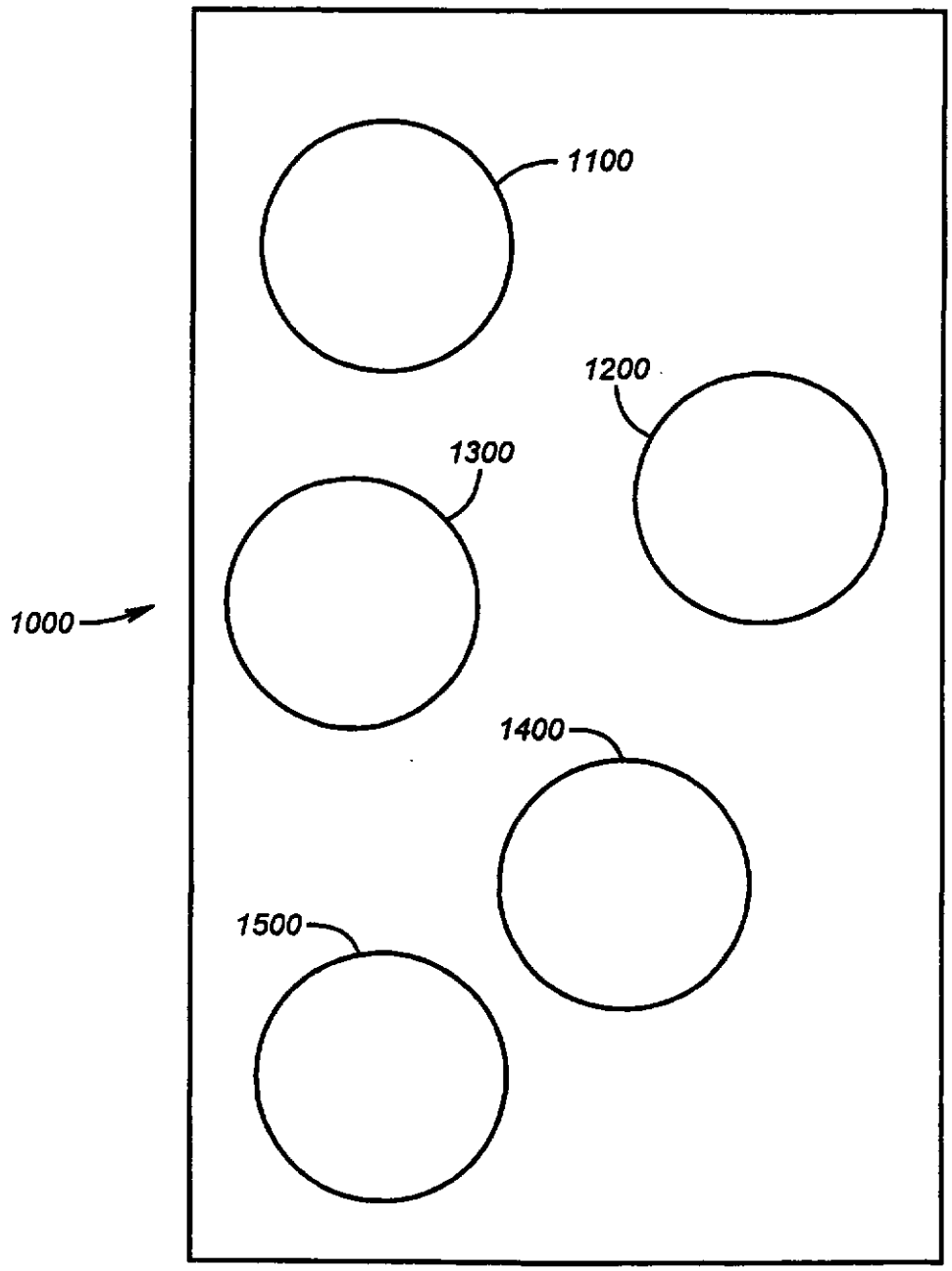


FIG. 7

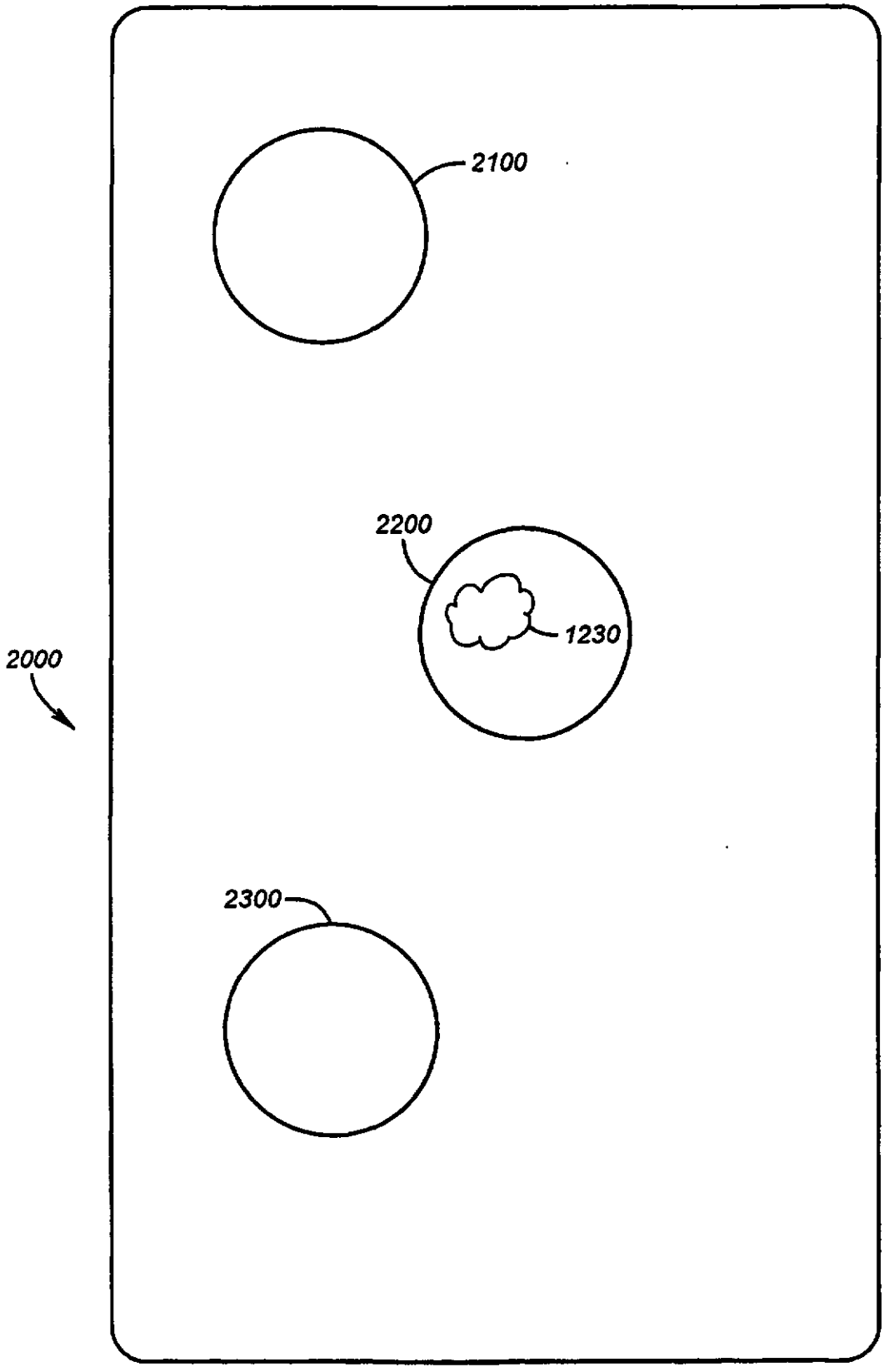


FIG. 8

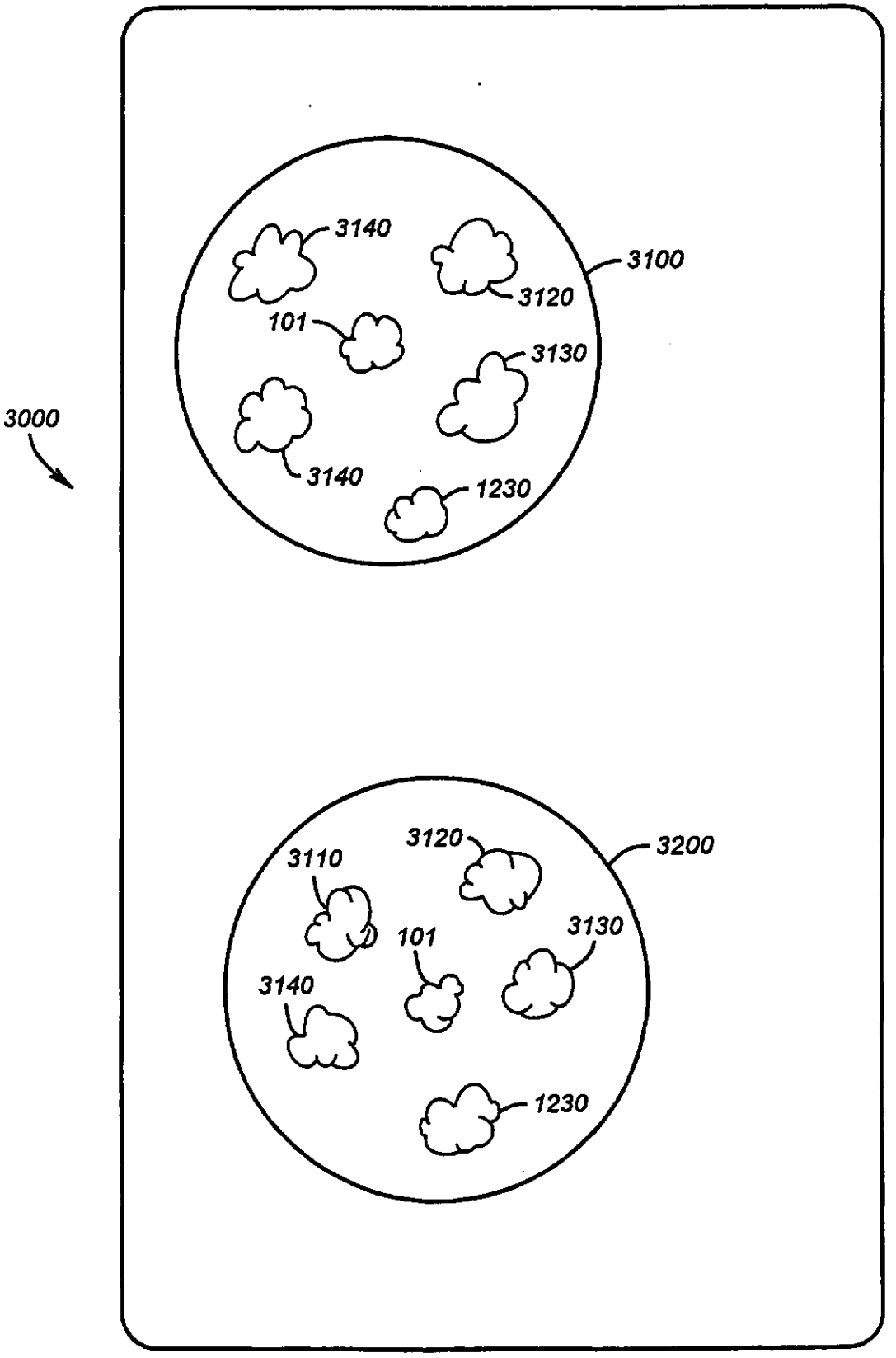

3000
3100
3140
3120
101
3130
3140
1230
3200
3110
3120
101
3130
3140
1230

FIG. 9

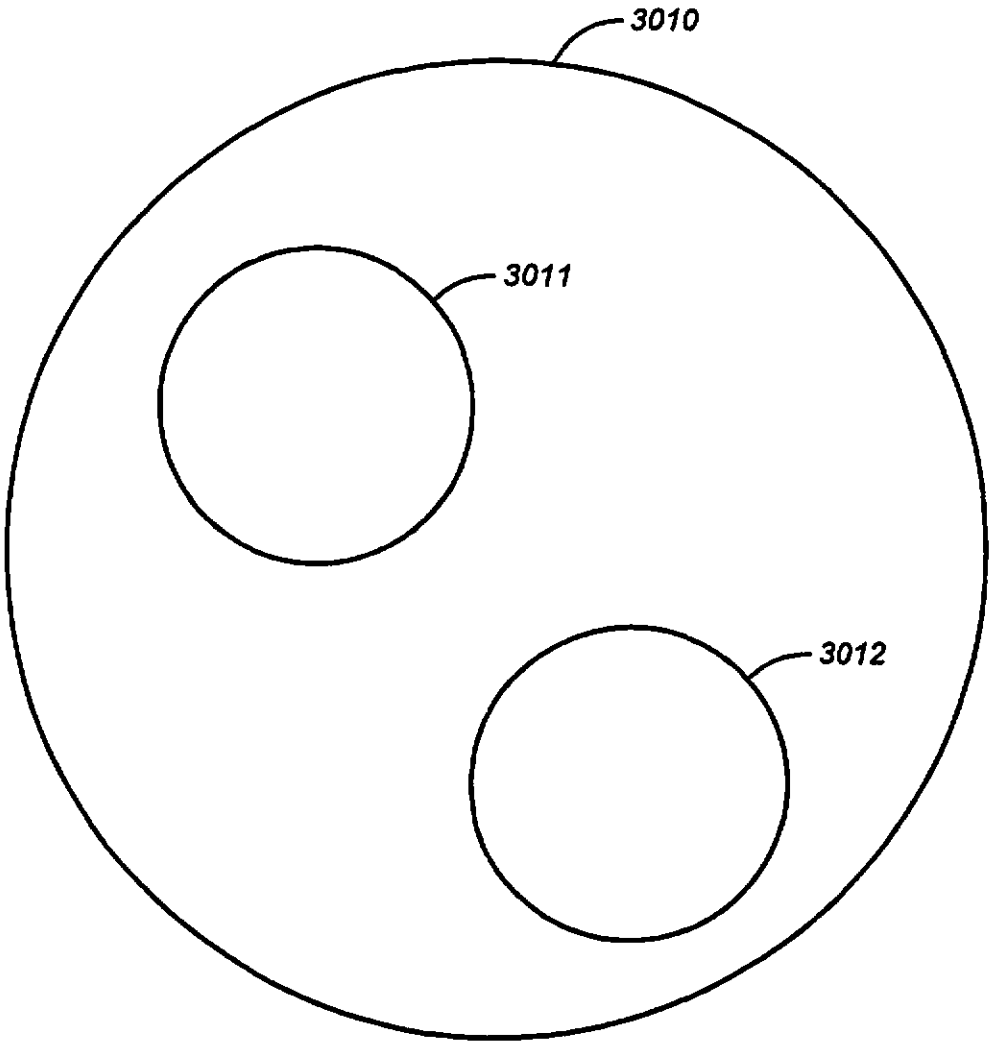


FIG. 10

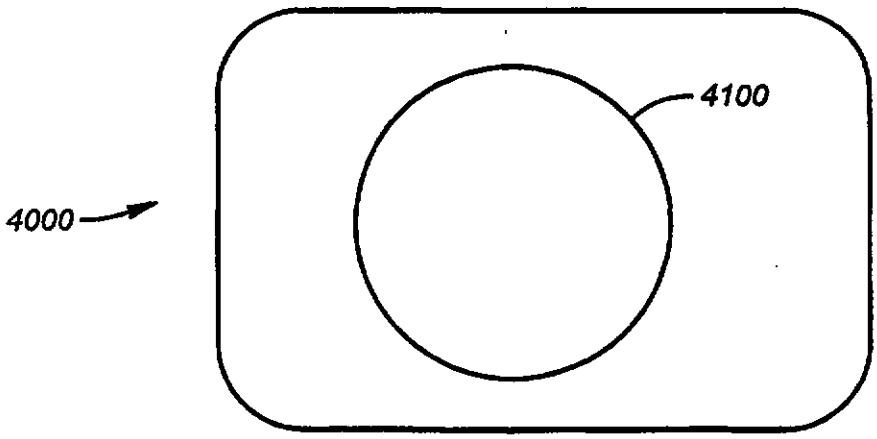


FIG. 11

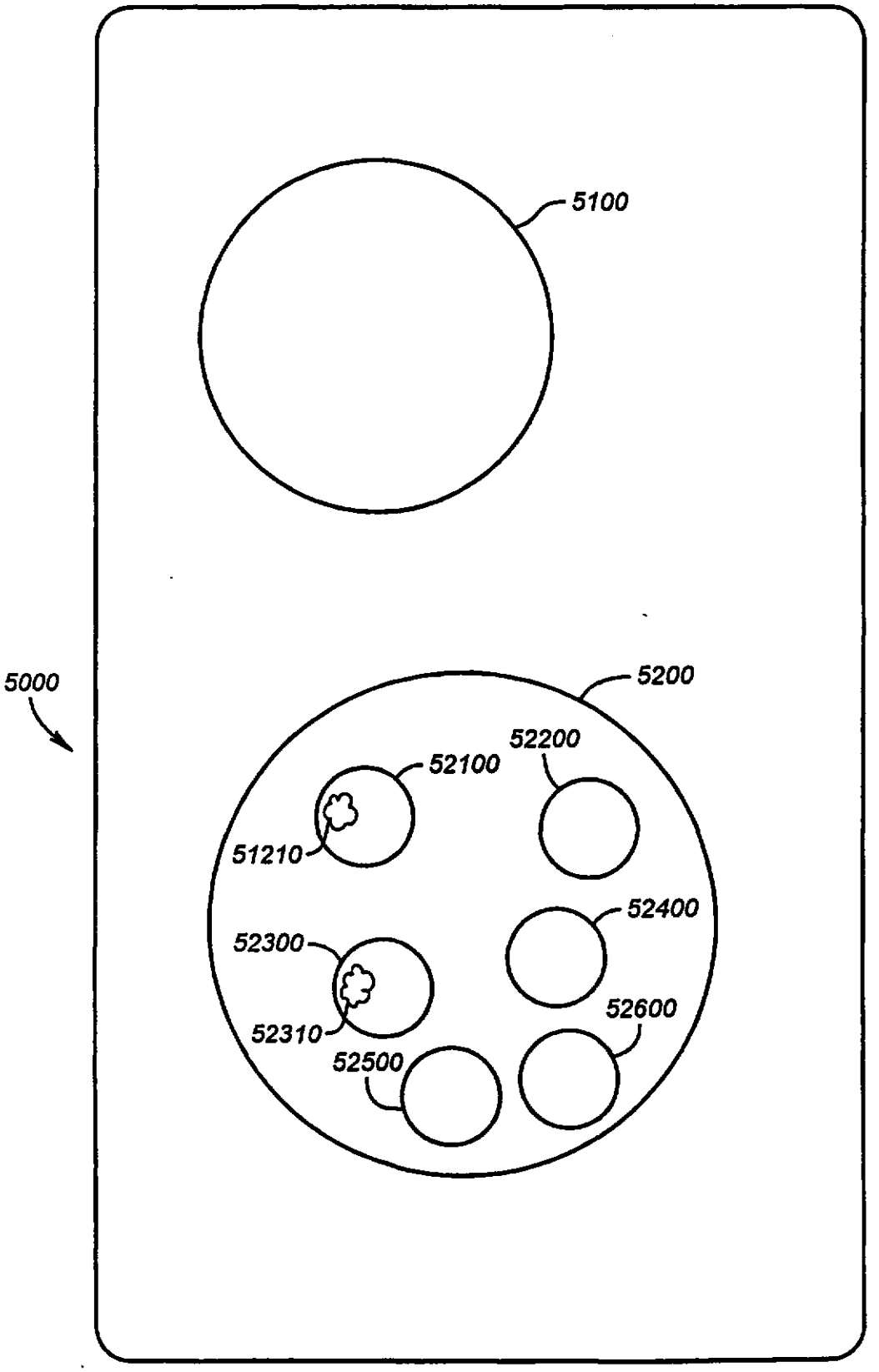

5000
5100
5200
52100
52200
51210
52400
52300
52600
52310
52500

FIG. 12

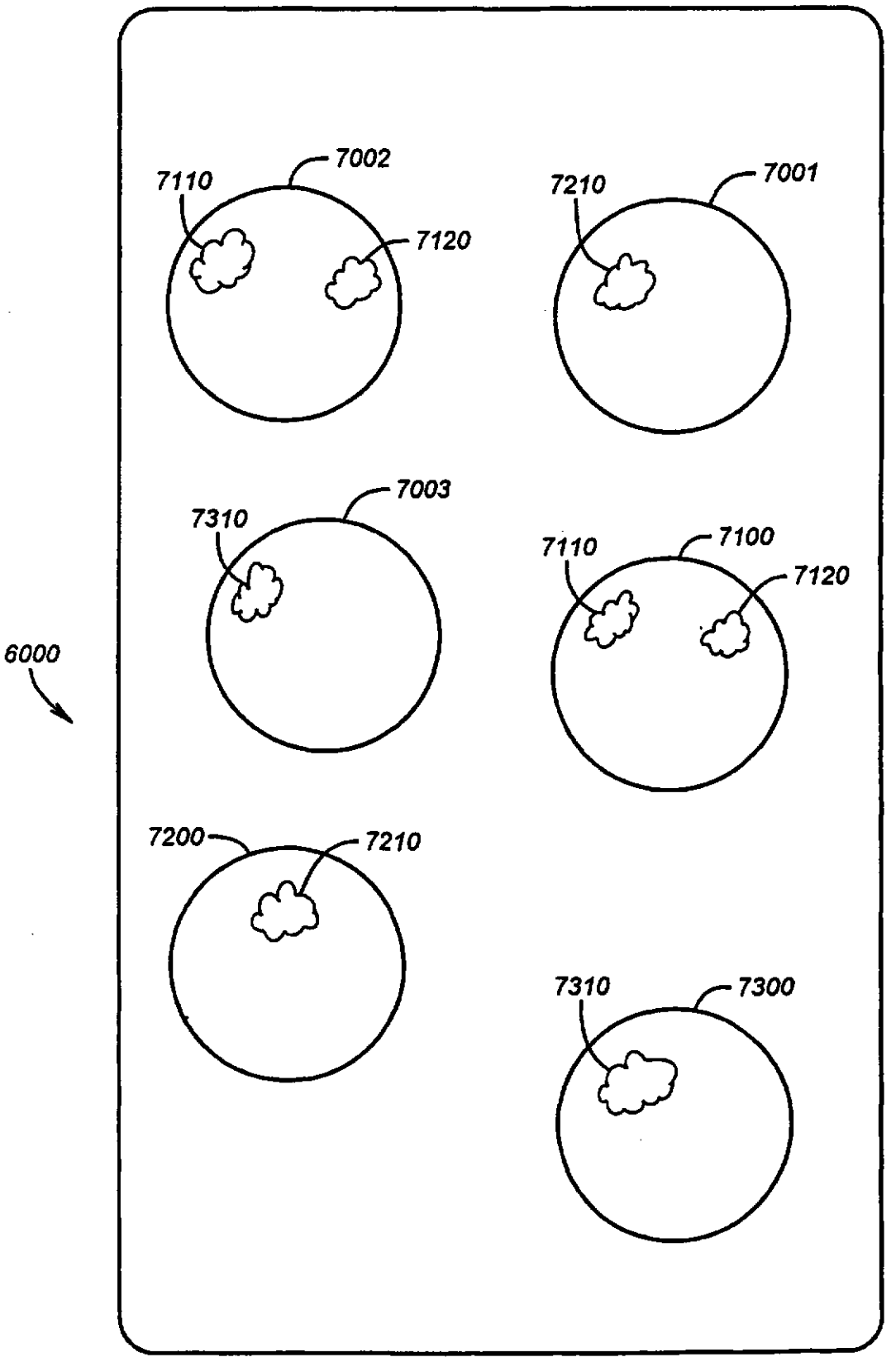

6000
7110
7002
7120
7210
7001
7310
7003
7110
7100
7120
7200
7210
7310
7300

FIG. 13

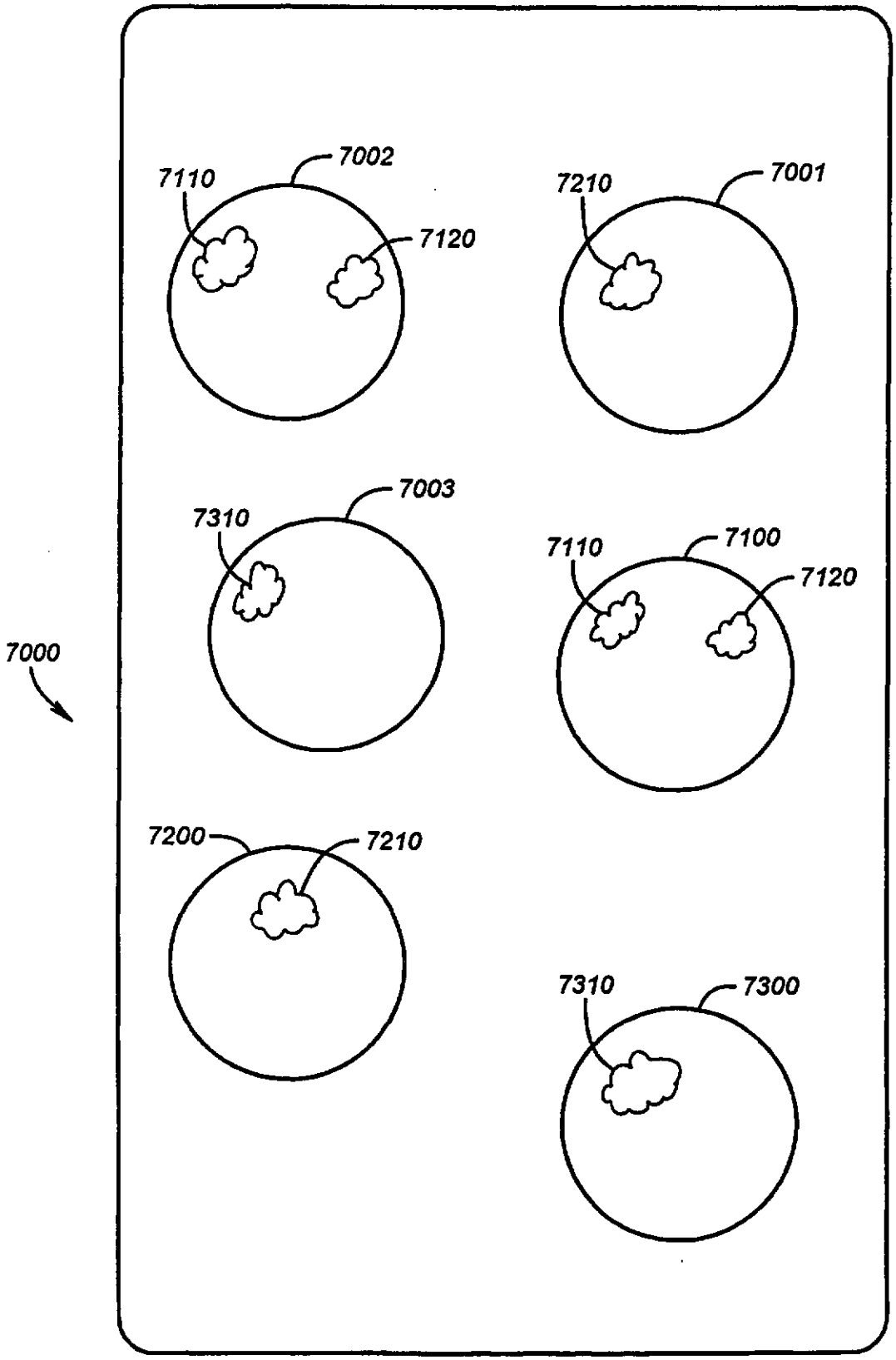

7000
7110
7002
7120
7210
7001
7310
7003
7110
7100
7120
7200
7210
7310
7300

FIG. 14

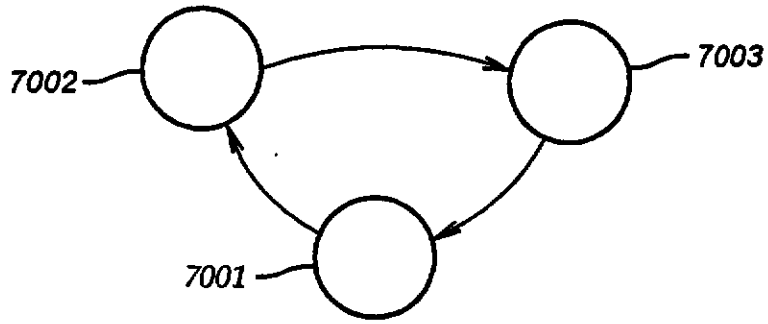


FIG. 15

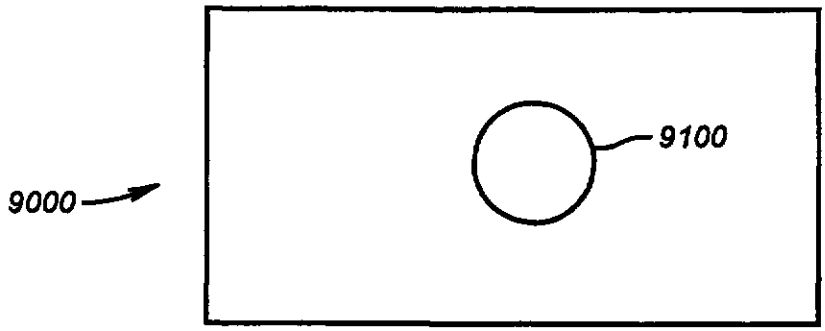


FIG. 17

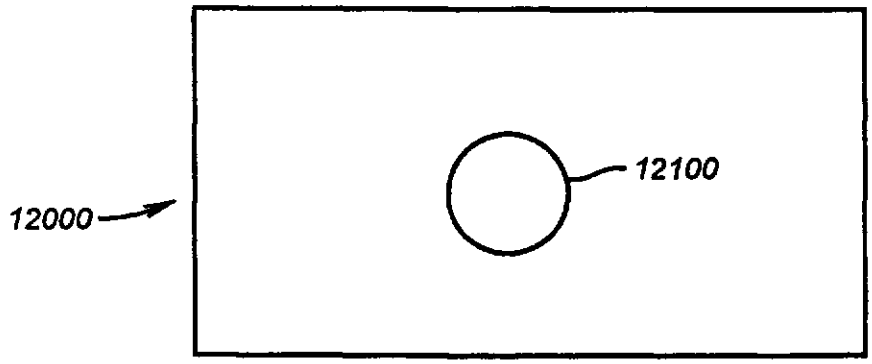


FIG. 18

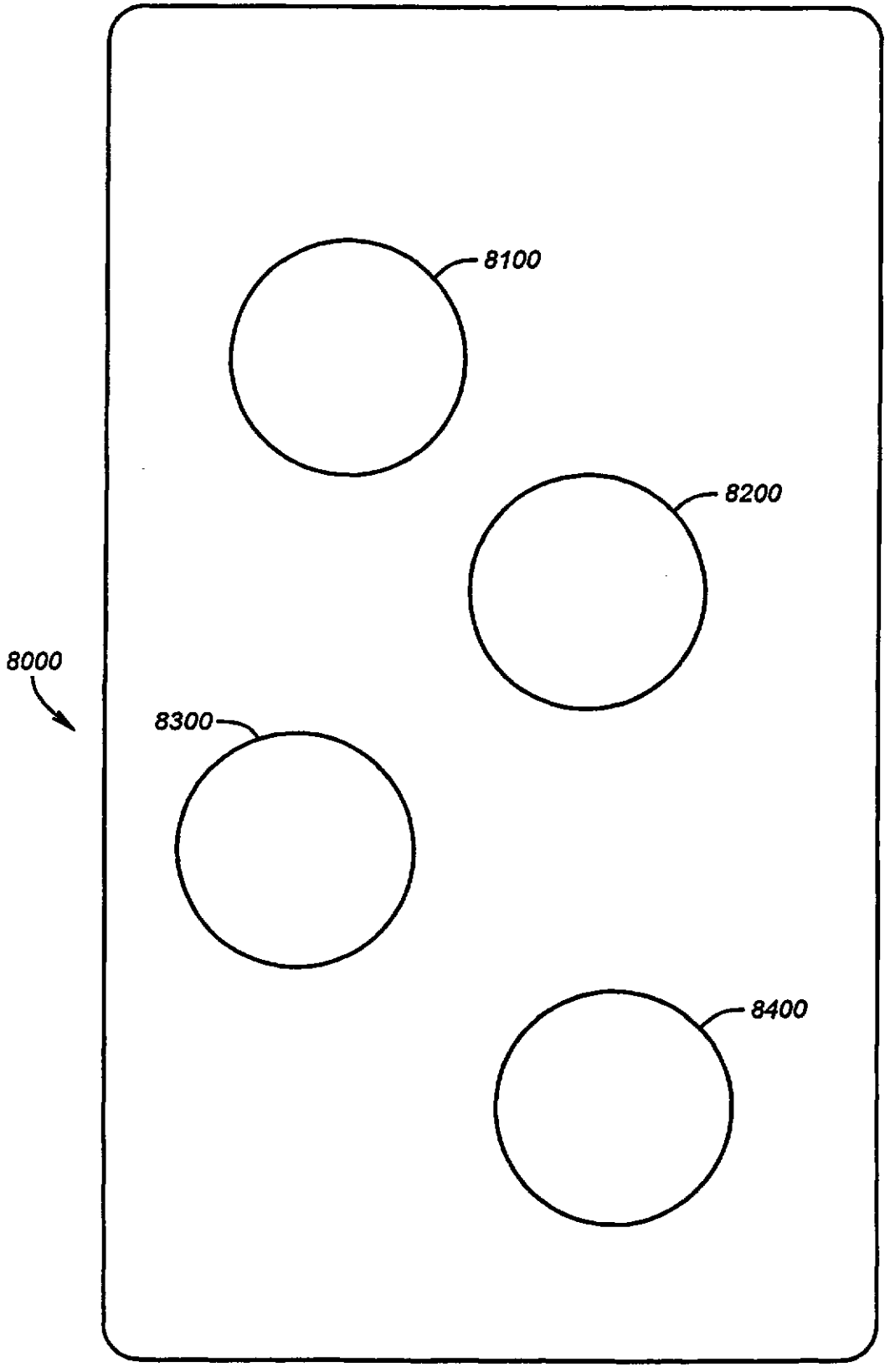


FIG. 16

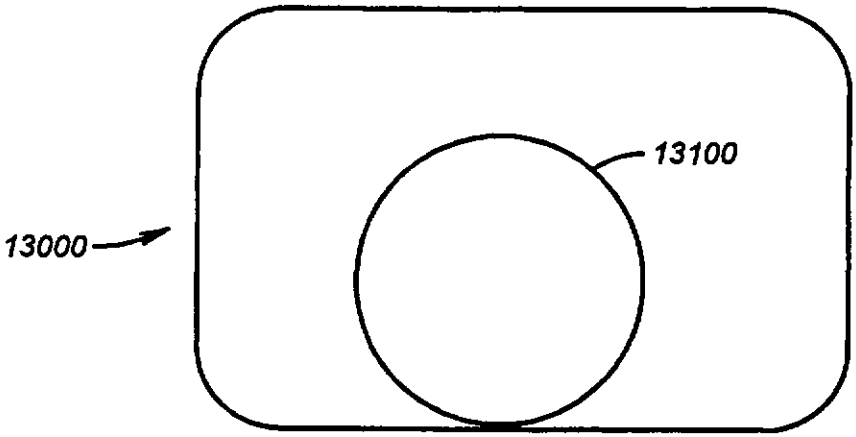


FIG. 19

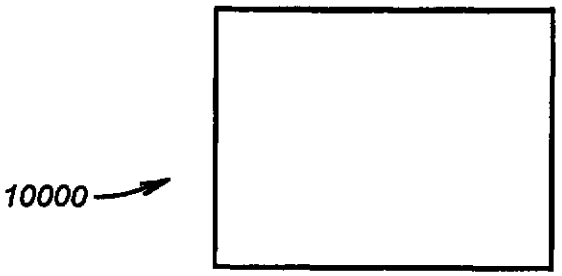


FIG. 20

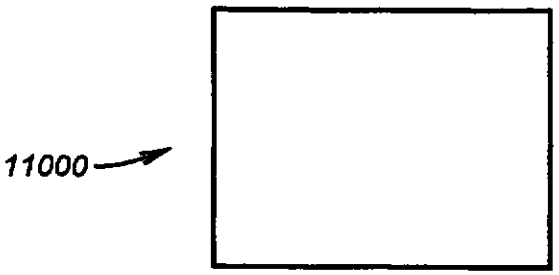


FIG. 21

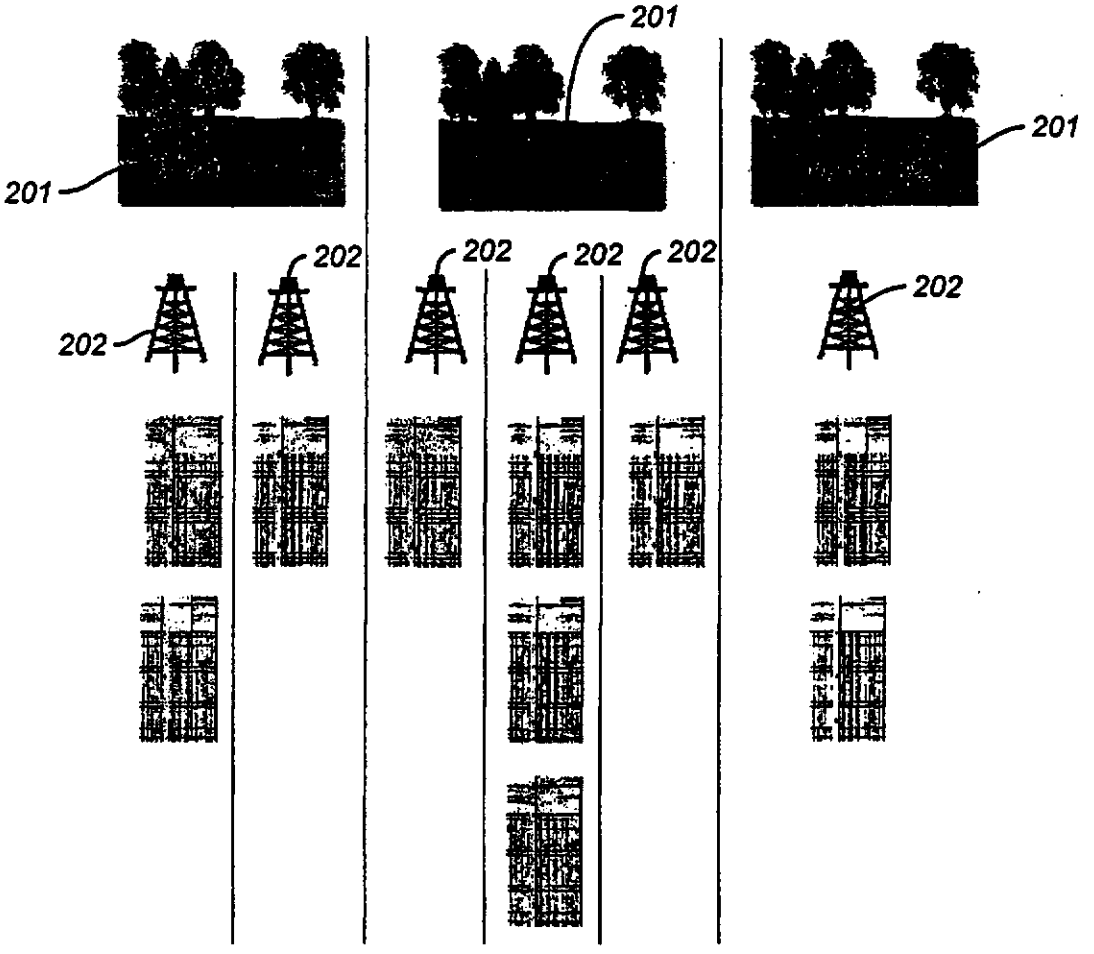


FIG. 22

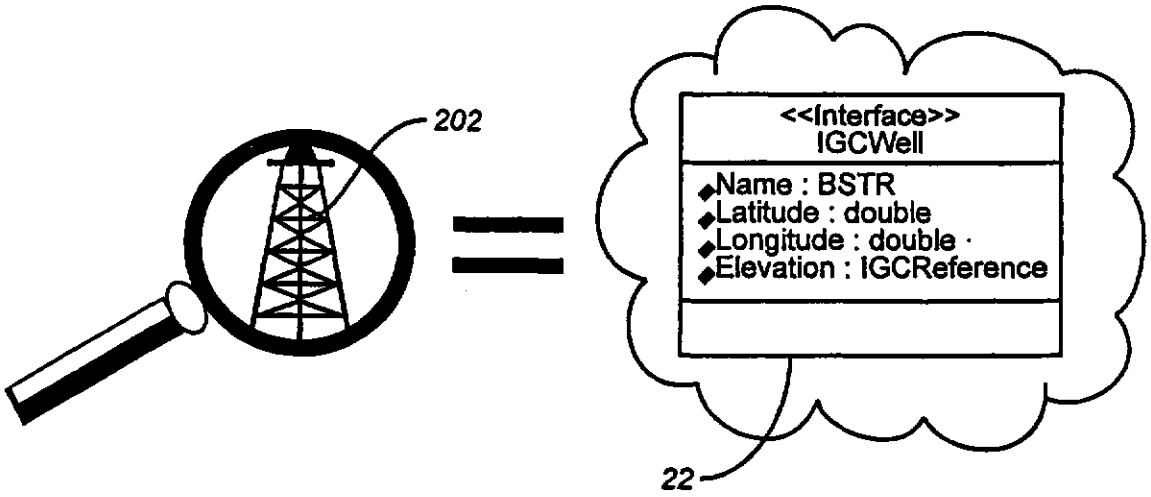

202
<<Interface>>
IGCWell
Name : BSTR
Latitude : double
Longitude : double
Elevation : IGCReference
22

FIG. 23

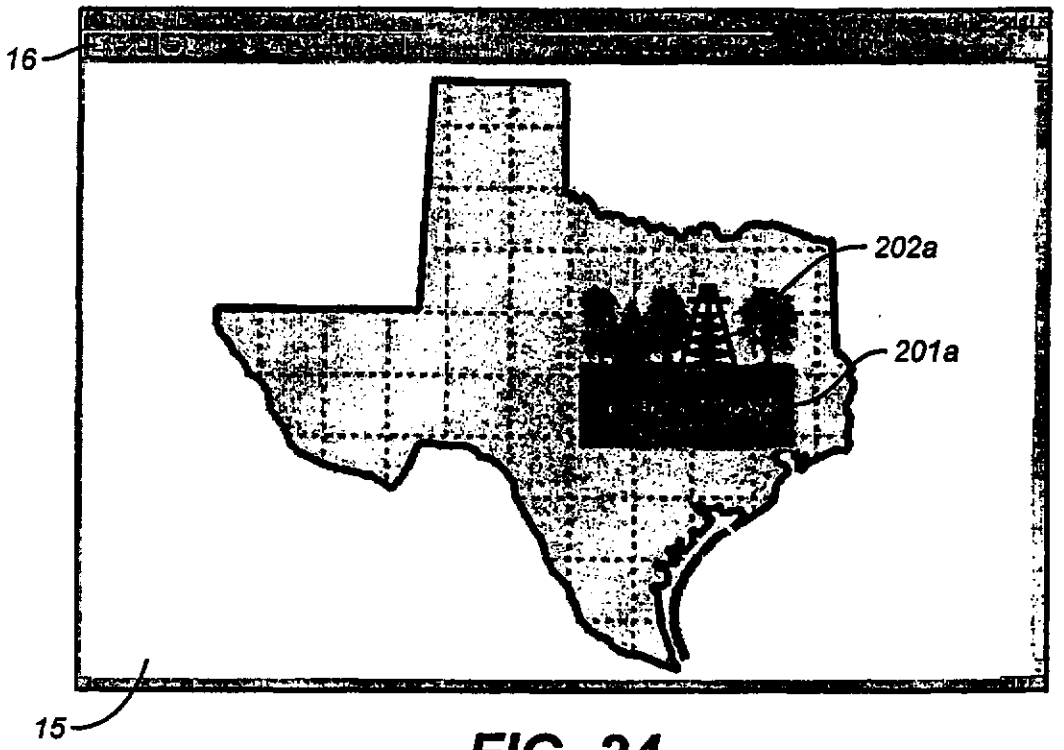


FIG. 24

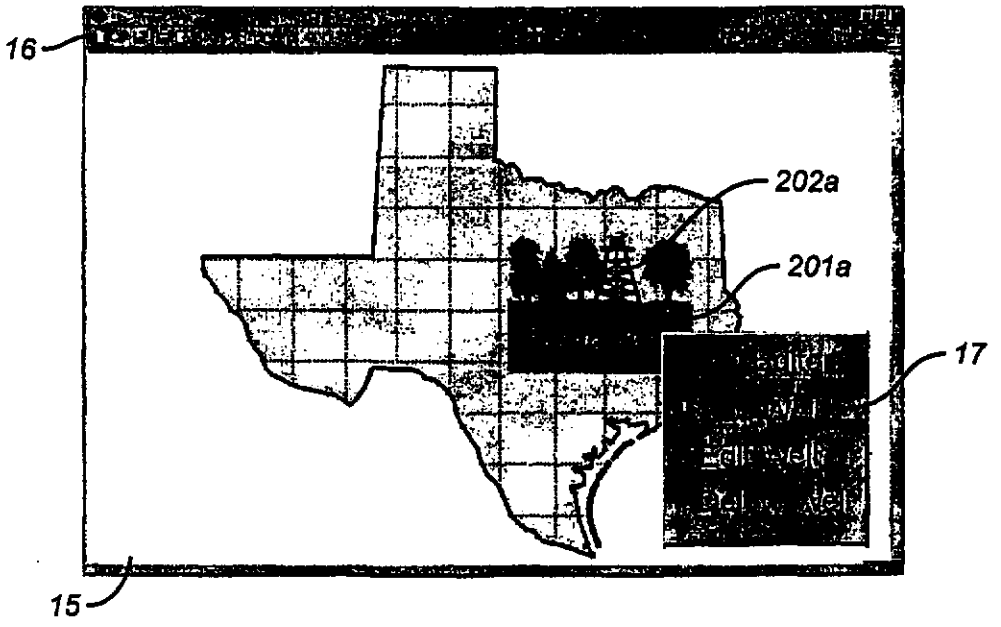


FIG. 25

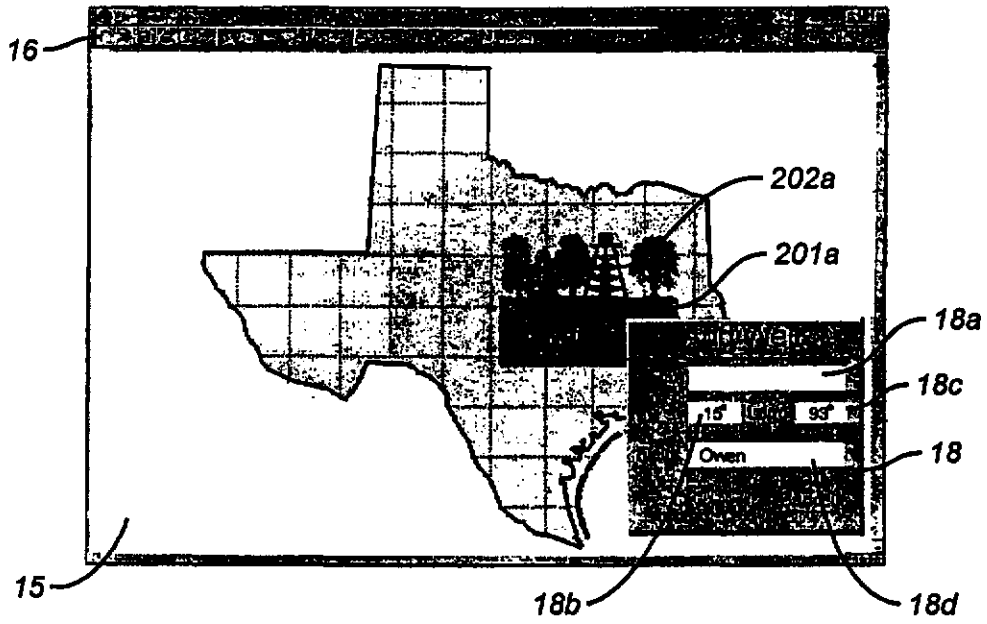


FIG. 26

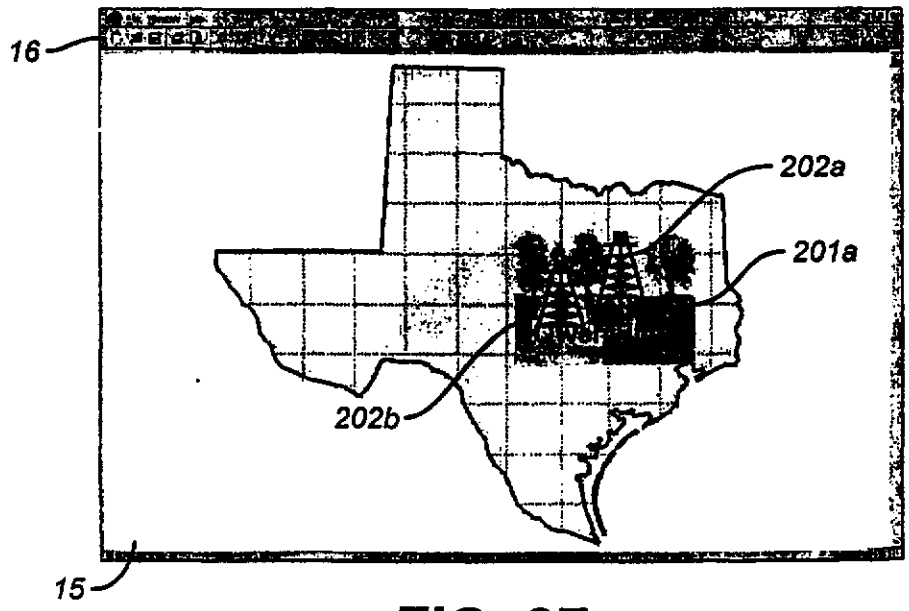


FIG. 27

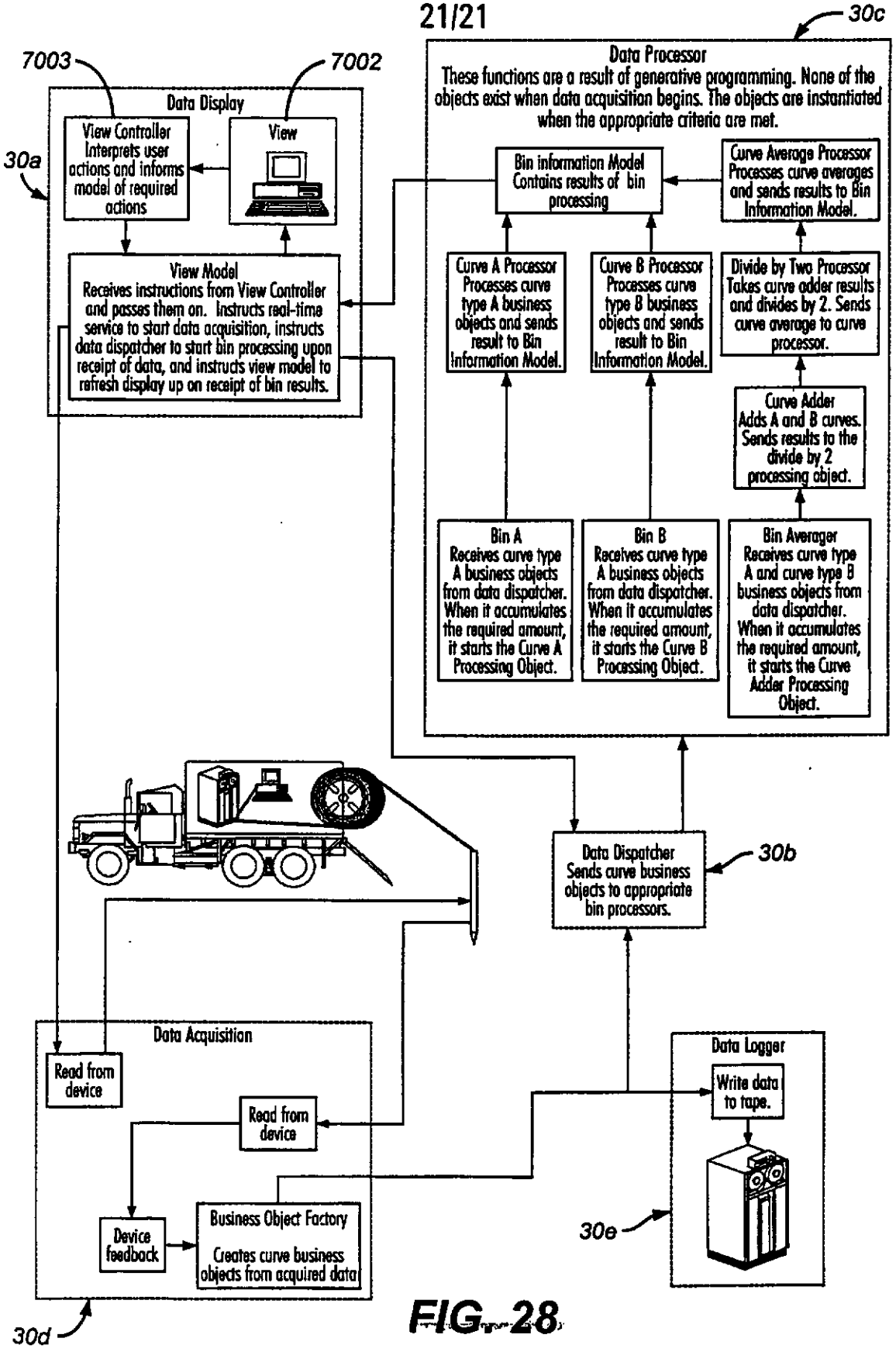

7003
7002
30c
Data Display
View Controller
Interprets user actions and informs model of required actions
View
30a
View Model
Receives instructions from View Controller and passes them on. Instructs real-time service to start data acquisition, instructs data dispatcher to start bin processing upon receipt of data, and instructs view model to refresh display up on receipt of bin results.
Data Processor
These functions are a result of generative programming. None of the objects exist when data acquisition begins. The objects are instantiated when the appropriate criteria are met.
Bin Information Model
Contains results of bin processing
Curve Average Processor
Processes curve averages and sends results to Bin Information Model.
Curve A Processor
Processes curve type A business objects and sends result to Bin Information Model.
Curve B Processor
Processes curve type B business objects and sends result to Bin Information Model.
Divide by Two Processor
Takes curve adder results and divides by 2. Sends curve average to curve processor.
Curve Adder
Adds A and B curves. Sends results to the divide by 2 processing object.
Bin A
Receives curve type A business objects from data dispatcher. When it accumulates the required amount, it starts the Curve A Processing Object.
Bin B
Receives curve type A business objects from data dispatcher. When it accumulates the required amount, it starts the Curve B Processing Object.
Bin Averager
Receives curve type A and curve type B business objects from data dispatcher. When it accumulates the required amount, it starts the Curve Adder Processing Object.
Data Dispatcher
Sends curve business objects to appropriate bin processors.
30b
Data Acquisition
Read from device
Read from device
Device feedback
Business Object Factory
Creates curve business objects from acquired data
30d
Data Logger
Write data to tape.
30e

FIG. 28