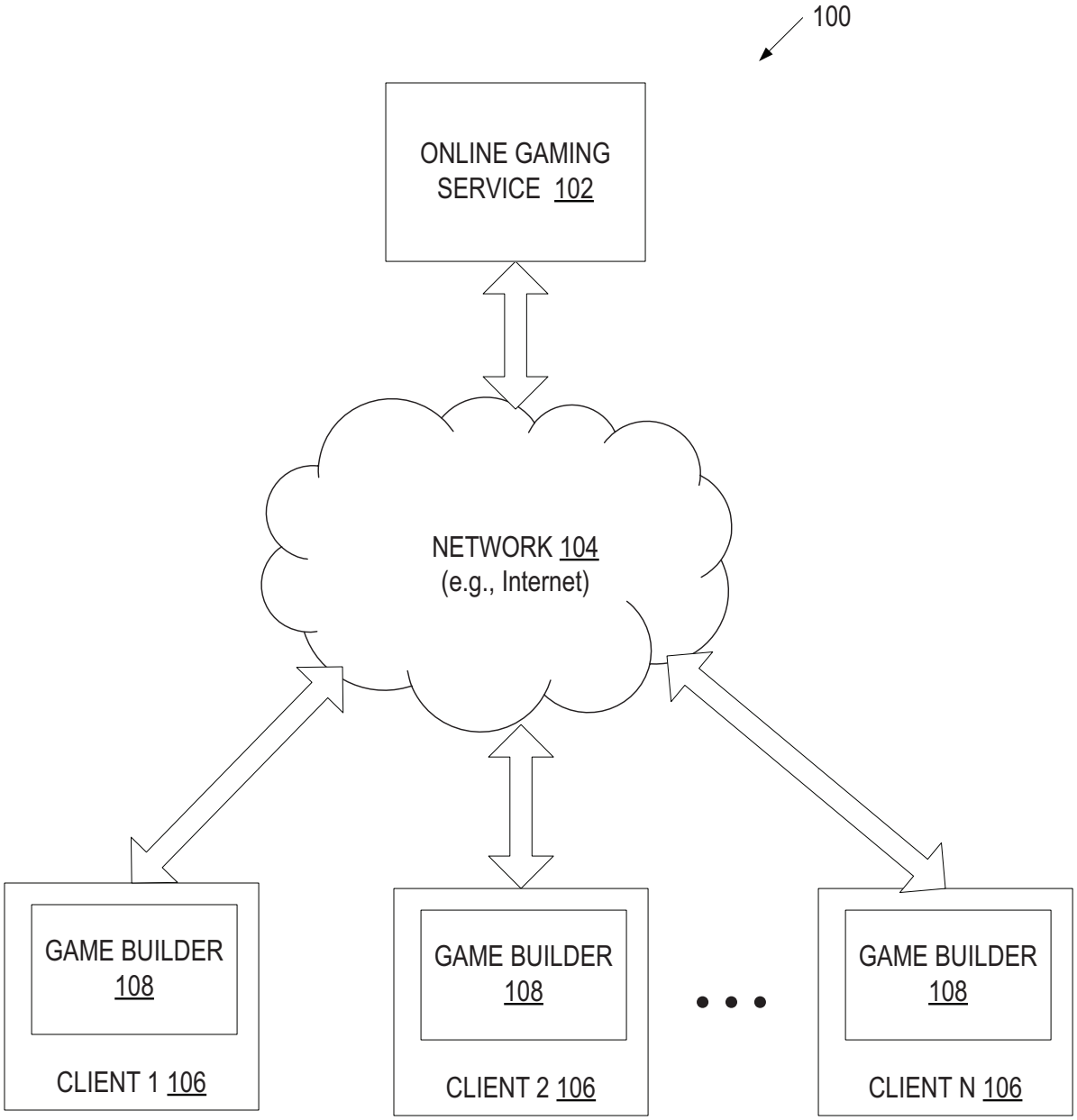

100
ONLINE GAMING SERVICE 102
NETWORK 104 (e.g., Internet)
GAME BUILDER 108
CLIENT 1 106
GAME BUILDER 108
CLIENT 2 106
GAME BUILDER 108
CLIENT N 106

FIG. 1

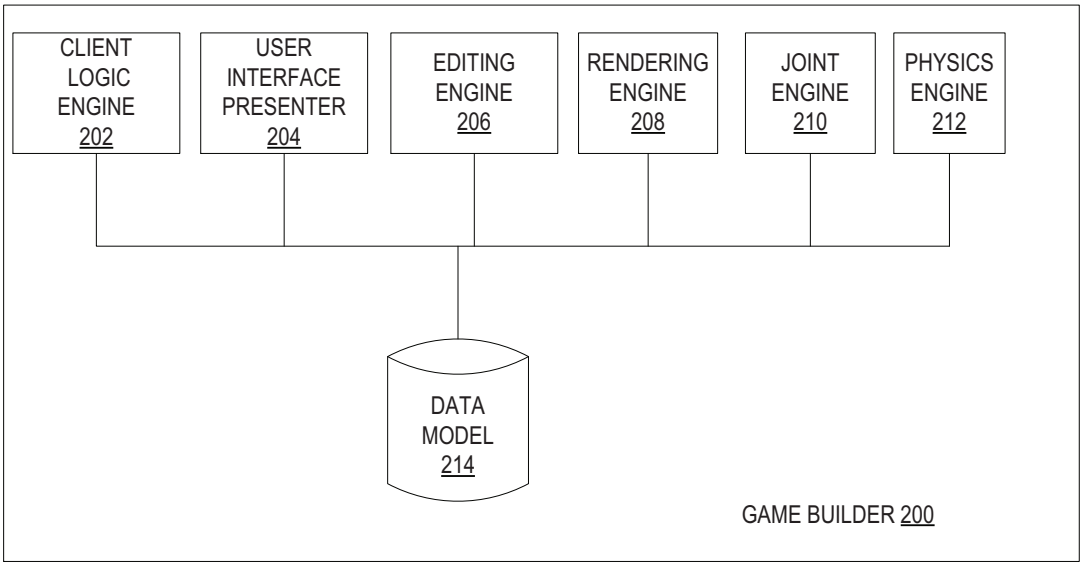

CLIENT LOGIC ENGINE 202
USER INTERFACE PRESENTER 204
EDITING ENGINE 206
RENDERING ENGINE 208
JOINT ENGINE 210
PHYSICS ENGINE 212
DATA MODEL 214
GAME BUILDER 200

FIG. 2

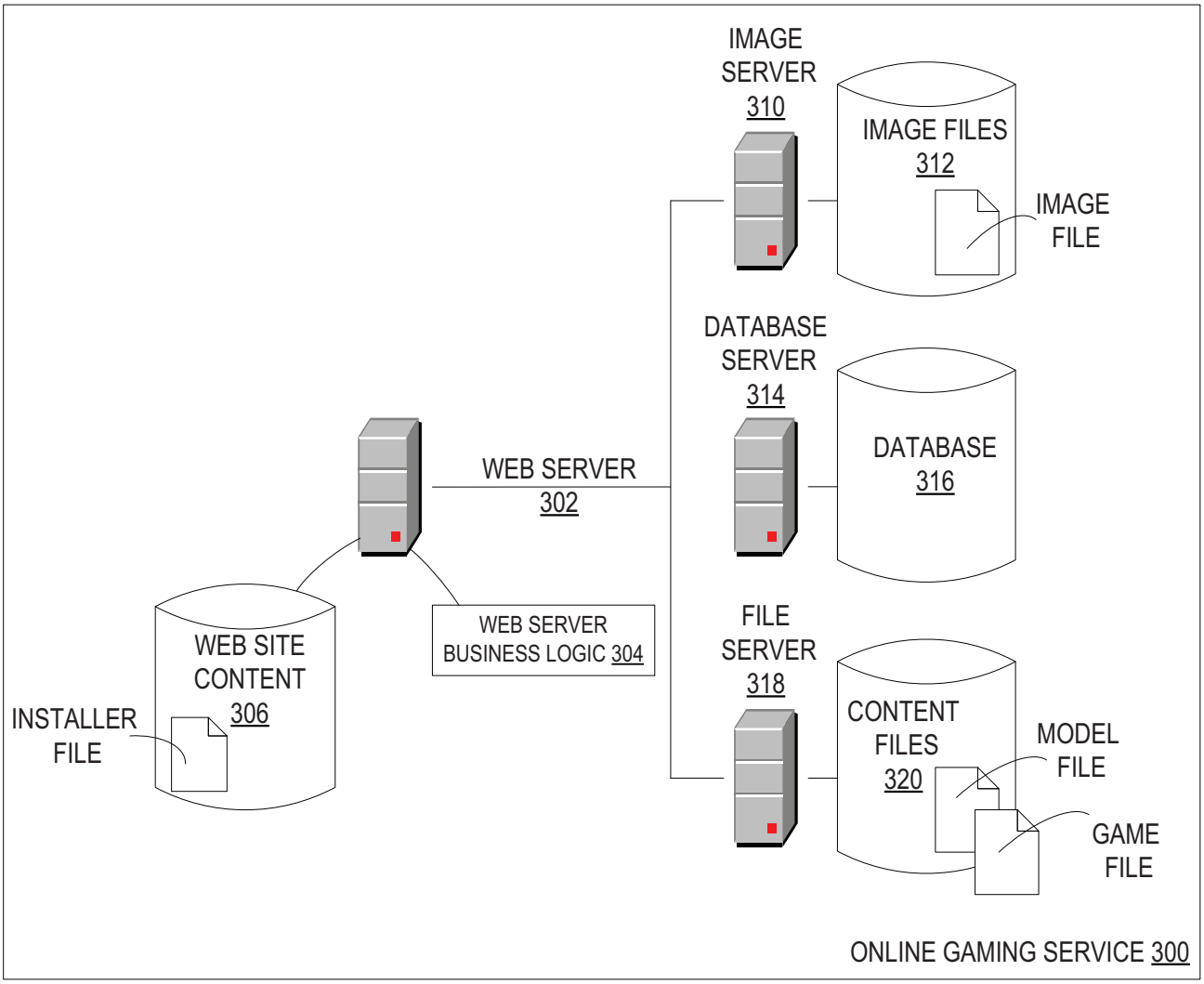


IMAGE SERVER 310
IMAGE FILES 312
IMAGE FILE
DATABASE SERVER 314
DATABASE 316
WEB SERVER 302
WEB SERVER BUSINESS LOGIC 304
WEB SITE CONTENT 306
INSTALLER FILE
FILE SERVER 318
CONTENT FILES 320
MODEL FILE
GAME FILE
ONLINE GAMING SERVICE 300

FIG. 3

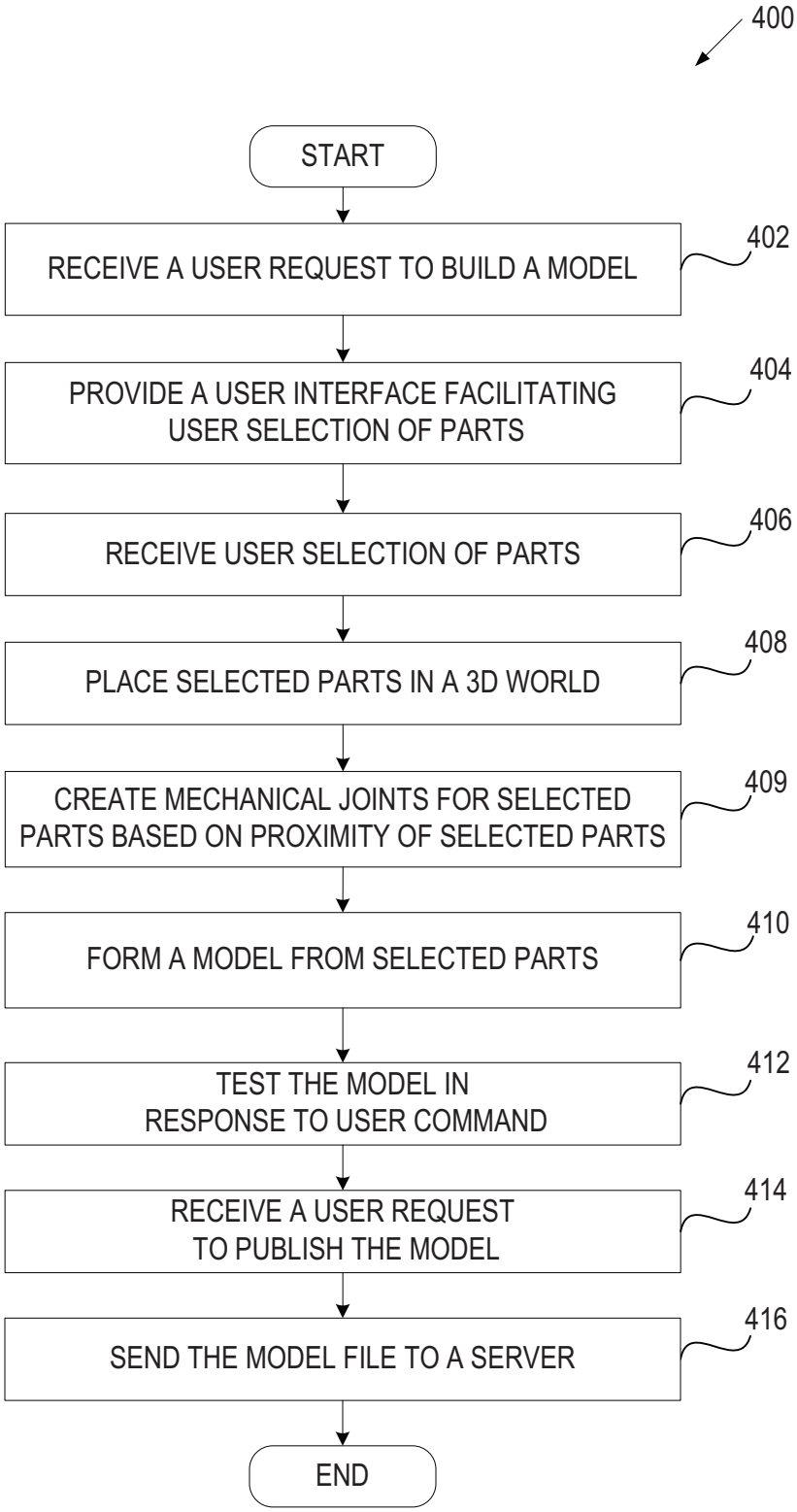

400
START
RECEIVE A USER REQUEST TO BUILD A MODEL
402
PROVIDE A USER INTERFACE FACILITATING USER SELECTION OF PARTS
404
RECEIVE USER SELECTION OF PARTS
406
PLACE SELECTED PARTS IN A 3D WORLD
408
CREATE MECHANICAL JOINTS FOR SELECTED PARTS BASED ON PROXIMITY OF SELECTED PARTS
409
FORM A MODEL FROM SELECTED PARTS
410
TEST THE MODEL IN RESPONSE TO USER COMMAND
412
RECEIVE A USER REQUEST TO PUBLISH THE MODEL
414
SEND THE MODEL FILE TO A SERVER
416
END

FIG. 4

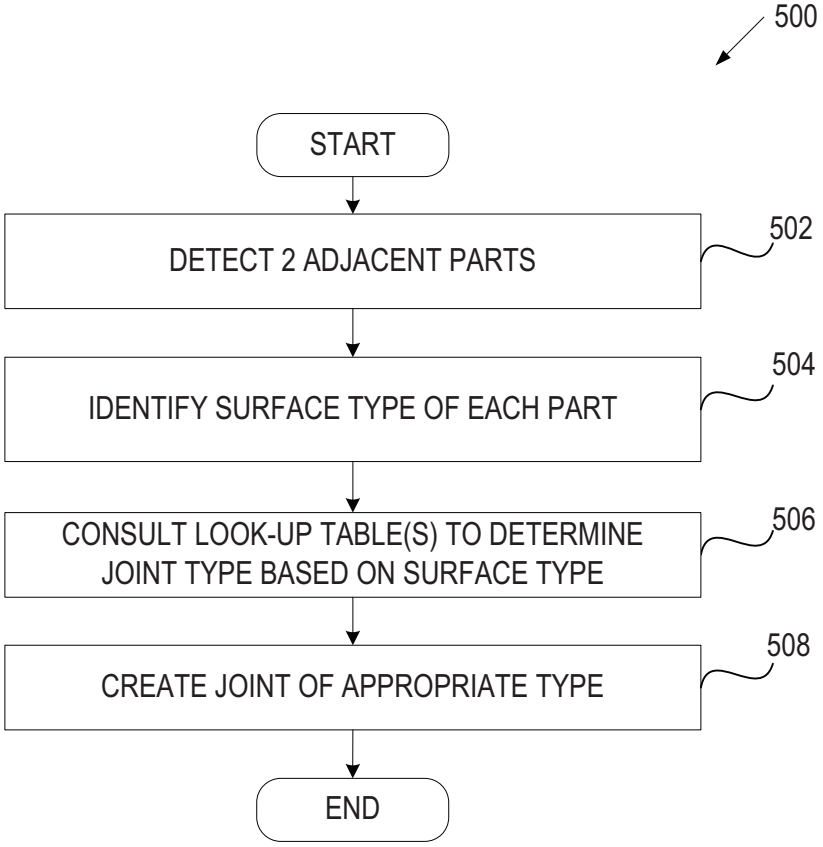

500
START
DETECT 2 ADJACENT PARTS
502
IDENTIFY SURFACE TYPE OF EACH PART
504
CONSULT LOOK-UP TABLE(S) TO DETERMINE JOINT TYPE BASED ON SURFACE TYPE
506
CREATE JOINT OF APPROPRIATE TYPE
508
END

FIG. 5

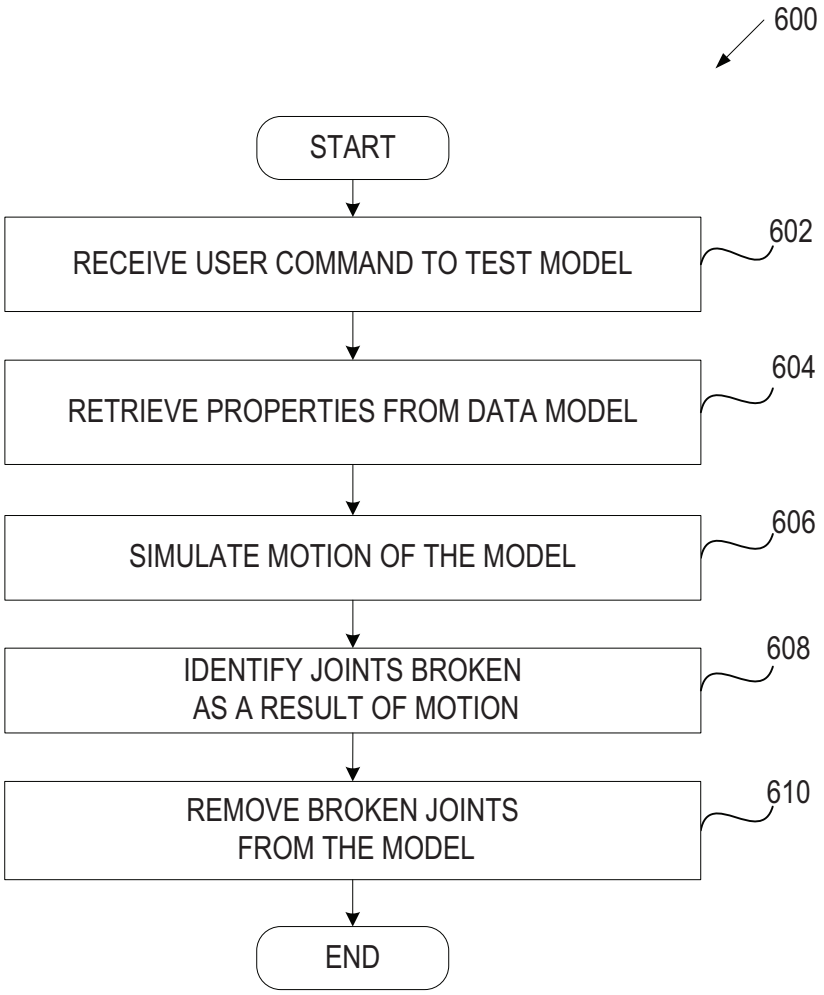

600
START
RECEIVE USER COMMAND TO TEST MODEL
602
RETRIEVE PROPERTIES FROM DATA MODEL
604
SIMULATE MOTION OF THE MODEL
606
IDENTIFY JOINTS BROKEN AS A RESULT OF MOTION
608
REMOVE BROKEN JOINTS FROM THE MODEL
610
END

FIG. 6

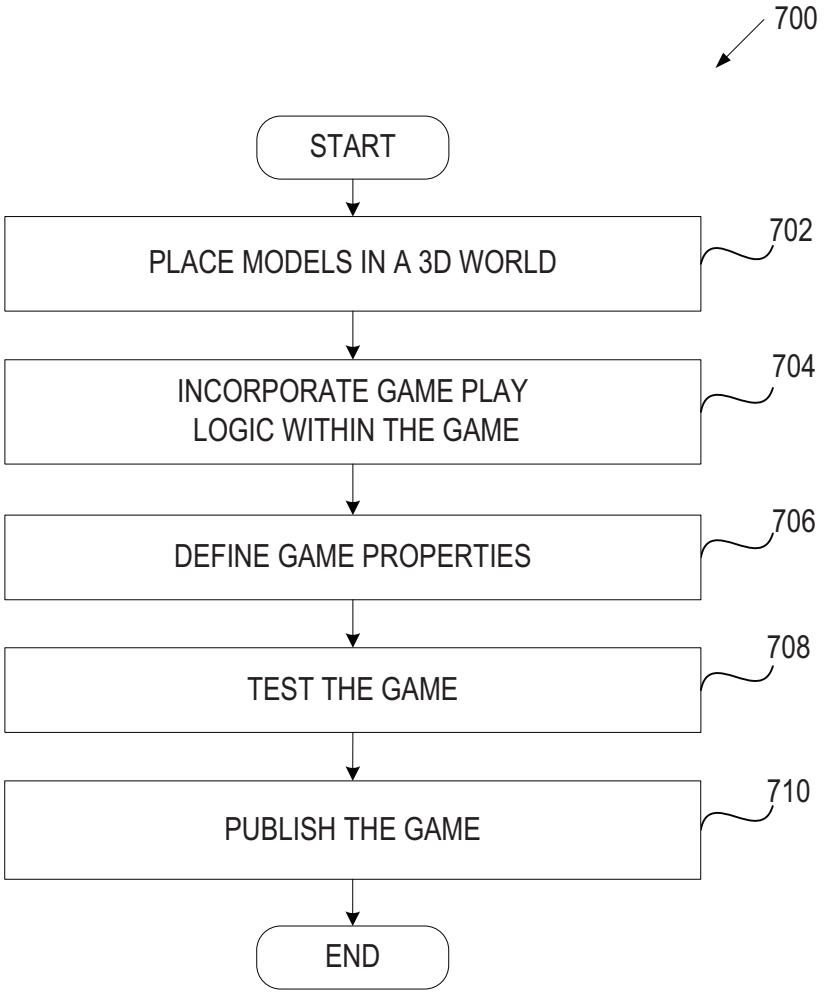

700
START
PLACE MODELS IN A 3D WORLD
702
INCORPORATE GAME PLAY LOGIC WITHIN THE GAME
704
DEFINE GAME PROPERTIES
706
TEST THE GAME
708
PUBLISH THE GAME
710
END

FIG. 7

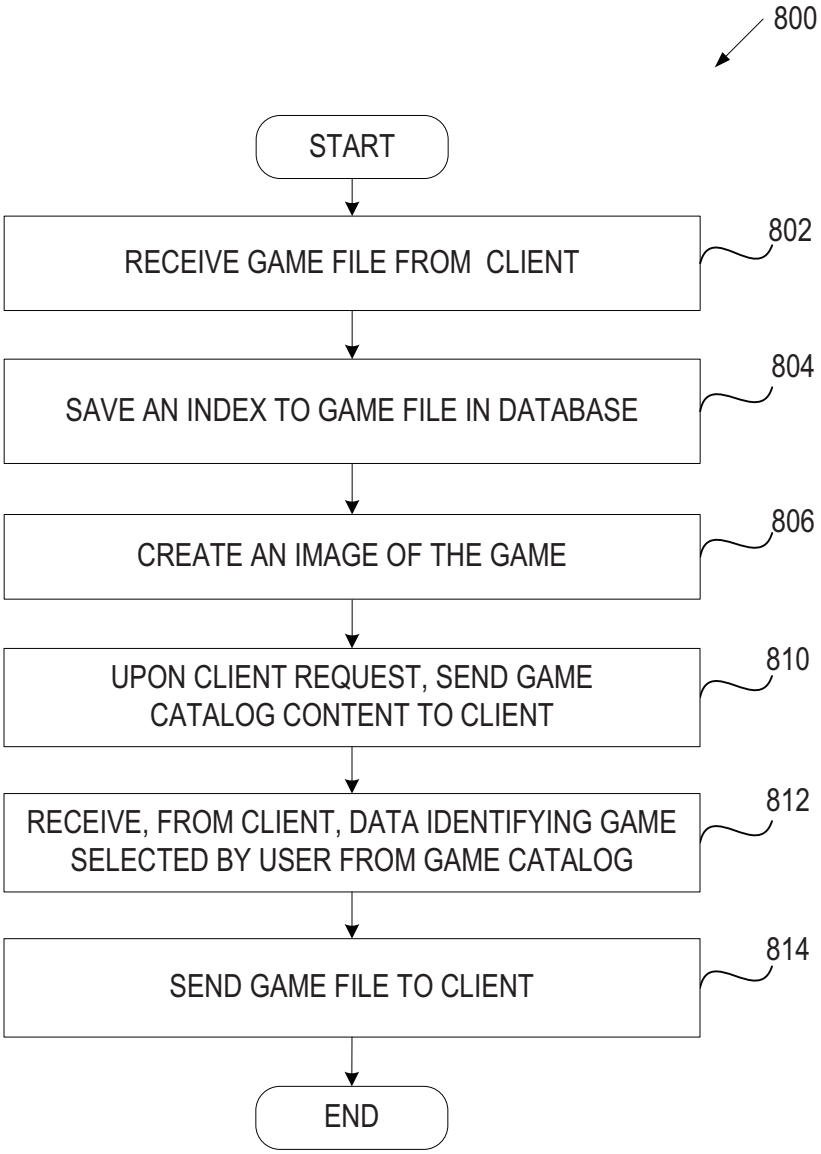

800
START
RECEIVE GAME FILE FROM CLIENT
802
SAVE AN INDEX TO GAME FILE IN DATABASE
804
CREATE AN IMAGE OF THE GAME
806
UPON CLIENT REQUEST, SEND GAME CATALOG CONTENT TO CLIENT
810
RECEIVE, FROM CLIENT, DATA IDENTIFYING GAME SELECTED BY USER FROM GAME CATALOG
812
SEND GAME FILE TO CLIENT
814
END

FIG. 8

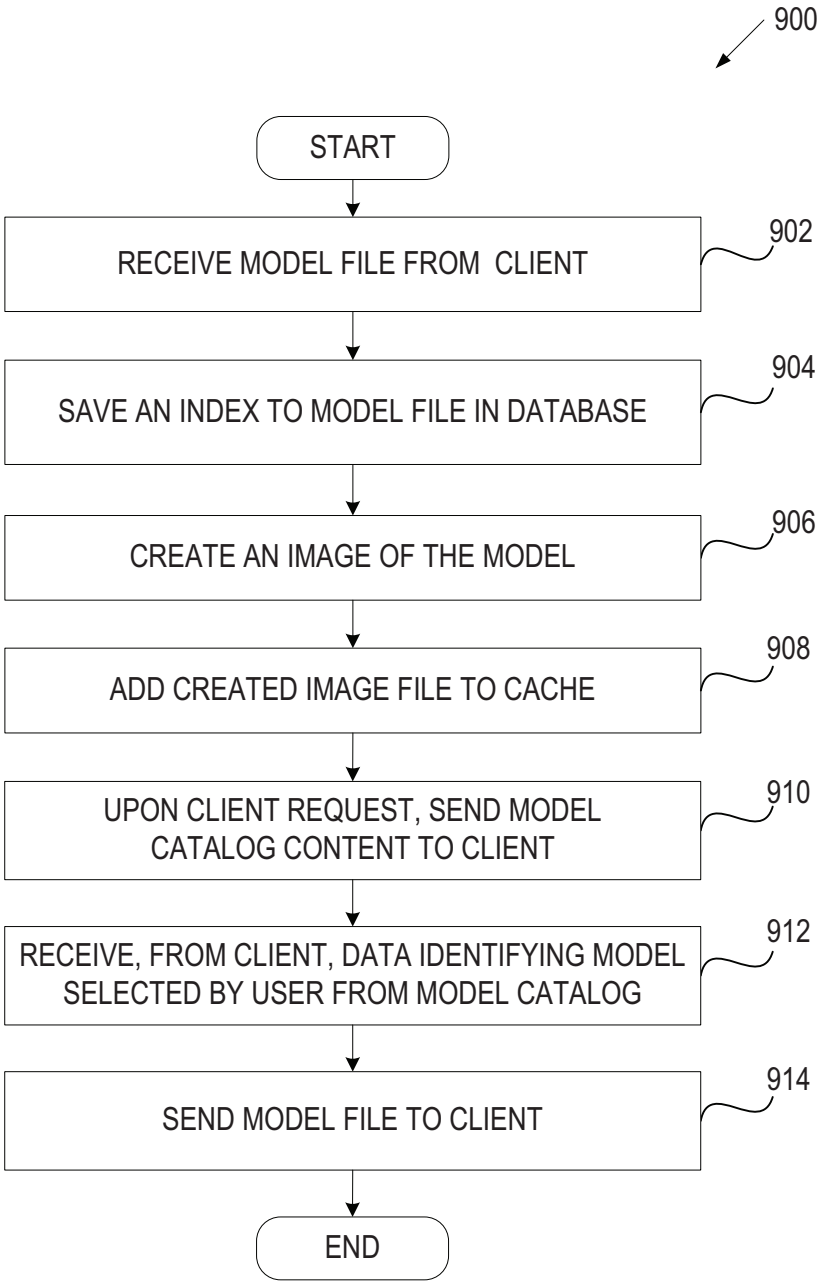

900
START
RECEIVE MODEL FILE FROM CLIENT
902
SAVE AN INDEX TO MODEL FILE IN DATABASE
904
CREATE AN IMAGE OF THE MODEL
906
ADD CREATED IMAGE FILE TO CACHE
908
UPON CLIENT REQUEST, SEND MODEL CATALOG CONTENT TO CLIENT
910
RECEIVE, FROM CLIENT, DATA IDENTIFYING MODEL SELECTED BY USER FROM MODEL CATALOG
912
SEND MODEL FILE TO CLIENT
914
END

FIG. 9

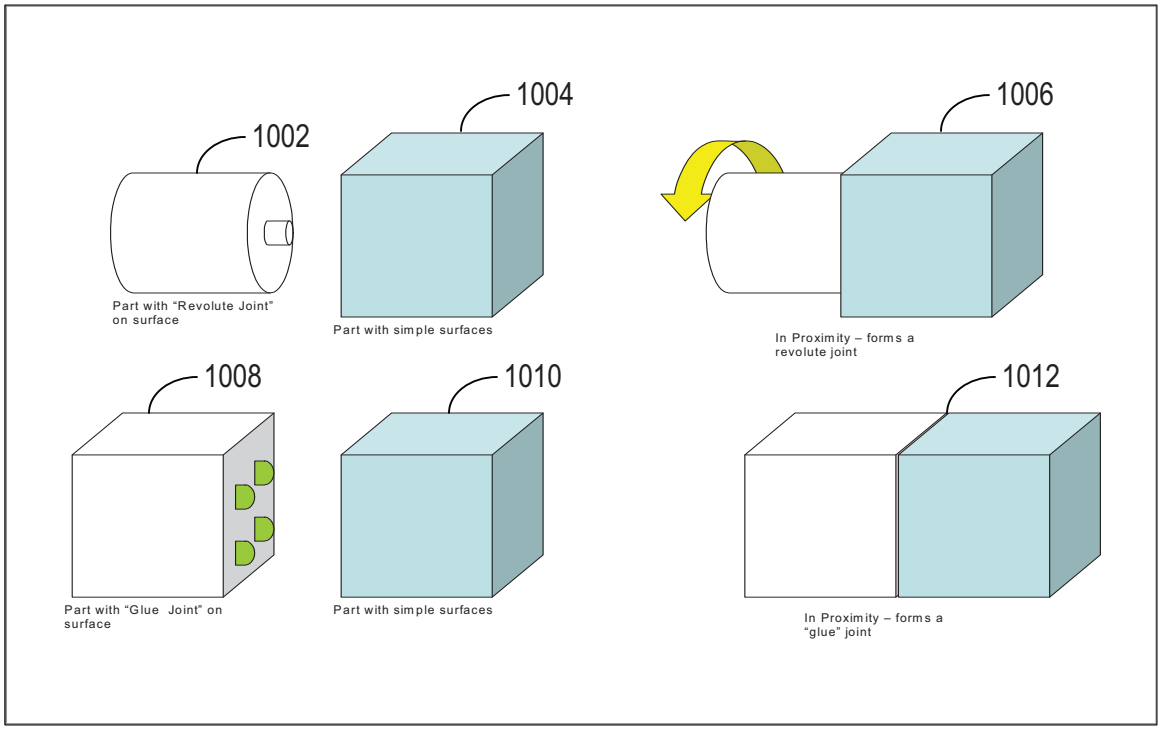

1002
Part with "Revolute Joint" on surface
1004
Part with simple surfaces
1006
In Proximity – forms a revolute joint
1008
Part with "Glue Joint" on surface
1010
Part with simple surfaces
1012
In Proximity – forms a "glue" joint

FIG. 10

	None	Male Snap	Female Snap	Glue	Bolt	Weld	Ball and Socket	Revolute	Motor	Slider	Actuator
None	none	none	none	glue	bolt	weld	ball	rev	motor	slide	actuator
Male Snap	none	none	snap	glue	bolt	weld	ball	rev	motor	slide	actuator
Female Snap	none	snap	none	glue	bolt	weld	ball	rev	motor	slide	actuator
Glue	glue	glue	glue	glue	bolt	weld	ball	rev	motor	slide	actuator
Bolt	bolt	bolt	bolt	bolt	bolt	weld	ball	rev	motor	slide	actuator
Weld	weld	weld	weld	weld	weld	weld	ball	rev	motor	slide	actuator
Ball and Socket	ball	ball	ball	ball	ball	ball	ball	rev	motor	slide	actuator
Revolute	rev	rev	rev	rev	rev	rev	rev	rev	motor	rev-slider	rev-actuator
Motor	motor	motor	motor	motor	motor	motor	motor	motor	motor	motor-slider	motor-actuator
Slider	slider	slider	slider	slider	slider	slider	slider	rev-slider	motor-slider	slider	actuator
Actuator	actuator	actuator	actuator	actuator	actuator	actuator	actuator	rev-actuator	motor-actuator	actuator	actuator

FIG. 11

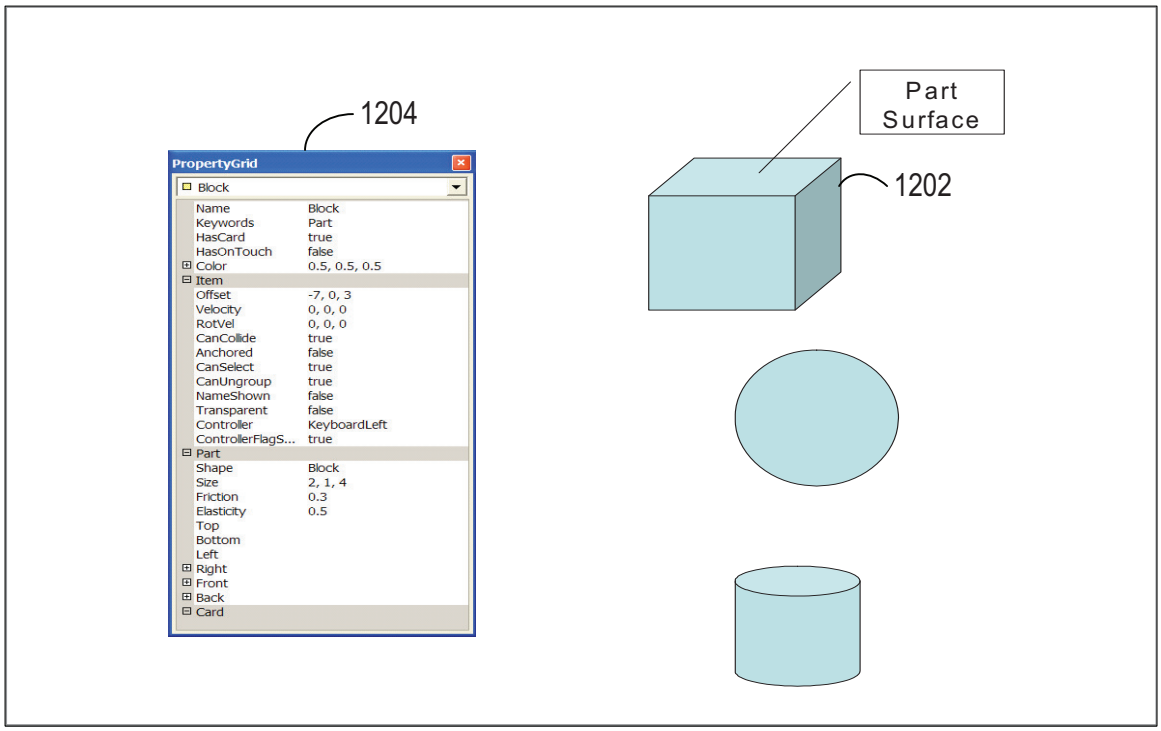


FIG. 12A

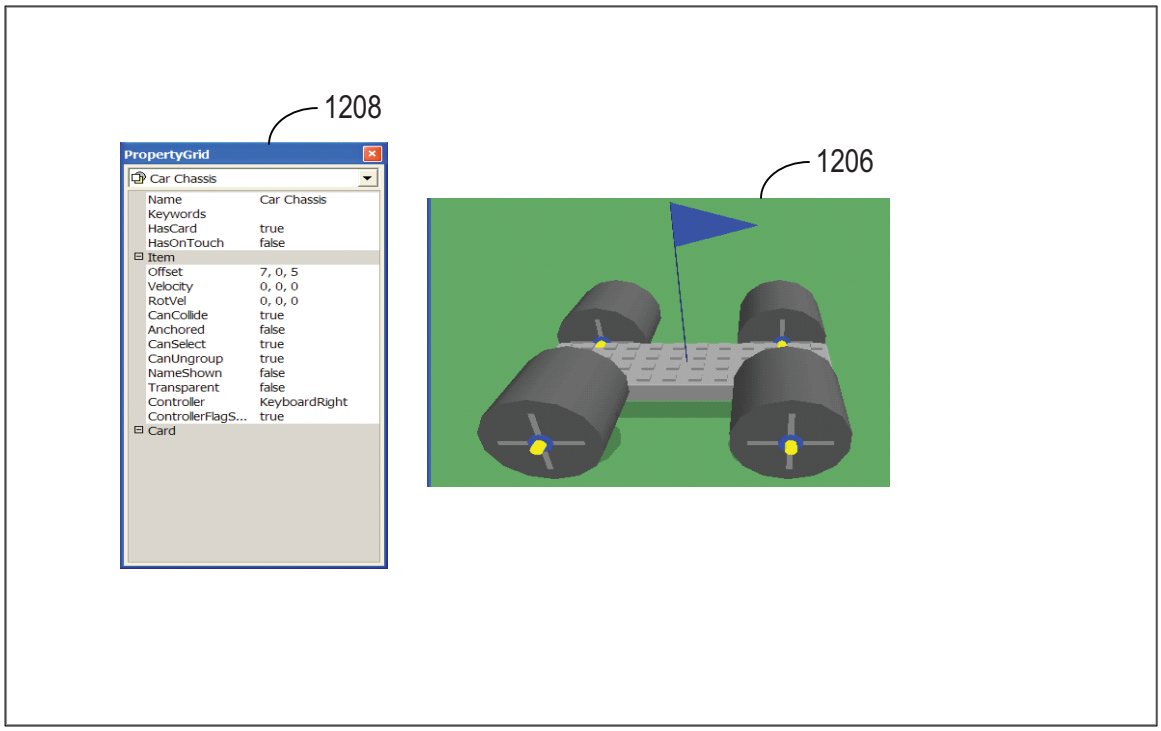


FIG. 12B

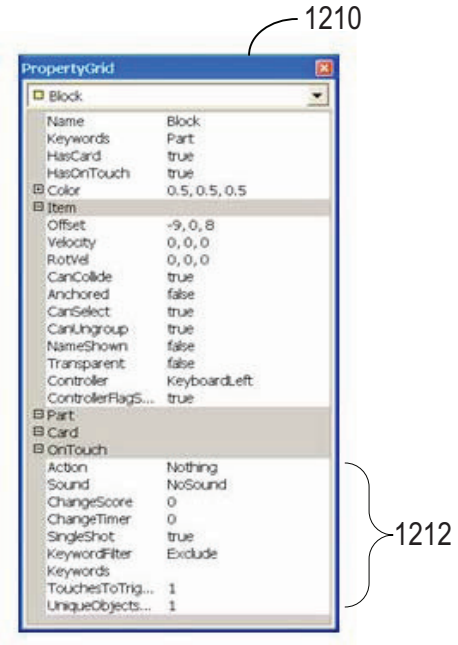


FIG. 12C

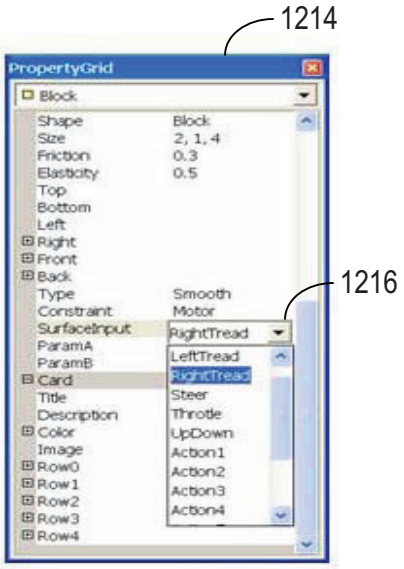


FIG. 12D

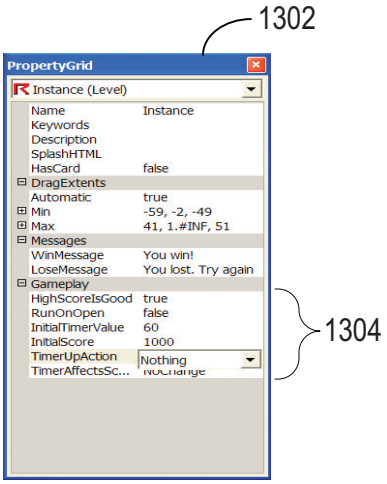


FIG. 13A

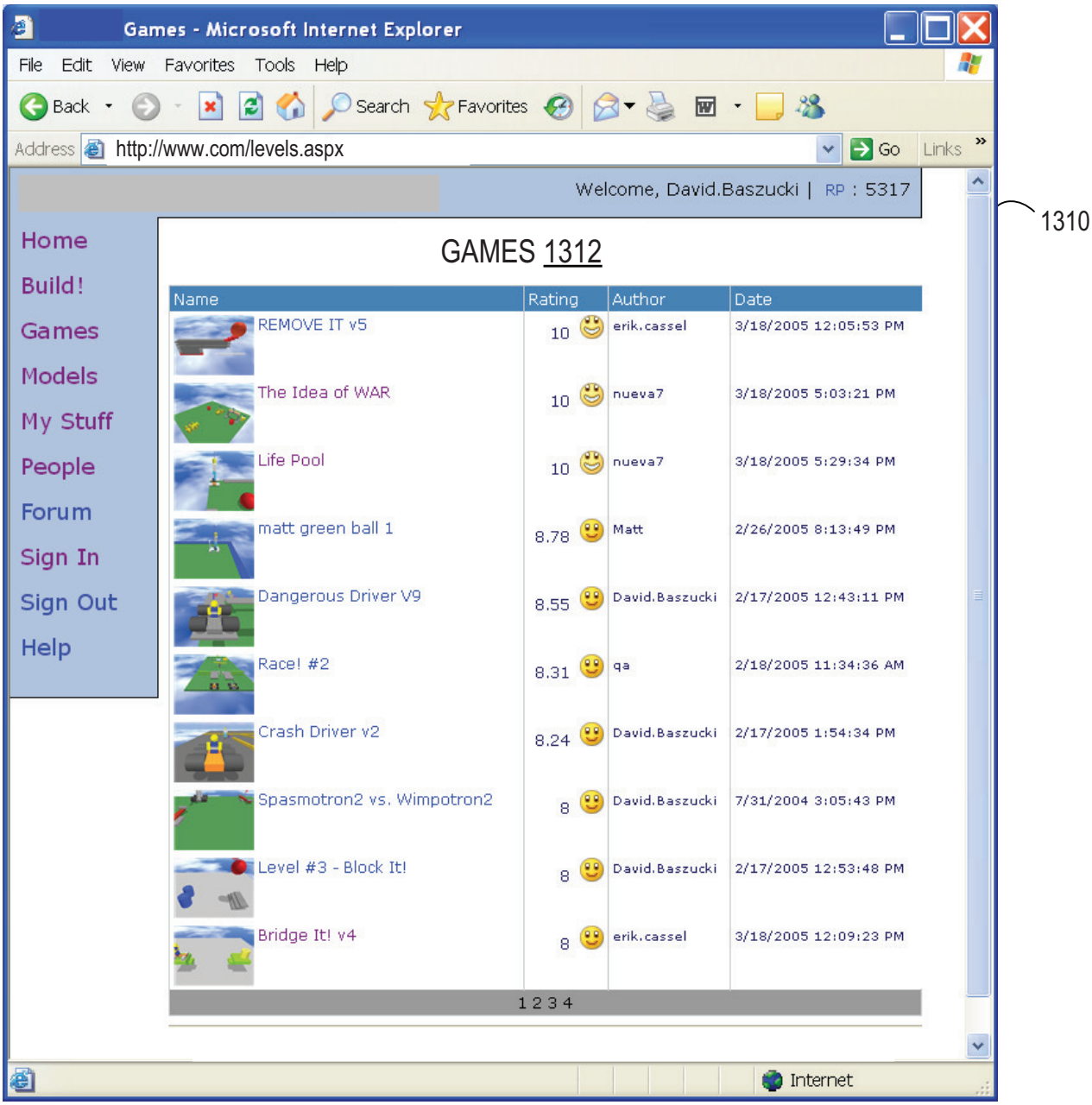

Games - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.com/levels.aspx
Go Links
Welcome, David.Baszucki | RP : 5317
1310
Home
Build!
Games
Models
My Stuff
People
Forum
Sign In
Sign Out
Help
GAMES 1312
Name Rating Author Date
REMOVE IT v5 10 erik.cassel 3/18/2005 12:05:53 PM
The Idea of WAR 10 nueva7 3/18/2005 5:03:21 PM
Life Pool 10 nueva7 3/18/2005 5:29:34 PM
matt green ball 1 8.78 Matt 2/26/2005 8:13:49 PM
Dangerous Driver V9 8.55 David.Baszucki 2/17/2005 12:43:11 PM
Race! #2 8.31 qa 2/18/2005 11:34:36 AM
Crash Driver v2 8.24 David.Baszucki 2/17/2005 1:54:34 PM
Spasmotron2 vs. Wimpotron2 8 David.Baszucki 7/31/2004 3:05:43 PM
Level #3 - Block It! 8 David.Baszucki 2/17/2005 12:53:48 PM
Bridge It! v4 8 erik.cassel 3/18/2005 12:09:23 PM
1 2 3 4
Internet

FIG. 13B

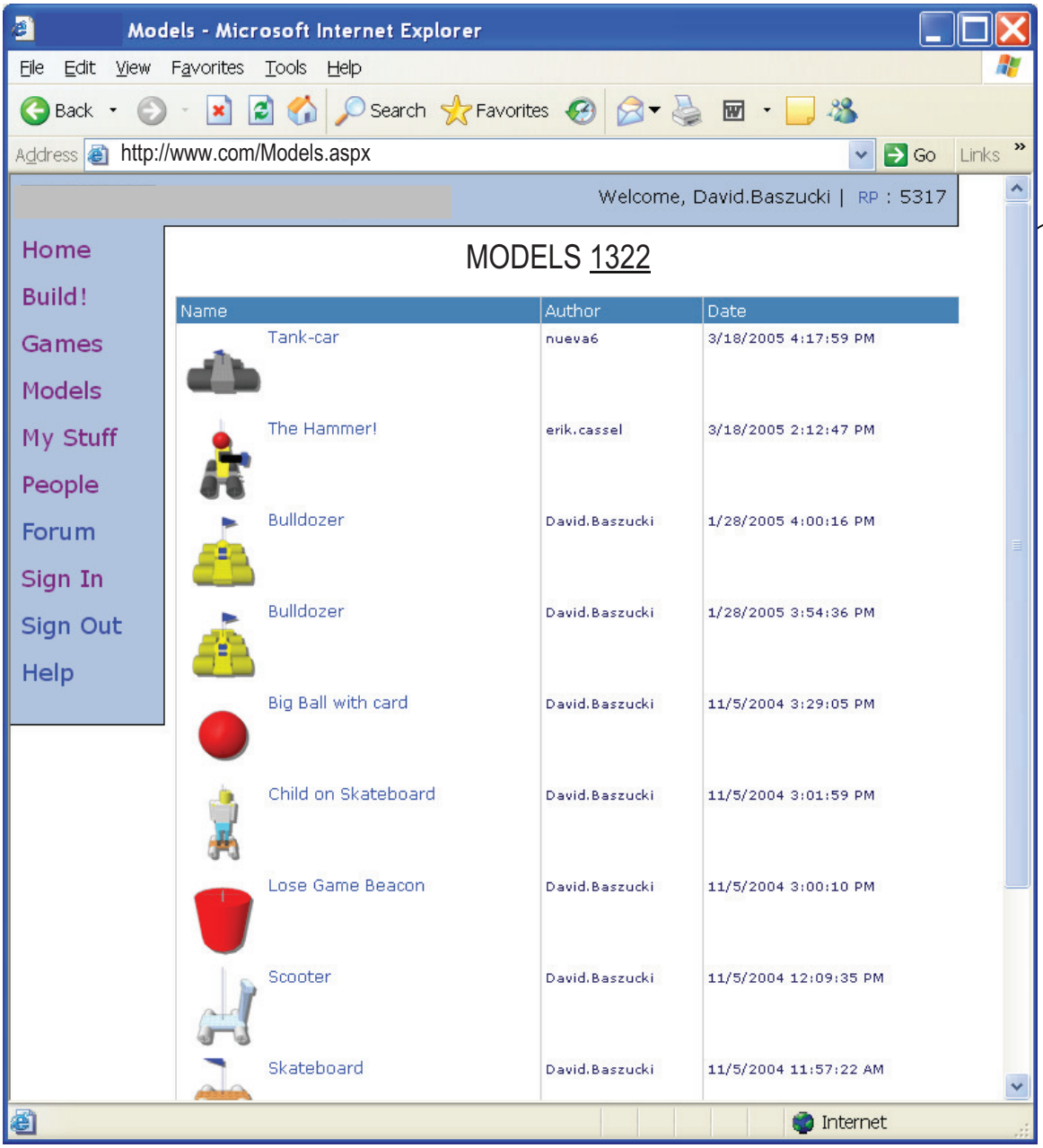

Models - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://www.com/Models.aspx
Go Links
Welcome, David.Baszucki | RP : 5317
Home
Build!
Games
Models
My Stuff
People
Forum
Sign In
Sign Out
Help
MODELS 1322
Name Author Date
Tank-car nueva6 3/18/2005 4:17:59 PM
The Hammer! erik.cassel 3/18/2005 2:12:47 PM
Bulldozer David.Baszucki 1/28/2005 4:00:16 PM
Bulldozer David.Baszucki 1/28/2005 3:54:36 PM
Big Ball with card David.Baszucki 11/5/2004 3:29:05 PM
Child on Skateboard David.Baszucki 11/5/2004 3:01:59 PM
Lose Game Beacon David.Baszucki 11/5/2004 3:00:10 PM
Scooter David.Baszucki 11/5/2004 12:09:35 PM
Skateboard David.Baszucki 11/5/2004 11:57:22 AM
Internet
1320

FIG. 13C

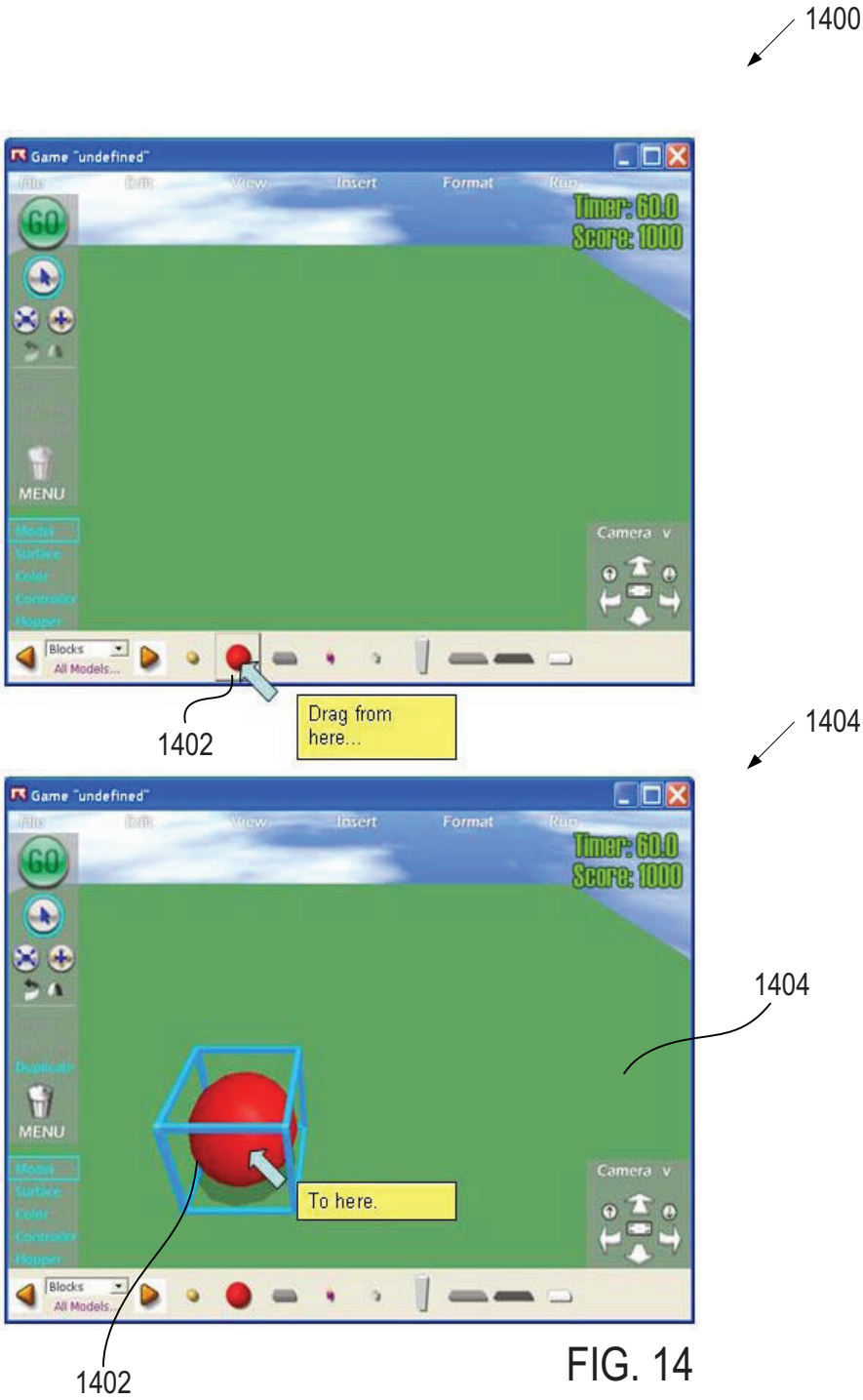
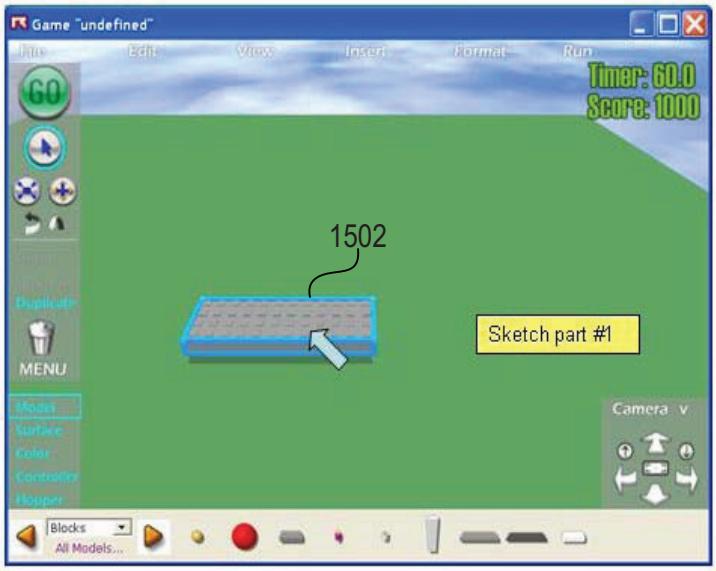

1400
Game "undefined"
File
Edit
View
Insert
Format
Run
Timer: 60.0
Score: 1000
GO
MENU
Mode
Surface
Color
Controller
Hopper
Camera
Blocks
All Models...
1402
Drag from here...
1404
Game "undefined"
File
Edit
View
Insert
Format
Run
Timer: 60.0
Score: 1000
GO
Duplicate
MENU
Mode
Surface
Color
Controller
Hopper
Camera
To here.
Blocks
All Models...
1404
1402

FIG. 14

1500


Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
1502
Sketch part #1
Duplicate
MENU
Model
Surface
Color
Controller
Hopper
Camera
Blocks
All Models...

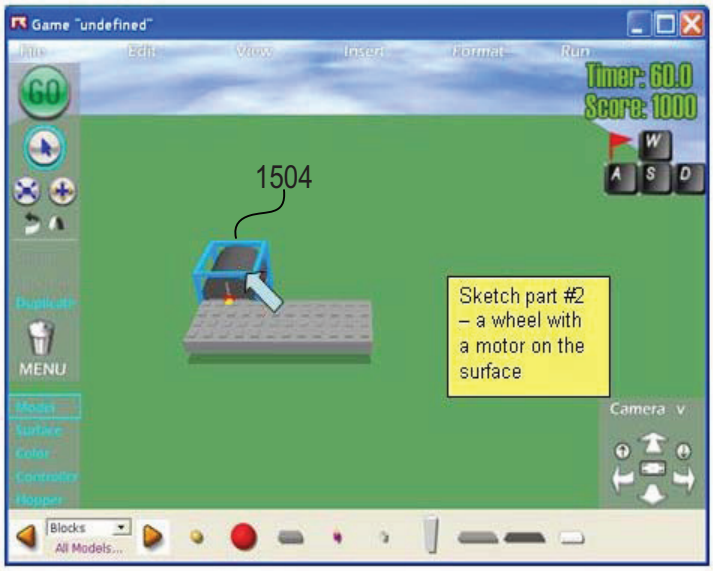

Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
W
A
S
D
1504
Sketch part #2 – a wheel with a motor on the surface
Duplicate
MENU
Model
Surface
Color
Controller
Hopper
Camera
Blocks
All Models...

FIG. 15A

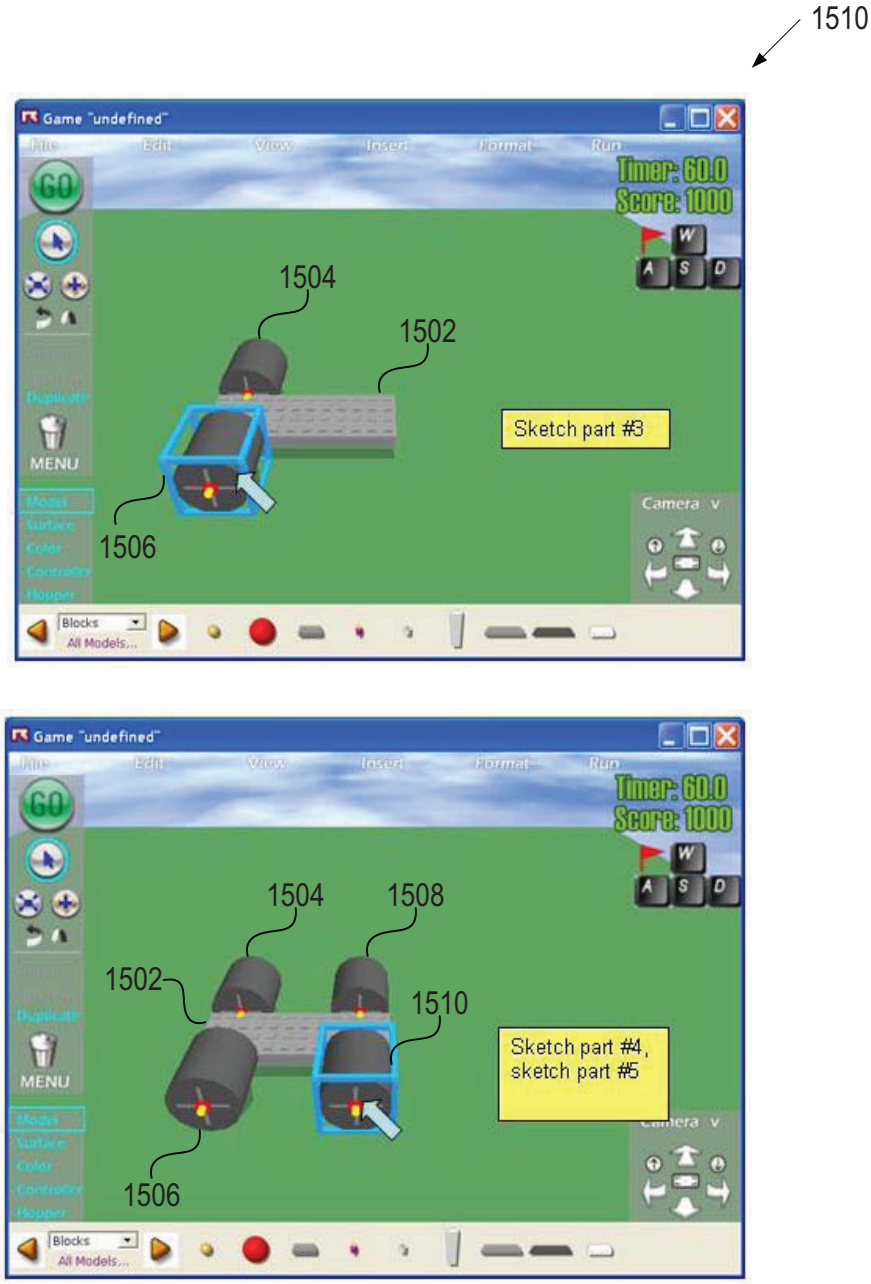

1510
Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
W
A
S
D
1504
1502
Sketch part #3
MENU
Duplicate
Model
Surface
Color
Controller
Hopper
1506
Camera
Blocks
All Models...
Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
W
A
S
D
1504
1508
1502
1510
Sketch part #4,
sketch part #5
MENU
Duplicate
Model
Surface
Color
Controller
Hopper
1506
Camera
Blocks
All Models...

FIG. 15B

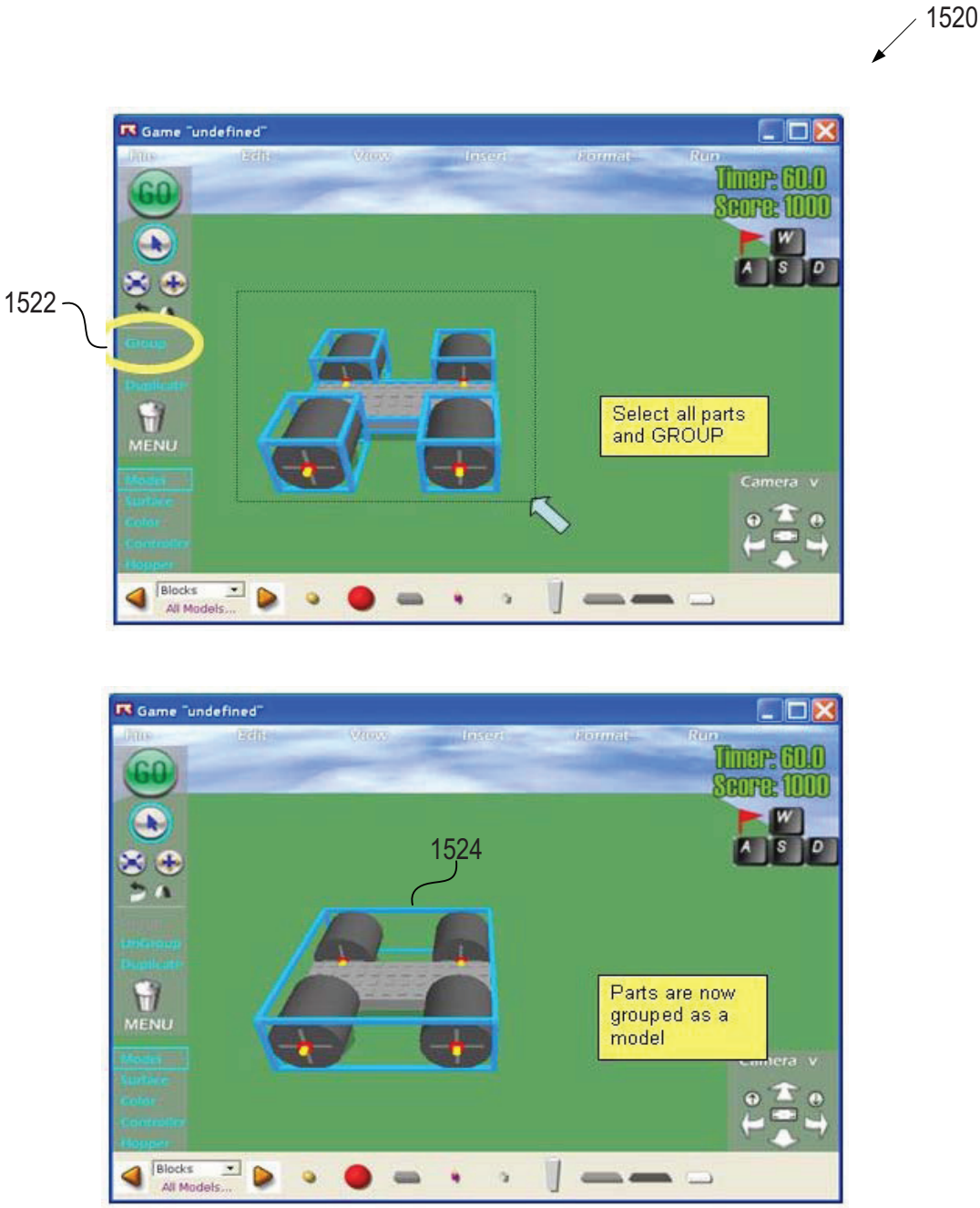

1520
1522
Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
W
A
S
D
Group
Duplicate
MENU
Mode
Surface
Color
Controller
Hopper
Select all parts and GROUP
Camera
Blocks
All Models...
1524
UnGroup
Parts are now grouped as a model

FIG. 15C

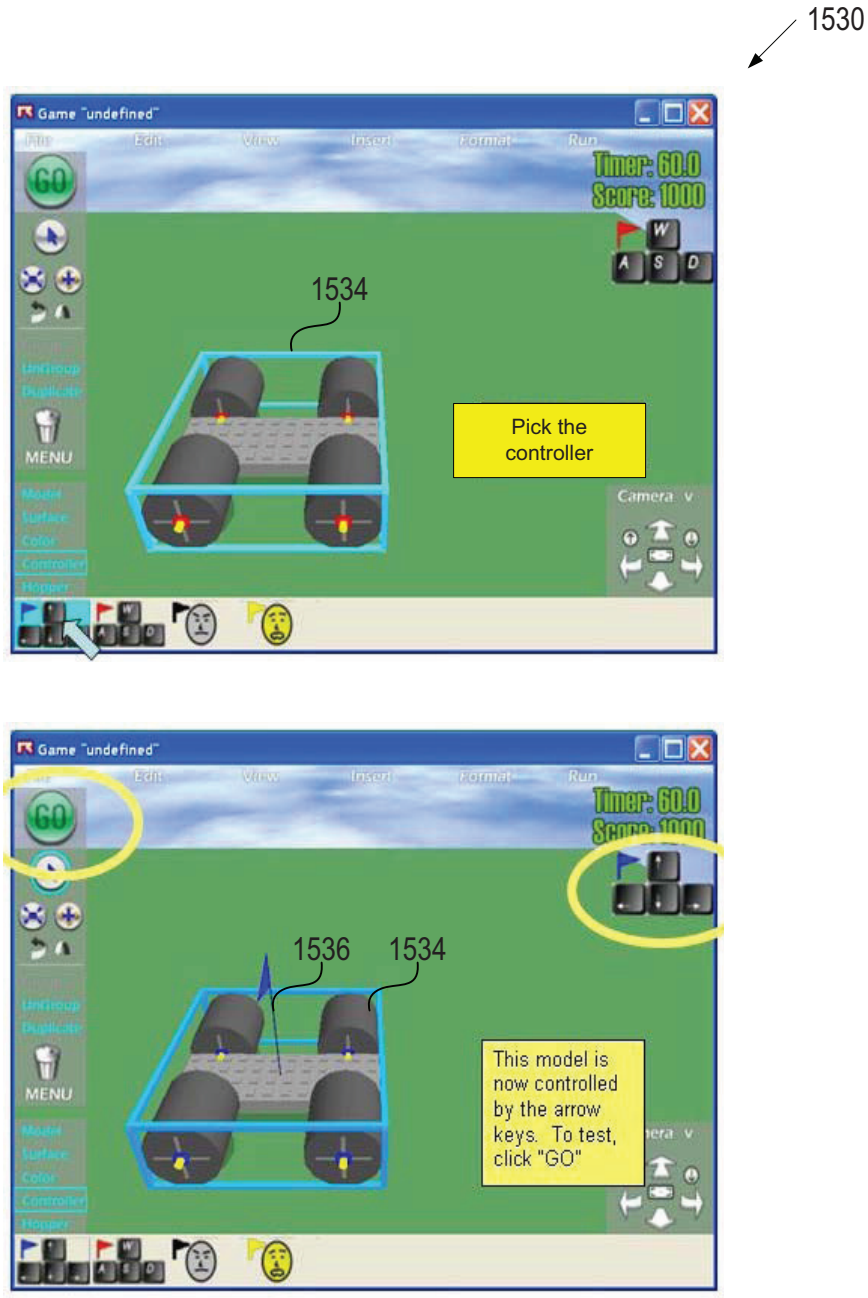

1530
Game "undefined"
File
Edit
View
Insert
Format
Run
GO
Timer: 60.0
Score: 1000
W
A
S
D
1534
Pick the controller
MENU
Camera
Game "undefined"
Edit
View
Insert
Format
Run
GO
Timer: 60.0
1536
1534
This model is now controlled by the arrow keys. To test, click "GO"
MENU

FIG. 15D

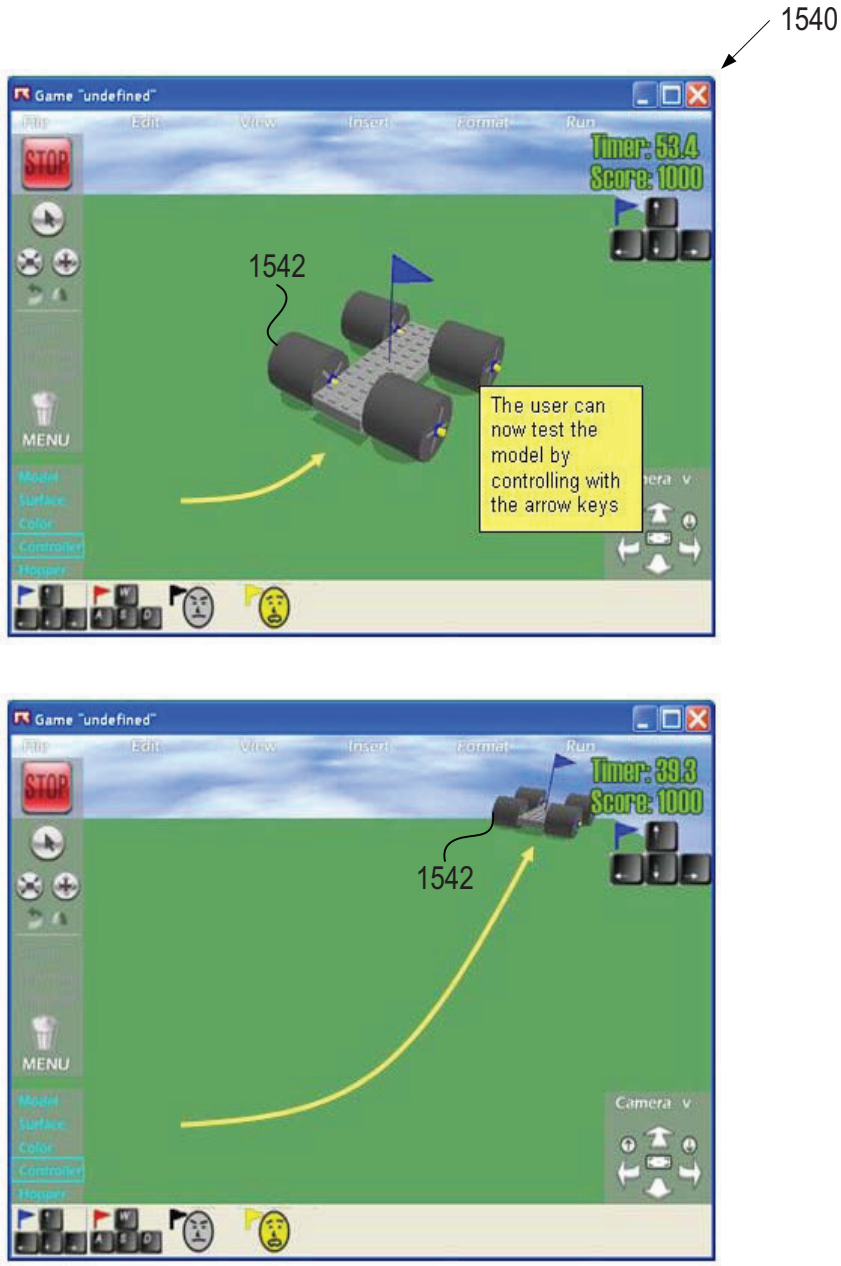

1540
Game "undefined"
File
Edit
View
Insert
Format
Run
STOP
Timer: 53.4
Score: 1000
1542
MENU
Model
Surface
Color
Controller
Hopper
The user can now test the model by controlling with the arrow keys
Game "undefined"
File
Edit
View
Insert
Format
Run
STOP
Timer: 39.3
Score: 1000
1542
MENU
Model
Surface
Color
Controller
Hopper
Camera

FIG. 15E

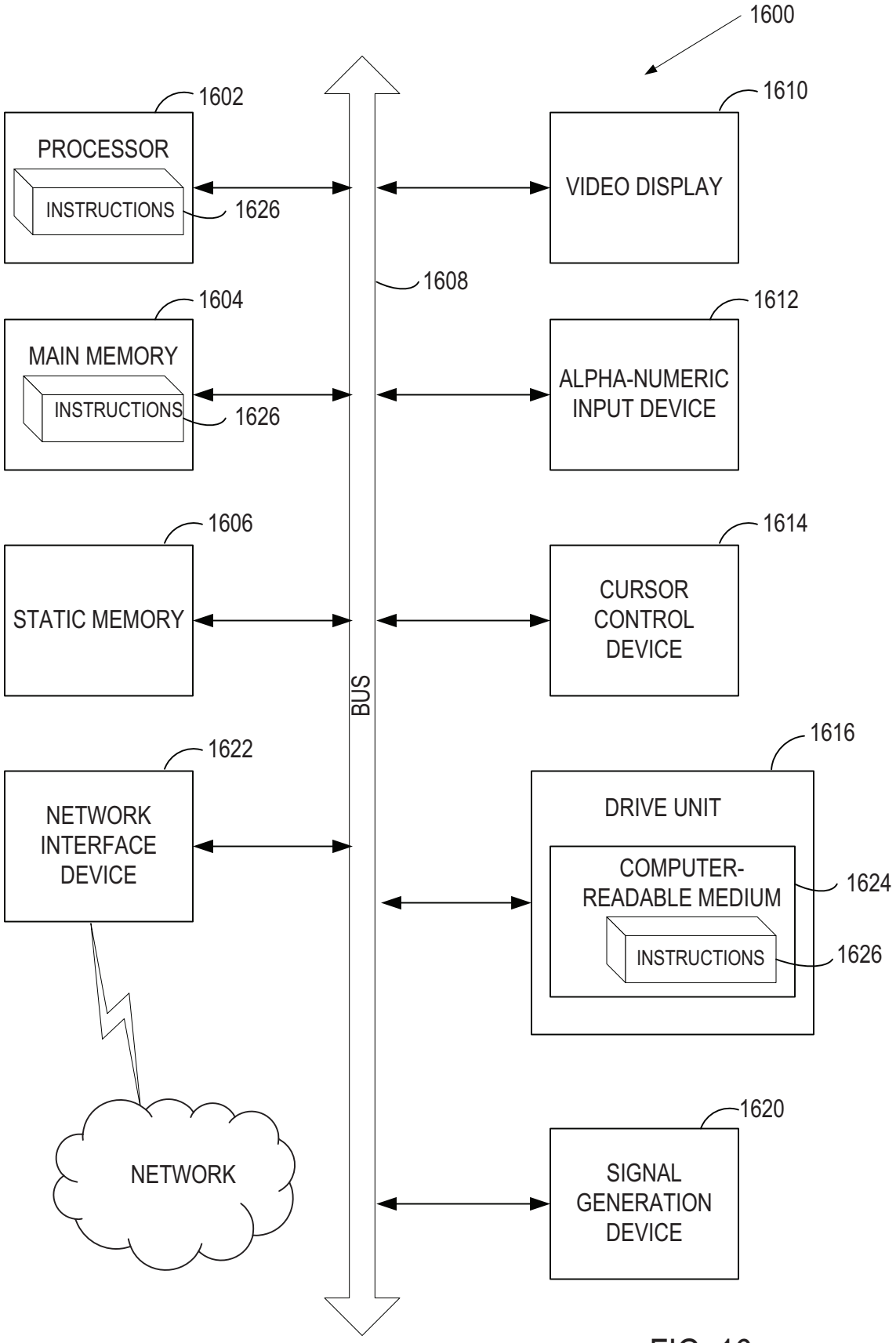

1600
1602
PROCESSOR
INSTRUCTIONS
1626
1610
VIDEO DISPLAY
1608
1604
MAIN MEMORY
INSTRUCTIONS
1626
1612
ALPHA-NUMERIC INPUT DEVICE
1606
STATIC MEMORY
1614
CURSOR CONTROL DEVICE
BUS
1622
NETWORK INTERFACE DEVICE
1616
DRIVE UNIT
COMPUTER-READABLE MEDIUM
1624
INSTRUCTIONS
1626
NETWORK
1620
SIGNAL GENERATION DEVICE

FIG. 16