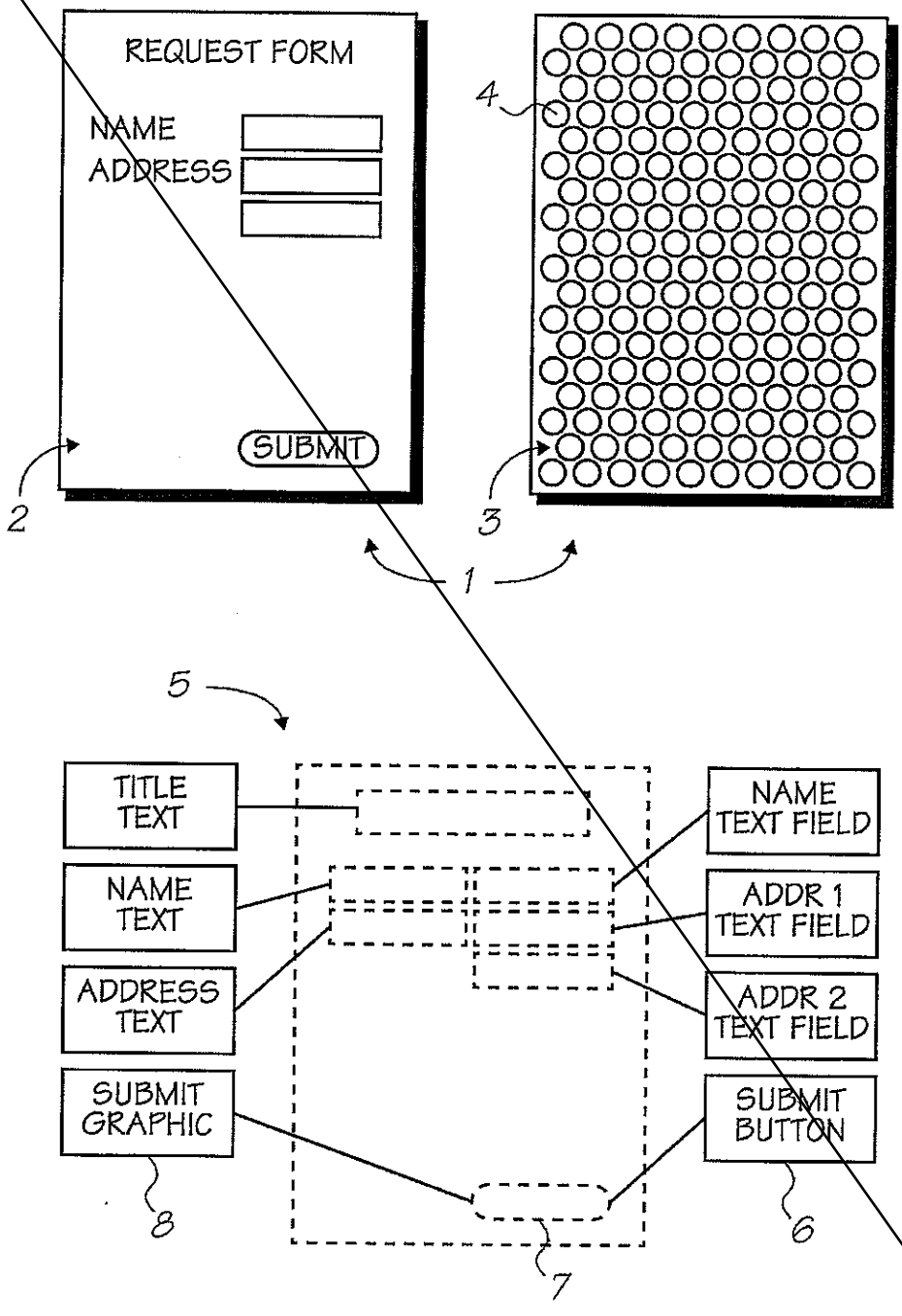

REQUEST FORM
NAME
ADDRESS
SUBMIT
2
4
3
1
5
TITLE TEXT
NAME TEXT
ADDRESS TEXT
SUBMIT GRAPHIC
8
NAME TEXT FIELD
ADDR 1 TEXT FIELD
ADDR 2 TEXT FIELD
SUBMIT BUTTON
6
7

FIG. 1

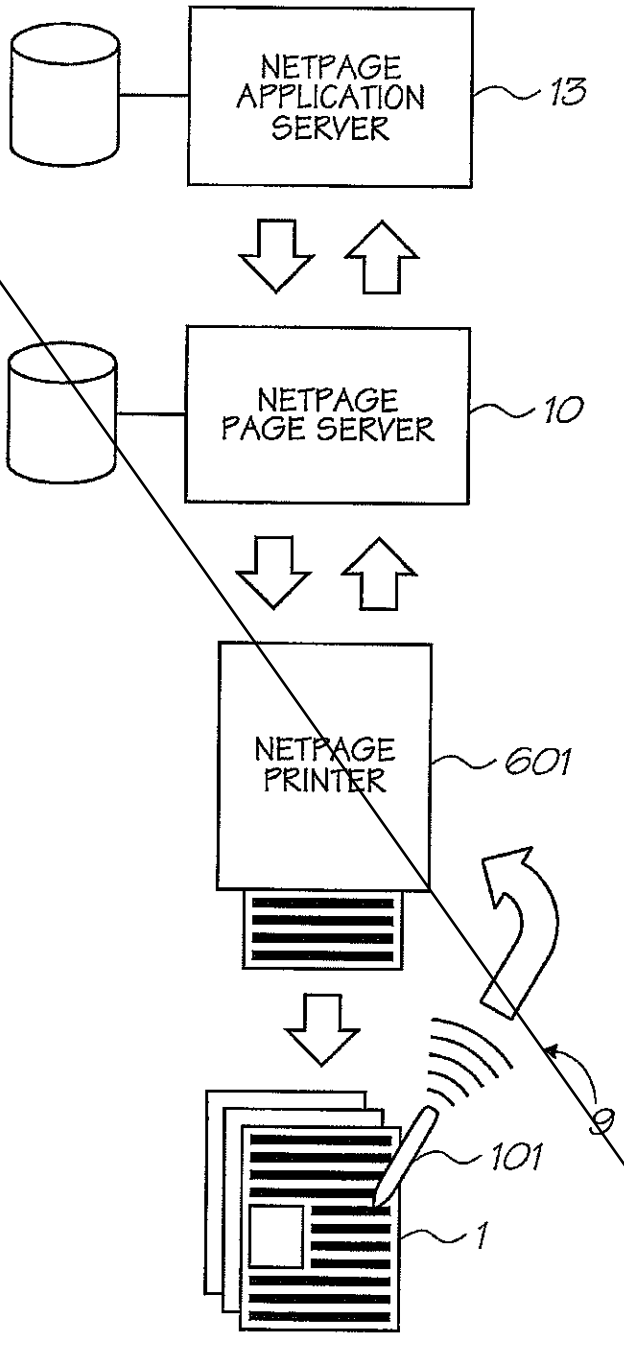

NETPAGE
APPLICATION
SERVER
13
NETPAGE
PAGE SERVER
10
NETPAGE
PRINTER
601
9
101
1

FIG. 2

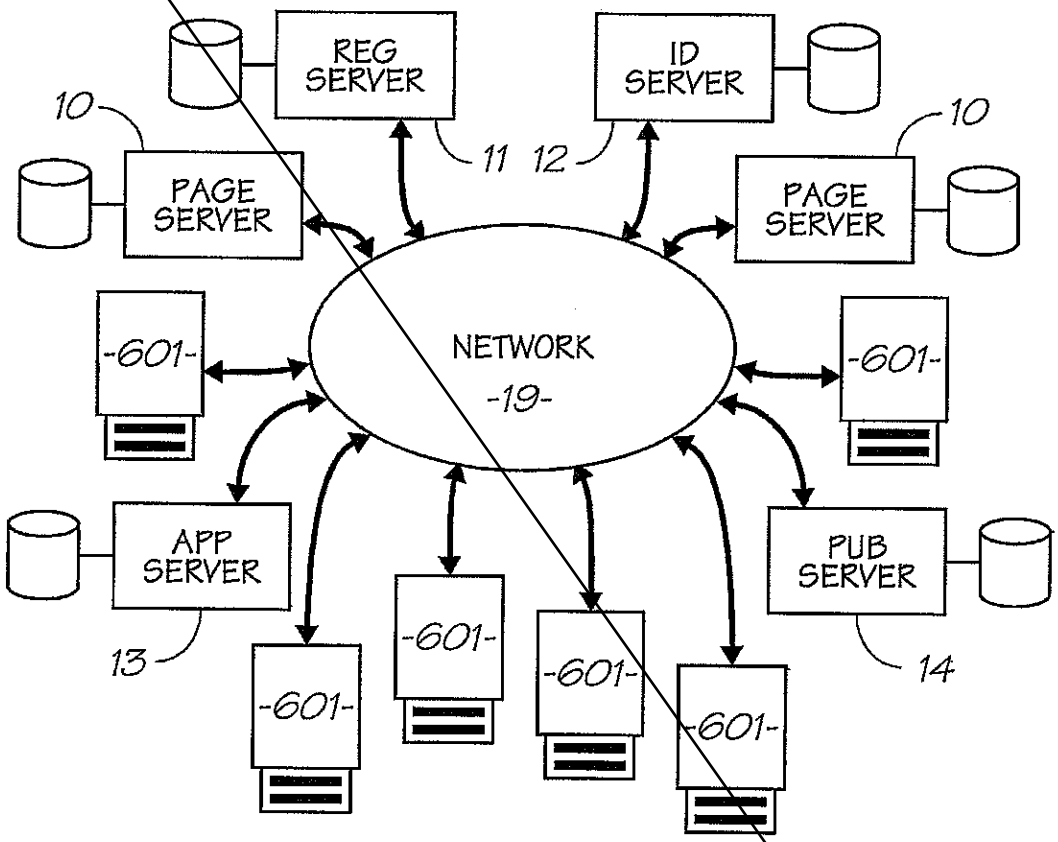

REG SERVER
ID SERVER
10
PAGE SERVER
11
12
10
PAGE SERVER
-601-
NETWORK
-19-
-601-
APP SERVER
PUB SERVER
13
14
-601-
-601-
-601-
-601-

FIG. 3

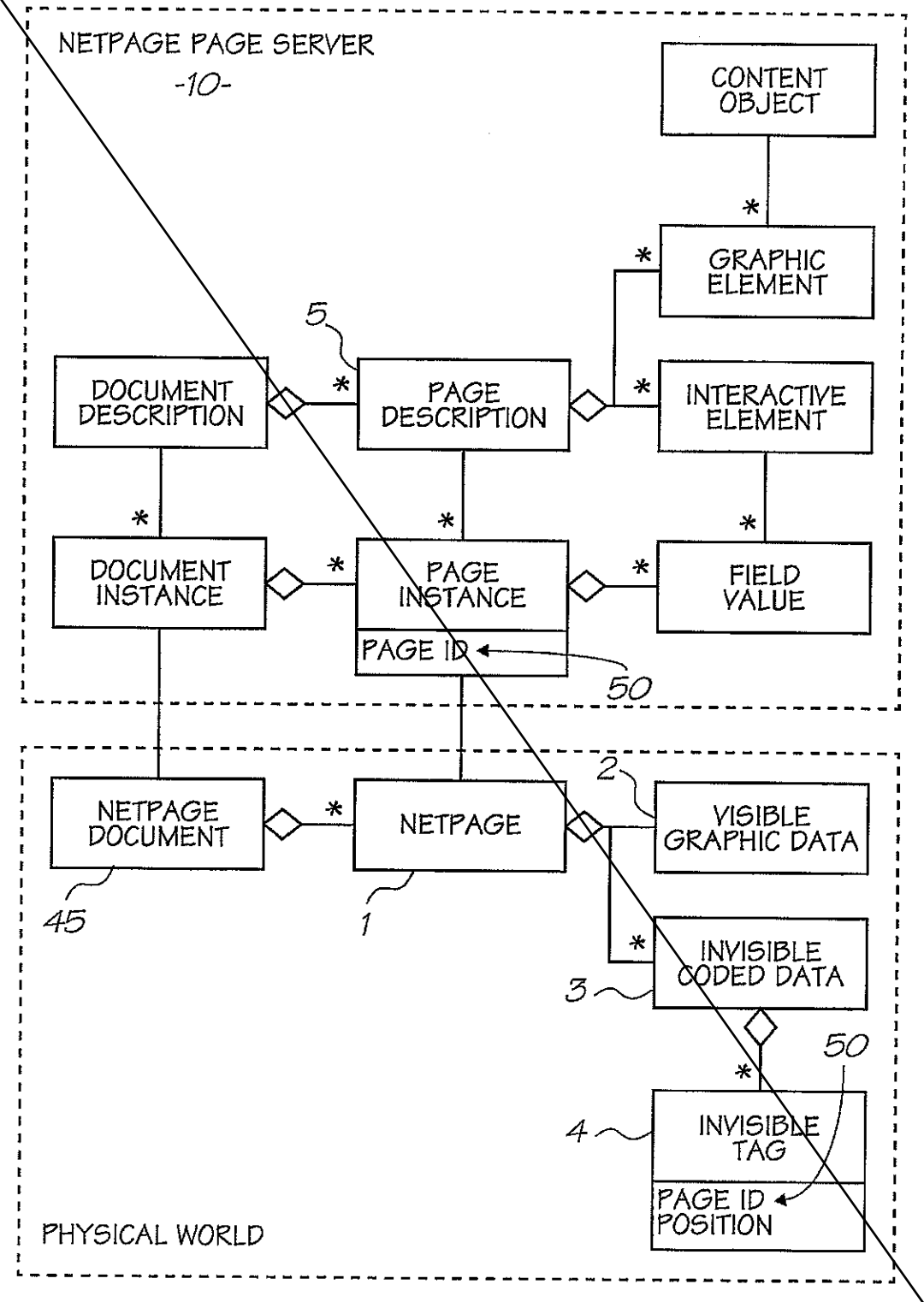

NETPAGE PAGE SERVER
-10-
CONTENT OBJECT
GRAPHIC ELEMENT
INTERACTIVE ELEMENT
FIELD VALUE
5
DOCUMENT DESCRIPTION
PAGE DESCRIPTION
DOCUMENT INSTANCE
PAGE INSTANCE
PAGE ID
50
NETPAGE DOCUMENT
NETPAGE
45
1
2
VISIBLE GRAPHIC DATA
INVISIBLE CODED DATA
3
50
4
INVISIBLE TAG
PAGE ID
POSITION
PHYSICAL WORLD

FIG. 4

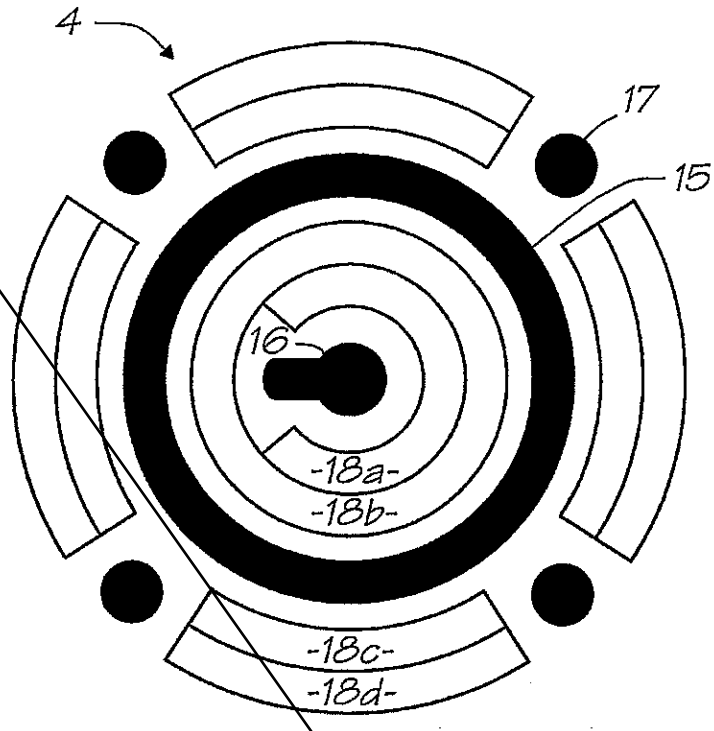


FIG. 5a

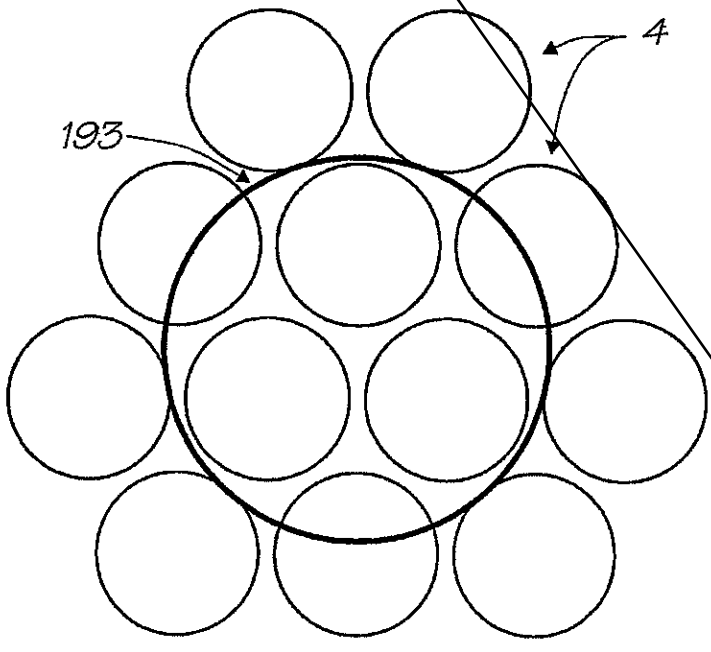


FIG. 5b

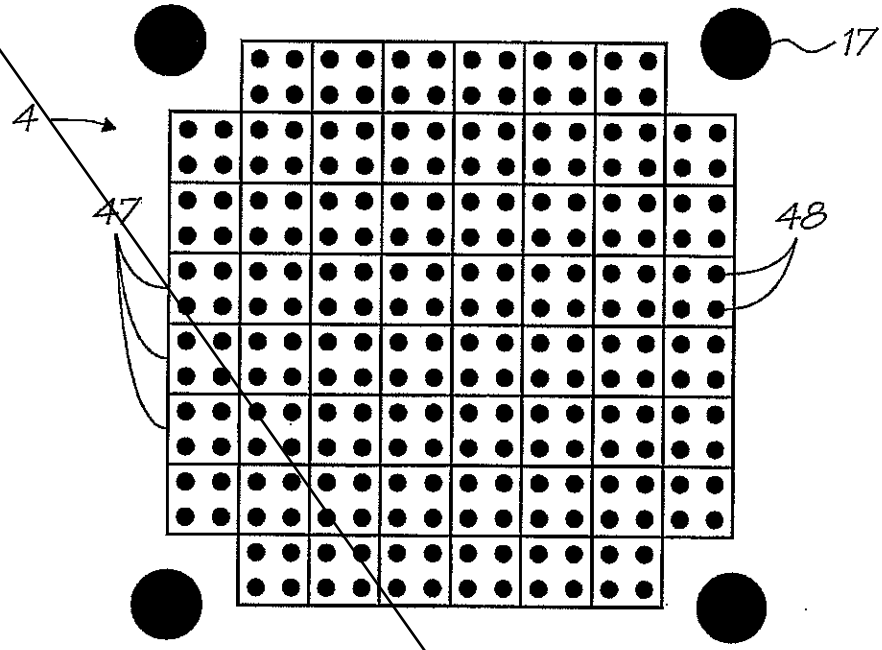


FIG. 6a

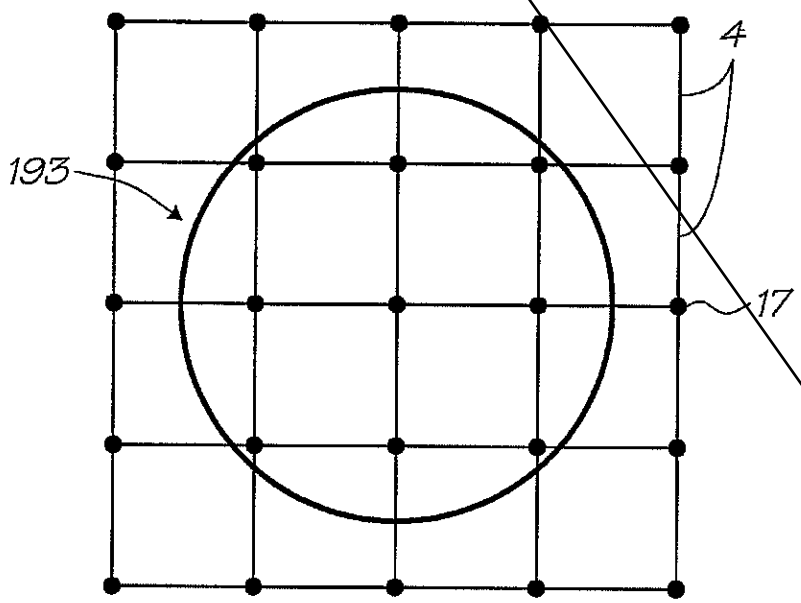


FIG. 6b

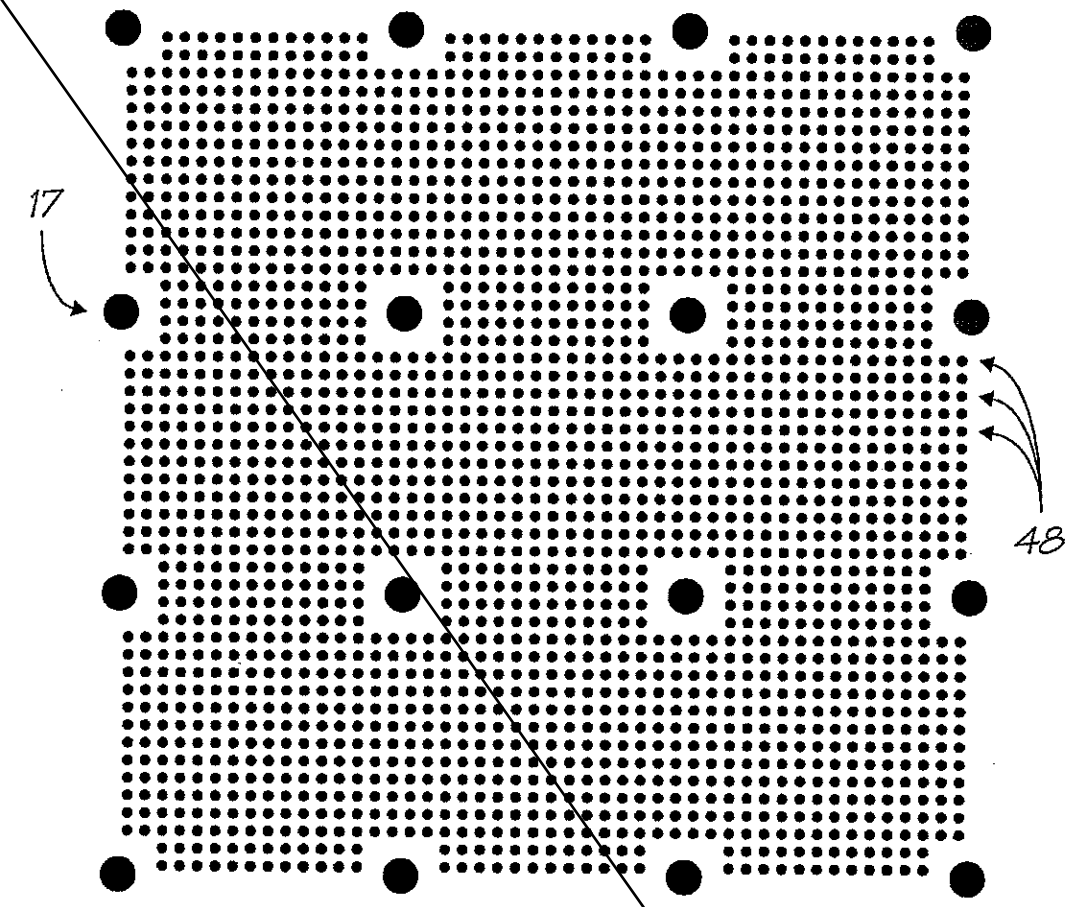

17
48

FIG. 6c

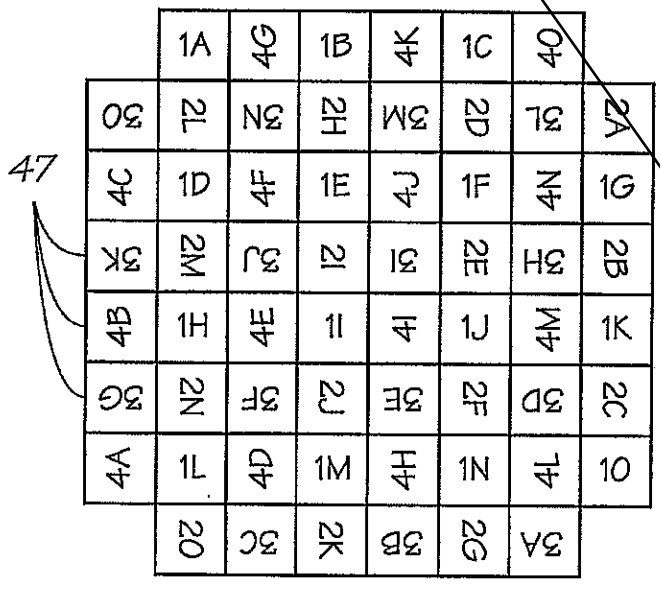

47
1A 4G 1B 4K 1C 4O
3O 2L 3N 2H 3M 2D 3L 2A
4C 1D 4F 1E 4J 1F 4N 1G
3K 2M 3J 2I 3I 2E 3H 2B
4B 1H 4E 1I 4I 1J 4M 1K
3G 2N 3F 2J 3E 2F 3D 2C
4A 1L 4D 1M 4H 1N 4L 1O
2O 3C 2K 3B 2G 3A

FIG. 6d

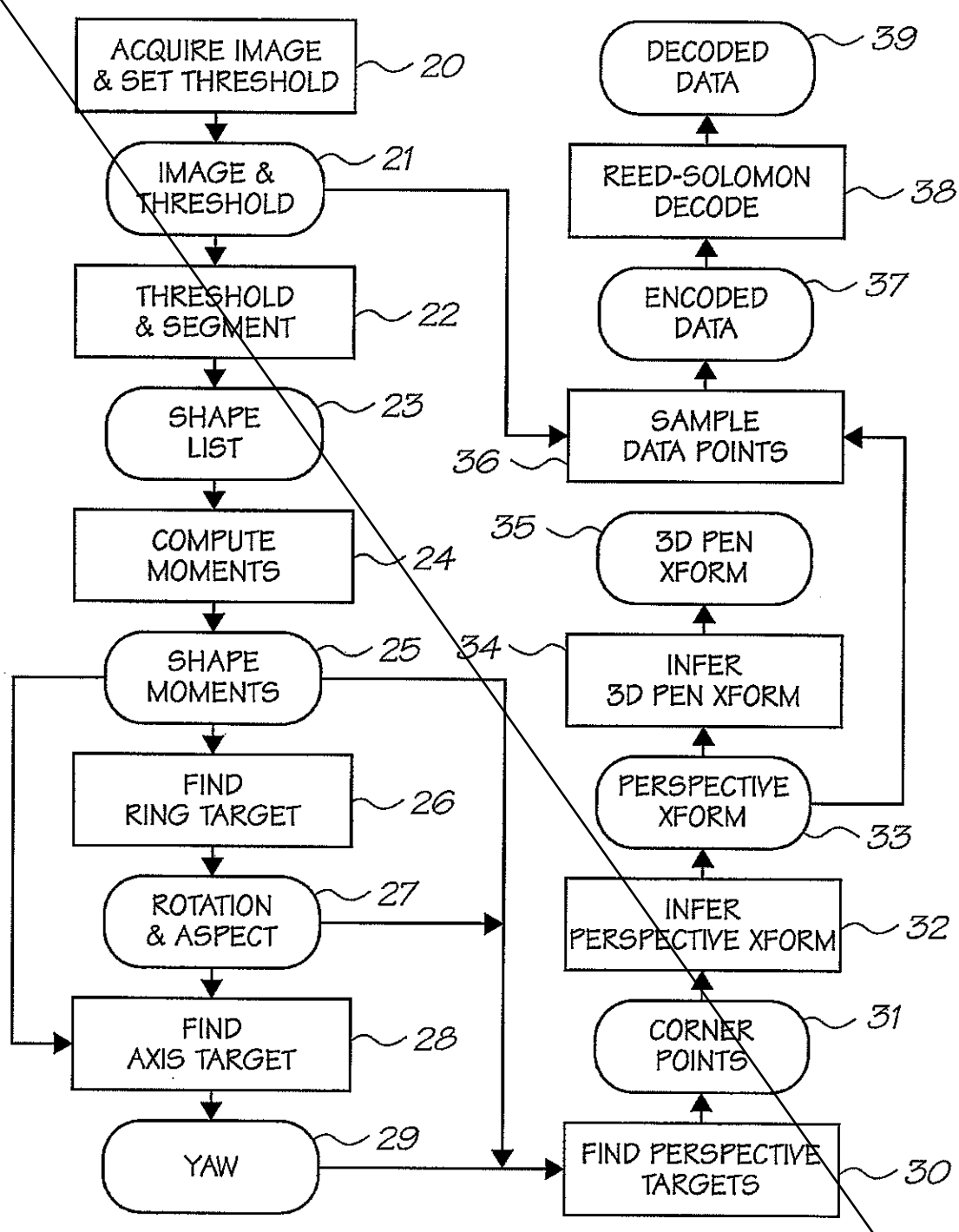

ACQUIRE IMAGE & SET THRESHOLD
20
IMAGE & THRESHOLD
21
THRESHOLD & SEGMENT
22
SHAPE LIST
23
COMPUTE MOMENTS
24
SHAPE MOMENTS
25
FIND RING TARGET
26
ROTATION & ASPECT
27
FIND AXIS TARGET
28
YAW
29
FIND PERSPECTIVE TARGETS
30
CORNER POINTS
31
INFER PERSPECTIVE XFORM
32
PERSPECTIVE XFORM
33
INFER 3D PEN XFORM
34
3D PEN XFORM
35
SAMPLE DATA POINTS
36
ENCODED DATA
37
REED-SOLOMON DECODE
38
DECODED DATA
39

FIG. 7

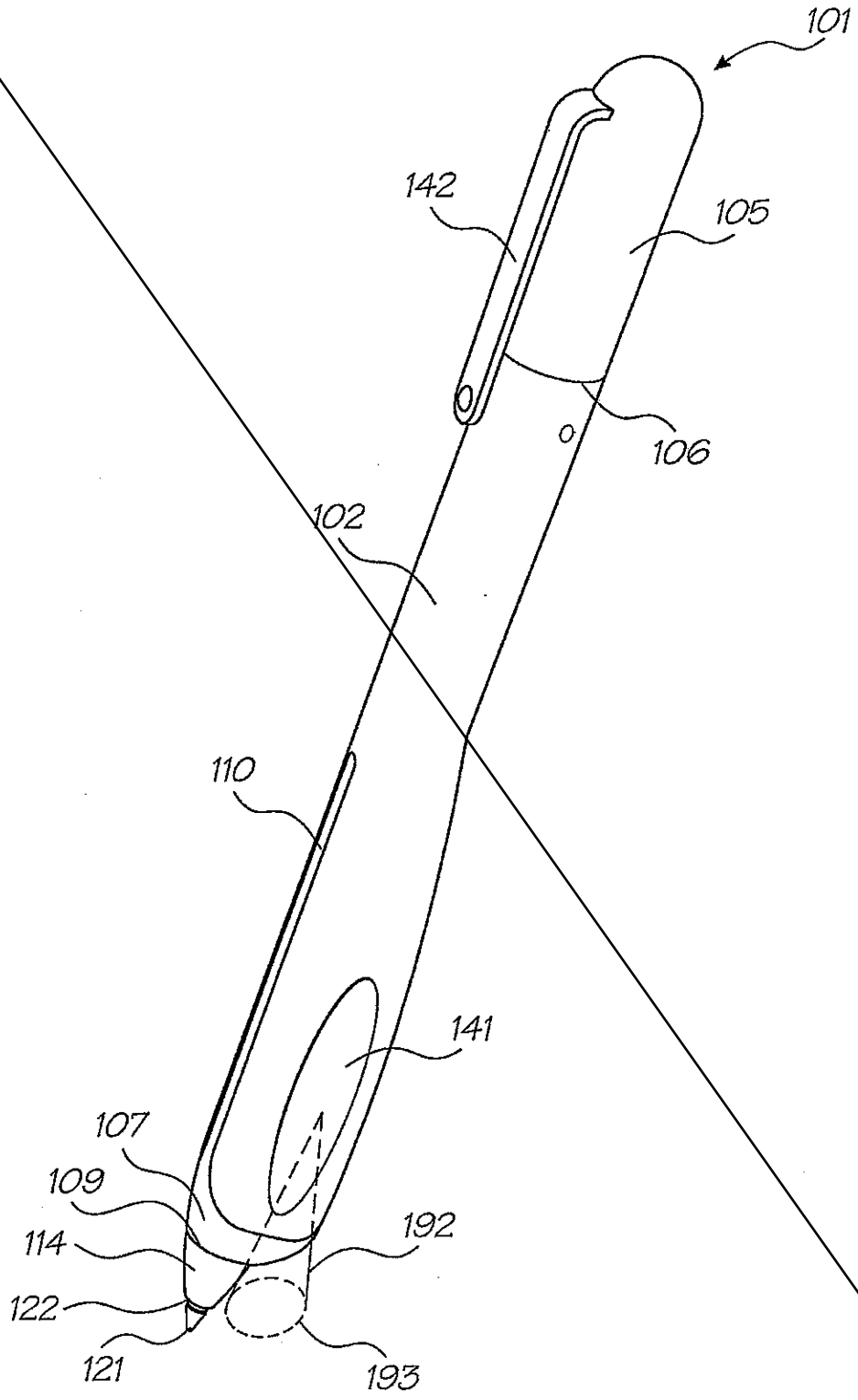


FIG. 8

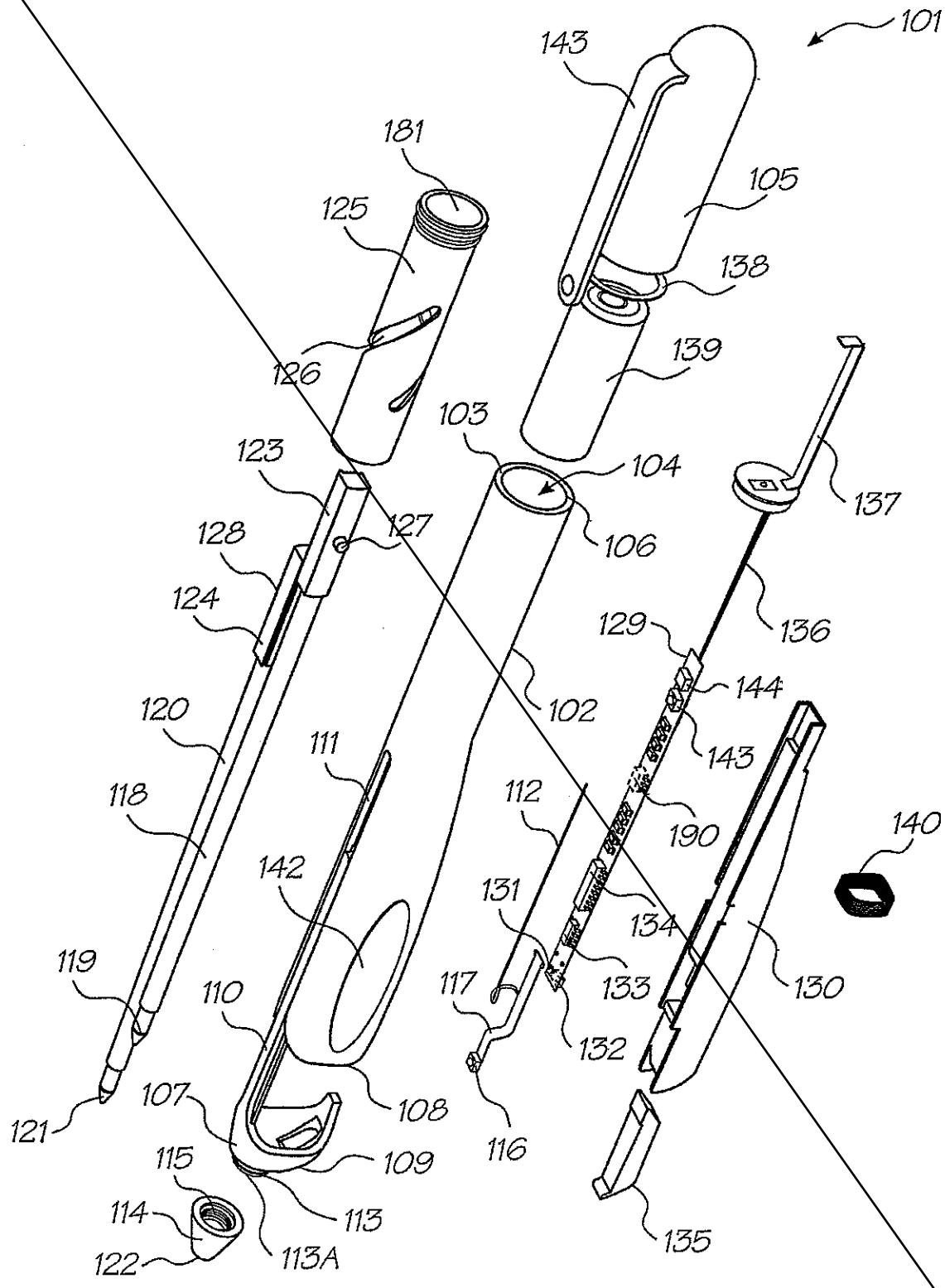

101
143
181
105
125
138
139
126
103
104
123
137
127
106
128
124
136
129
102
144
120
143
111
112
118
190
140
142
131
134
119
133
130
110
117
132
107
108
116
109
115
135
114
113
122
113A

FIG. 9

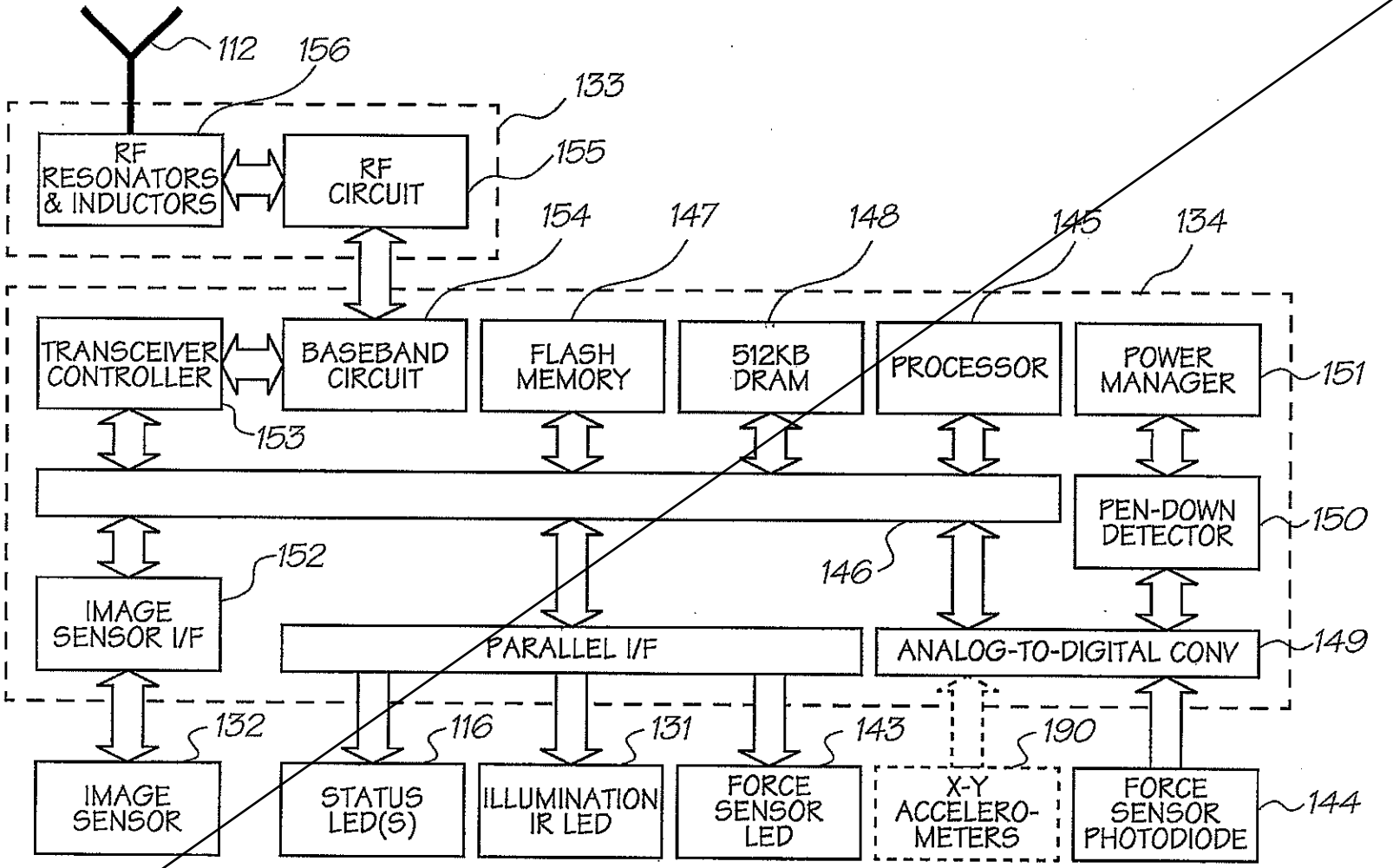

112
156
133
RF RESONATORS & INDUCTORS
RF CIRCUIT
155
154
147
148
145
134
TRANSCEIVER CONTROLLER
BASEBAND CIRCUIT
FLASH MEMORY
512KB DRAM
PROCESSOR
POWER MANAGER
151
153
PEN-DOWN DETECTOR
150
152
146
IMAGE SENSOR I/F
PARALLEL I/F
ANALOG-TO-DIGITAL CONV
149
132
116
131
143
190
IMAGE SENSOR
STATUS LED(S)
ILLUMINATION IR LED
FORCE SENSOR LED
X-Y ACCELERO-METERS
FORCE SENSOR PHOTODIODE
144

FIG. 10

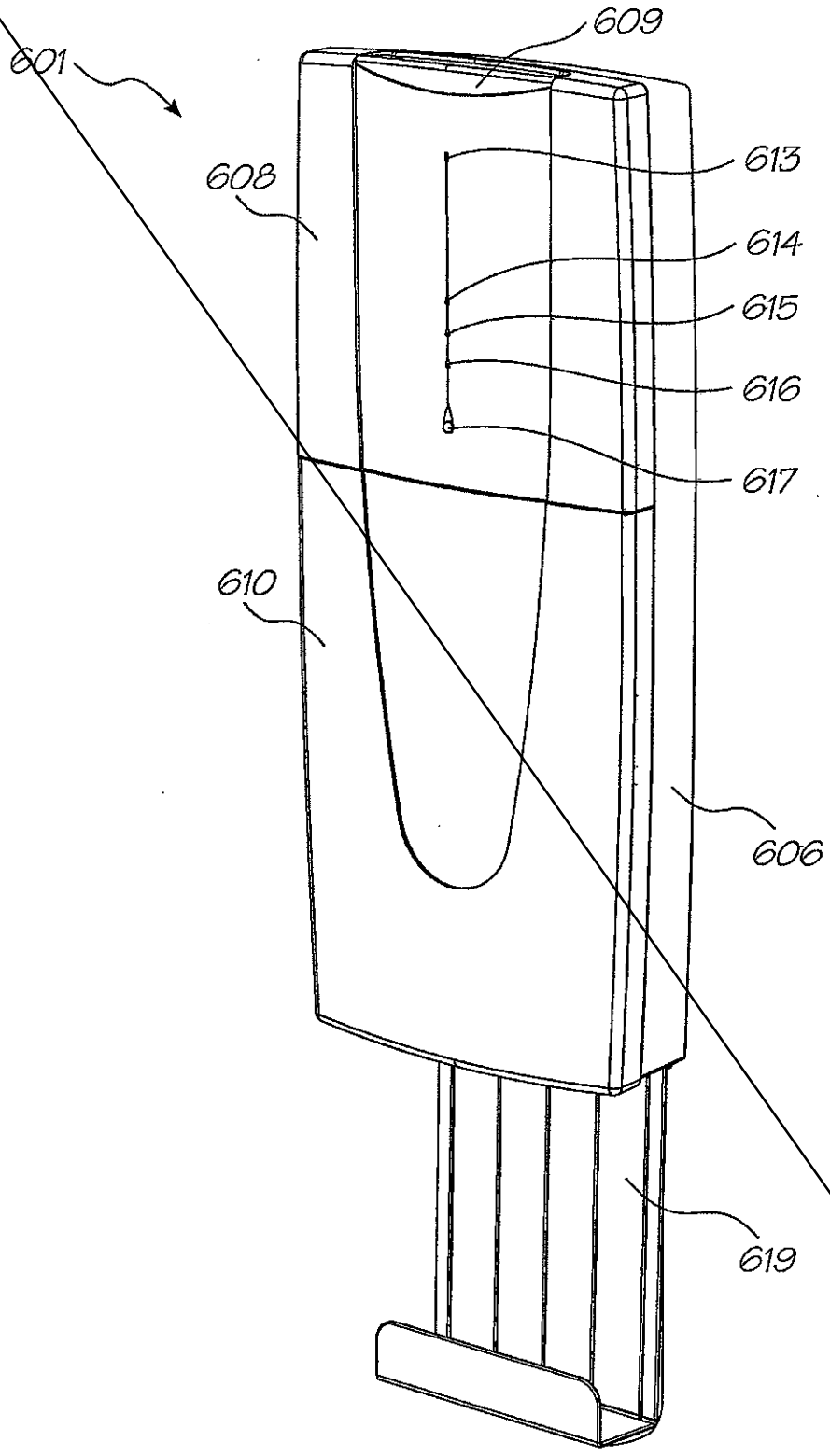


FIG. 11

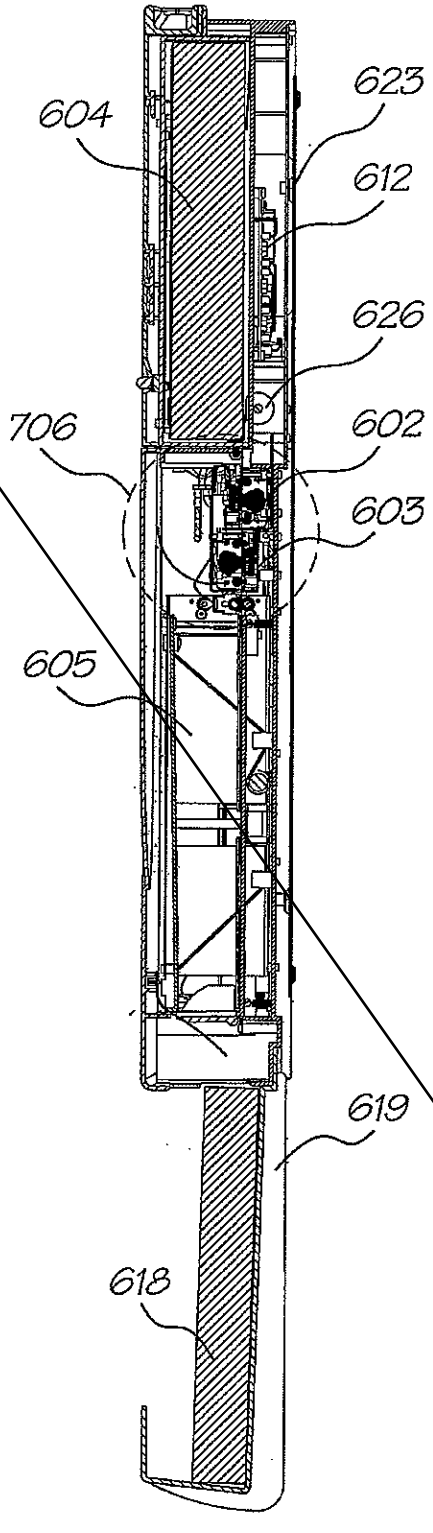


FIG. 12

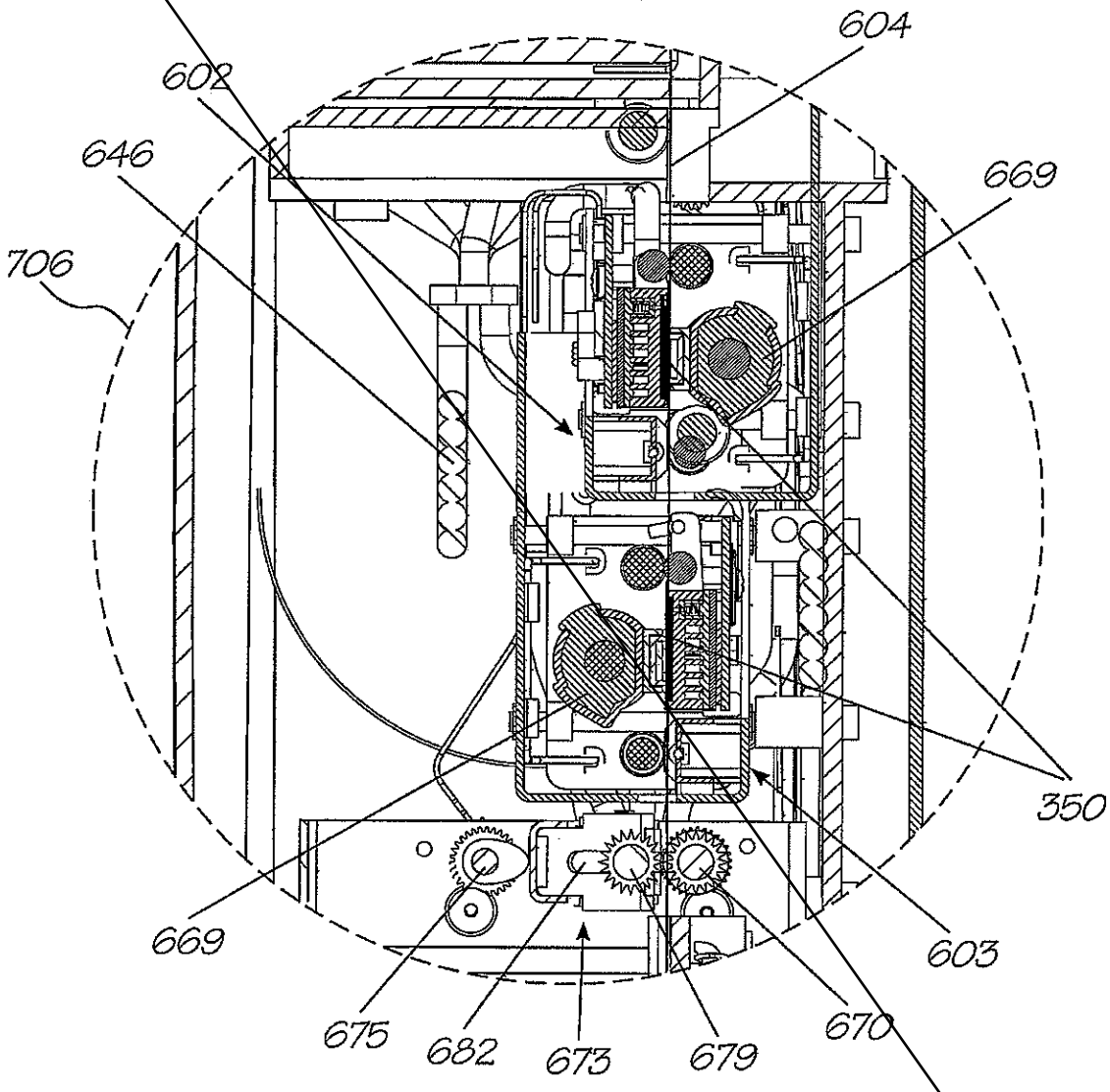


FIG. 12a

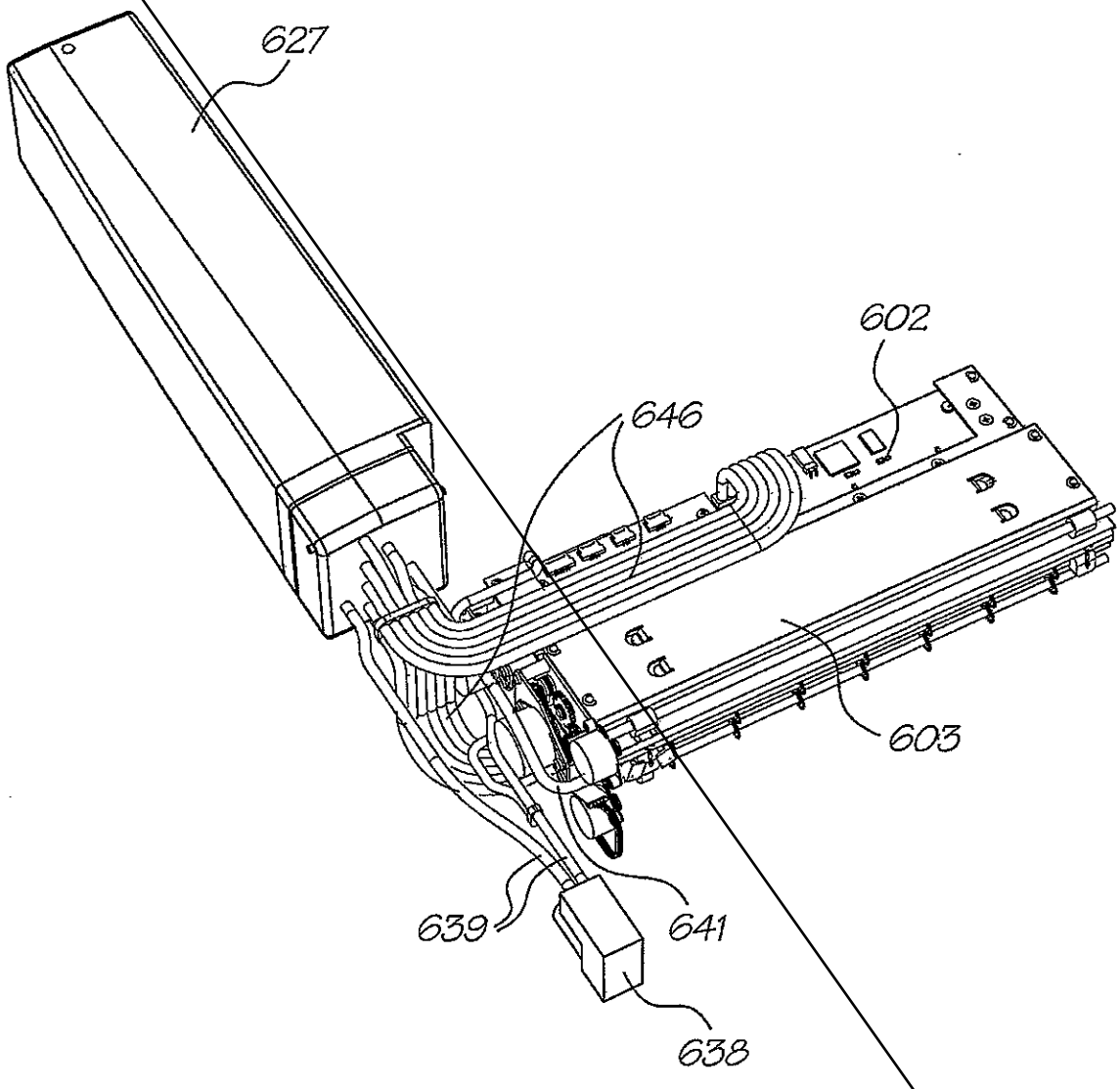


FIG. 13

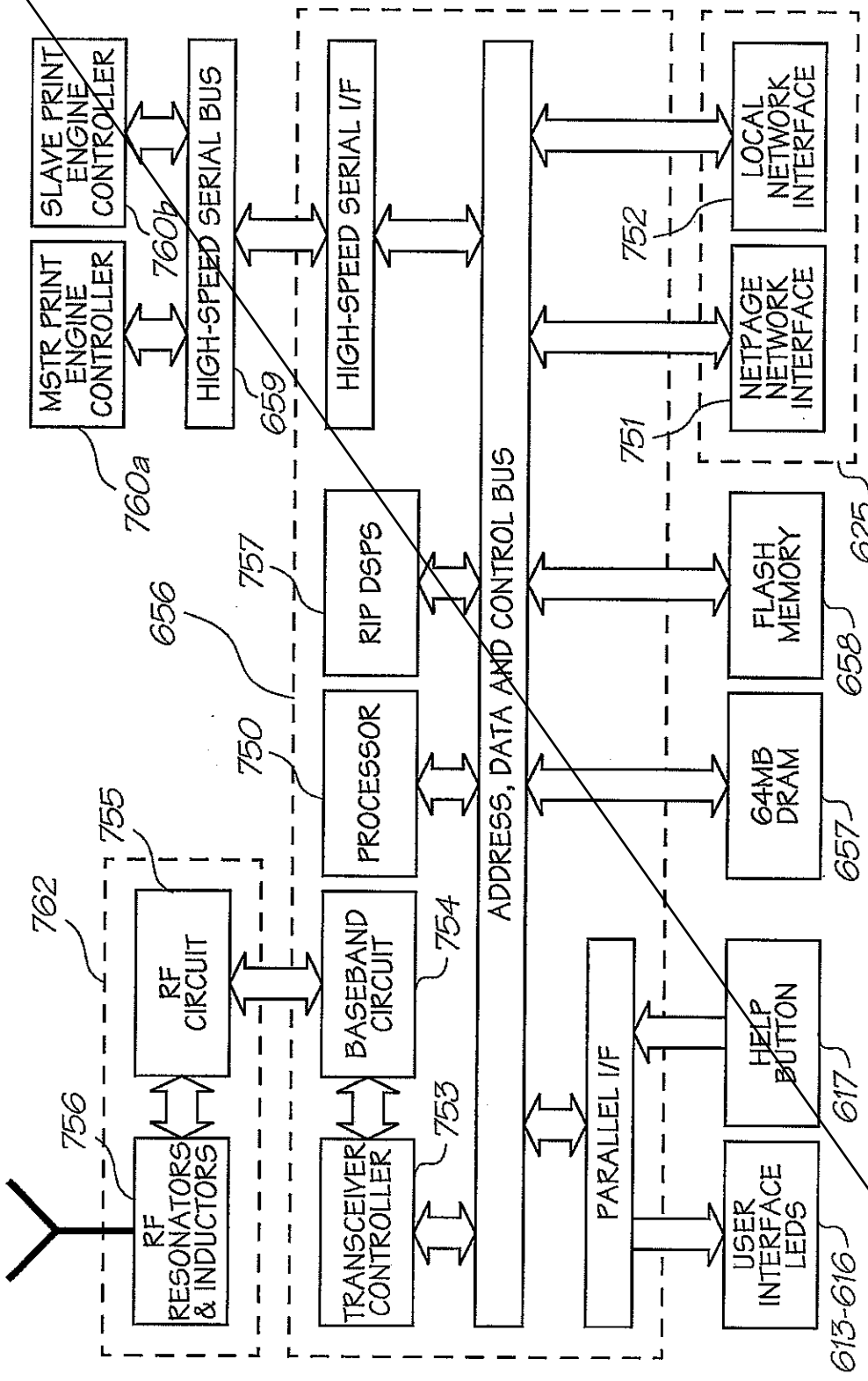

SLAVE PRINT ENGINE CONTROLLER
MSTR PRINT ENGINE CONTROLLER
760b
760a
HIGH-SPEED SERIAL BUS
659
HIGH-SPEED SERIAL I/F
752
LOCAL NETWORK INTERFACE
NETPAGE NETWORK INTERFACE
751
625
656
757
RIP DSPS
FLASH MEMORY
658
750
PROCESSOR
64MB DRAM
657
ADDRESS, DATA AND CONTROL BUS
762
755
RF CIRCUIT
BASEBAND CIRCUIT
754
756
RF RESONATORS & INDUCTORS
TRANSCEIVER CONTROLLER
753
PARALLEL I/F
HELP BUTTON
617
USER INTERFACE LEDS
613-616

FIG. 14

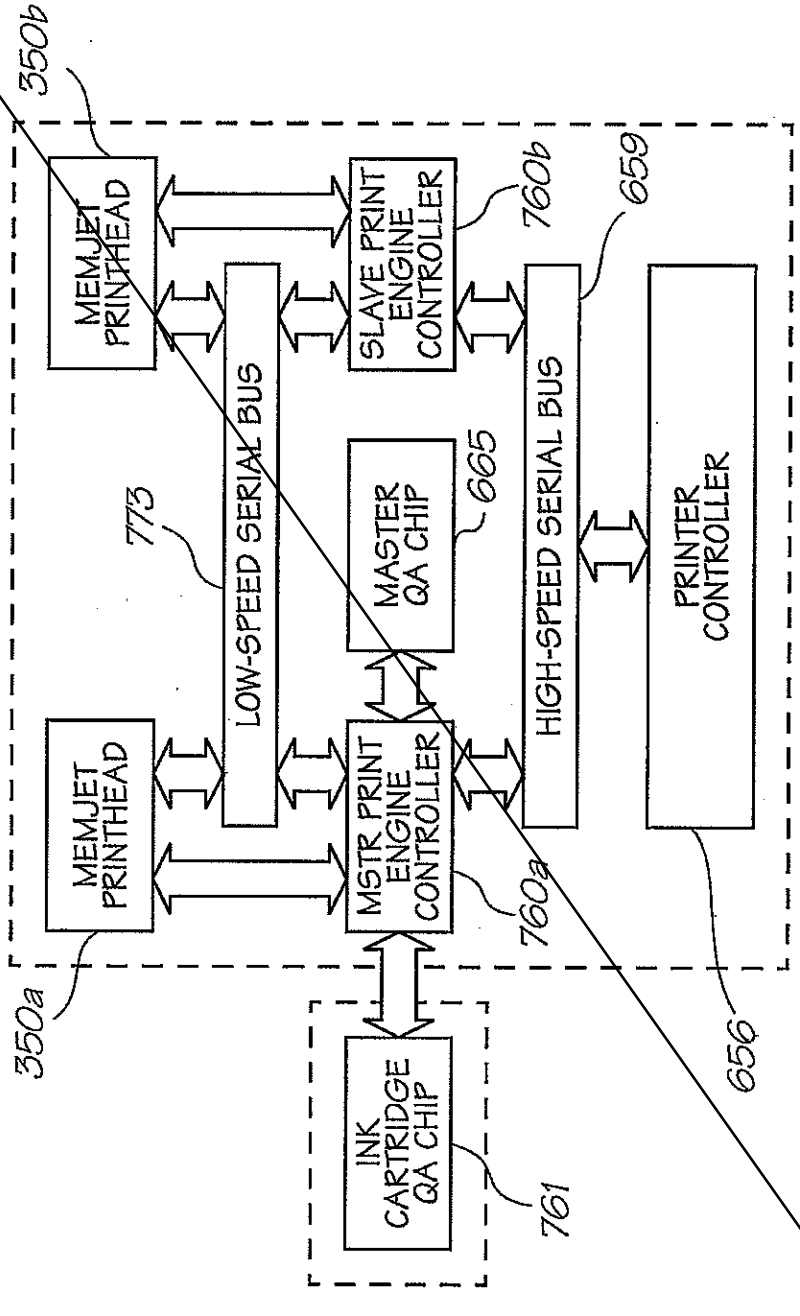

350b
MEMJET PRINTHEAD
SLAVE PRINT ENGINE CONTROLLER
760b
659
773
LOW-SPEED SERIAL BUS
MASTER QA CHIP
665
HIGH-SPEED SERIAL BUS
PRINTER CONTROLLER
MEMJET PRINTHEAD
MSTR PRINT ENGINE CONTROLLER
760a
350a
656
INK CARTRIDGE QA CHIP
761

FIG. 15

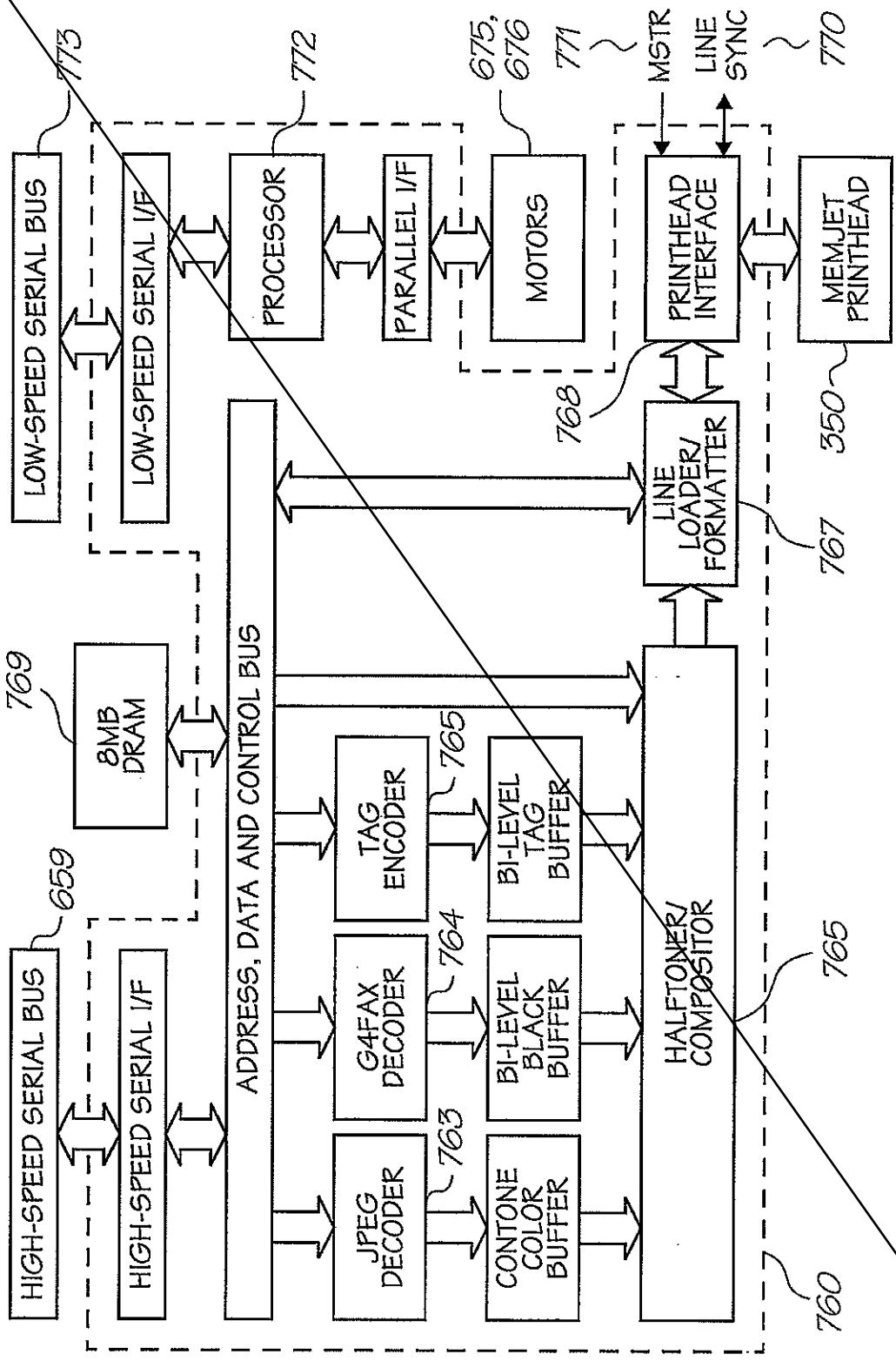

HIGH-SPEED SERIAL BUS
659
HIGH-SPEED SERIAL I/F
ADDRESS, DATA AND CONTROL BUS
8MB DRAM
769
JPEG DECODER
763
G4FAX DECODER
764
TAG ENCODER
765
CONTONE COLOR BUFFER
BI-LEVEL BLACK BUFFER
BI-LEVEL TAG BUFFER
HALFTONER/ COMPOSITOR
765
760
LOW-SPEED SERIAL BUS
773
LOW-SPEED SERIAL I/F
PROCESSOR
772
PARALLEL I/F
675, 676
MOTORS
771
MSTR
LINE SYNC
770
PRINTHEAD INTERFACE
768
LINE LOADER/ FORMATTER
767
MEMJET PRINTHEAD
350

FIG. 16

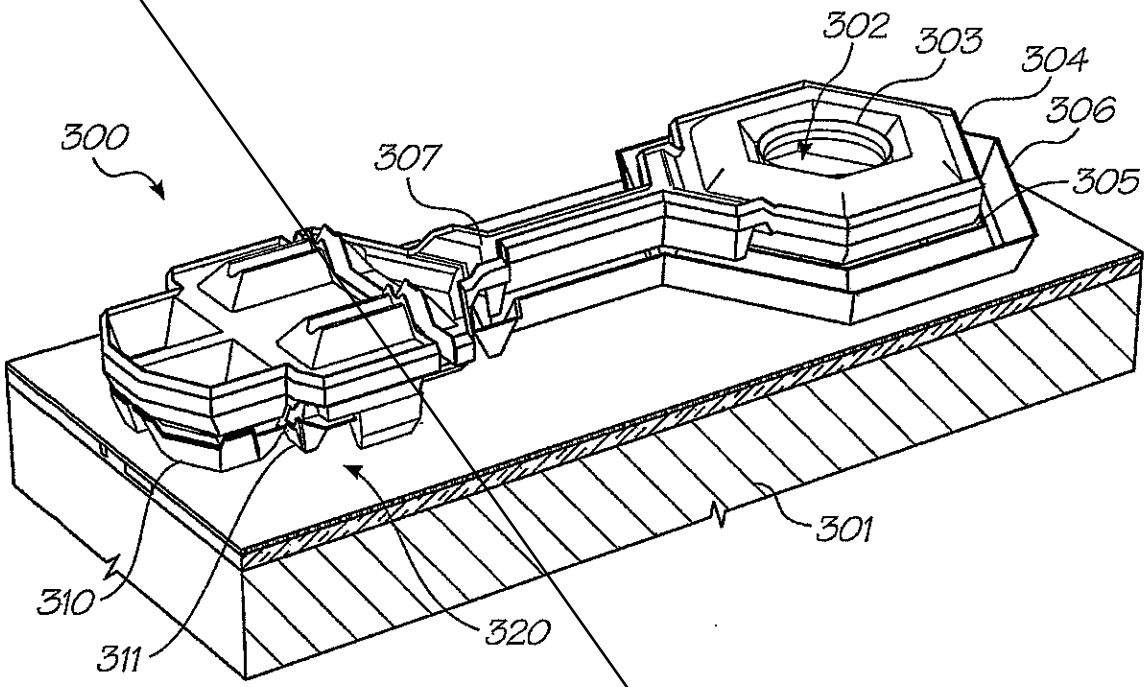


FIG. 17

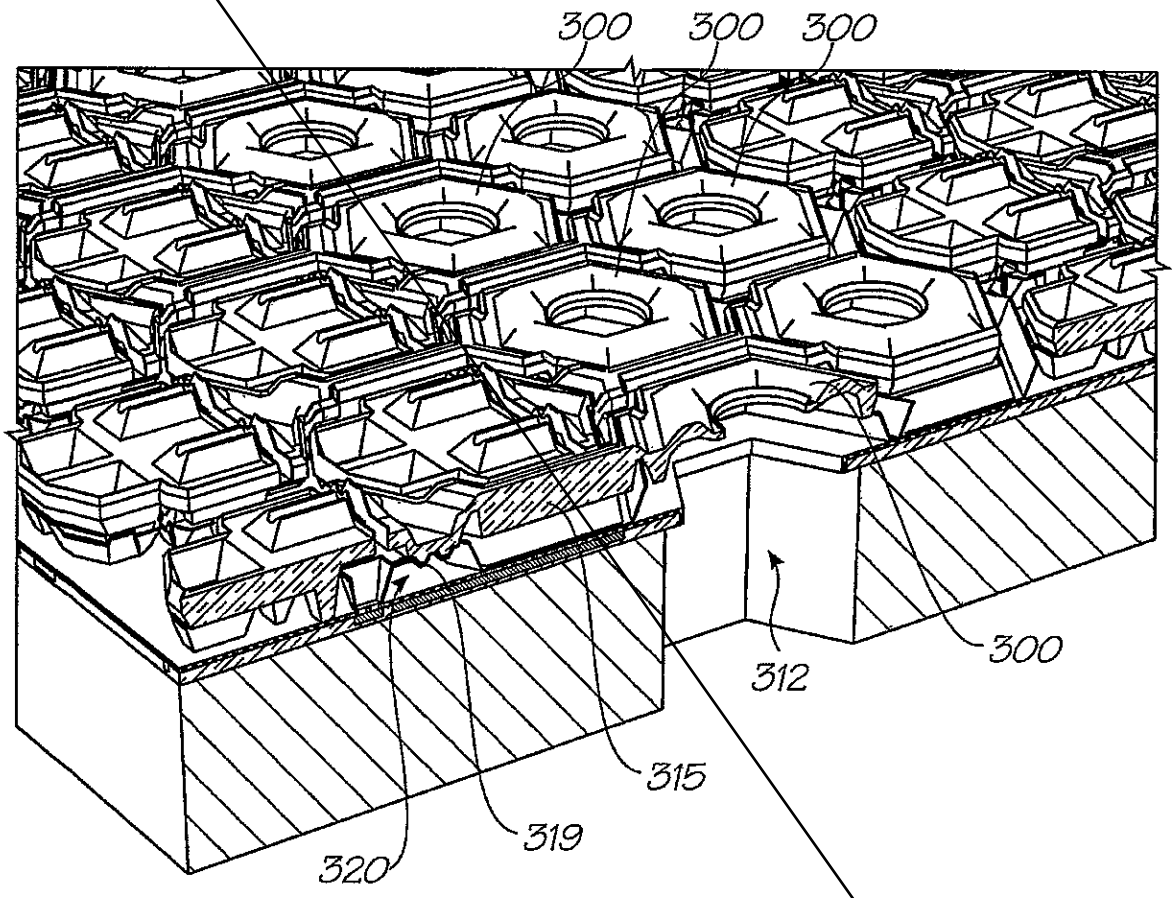


FIG. 18

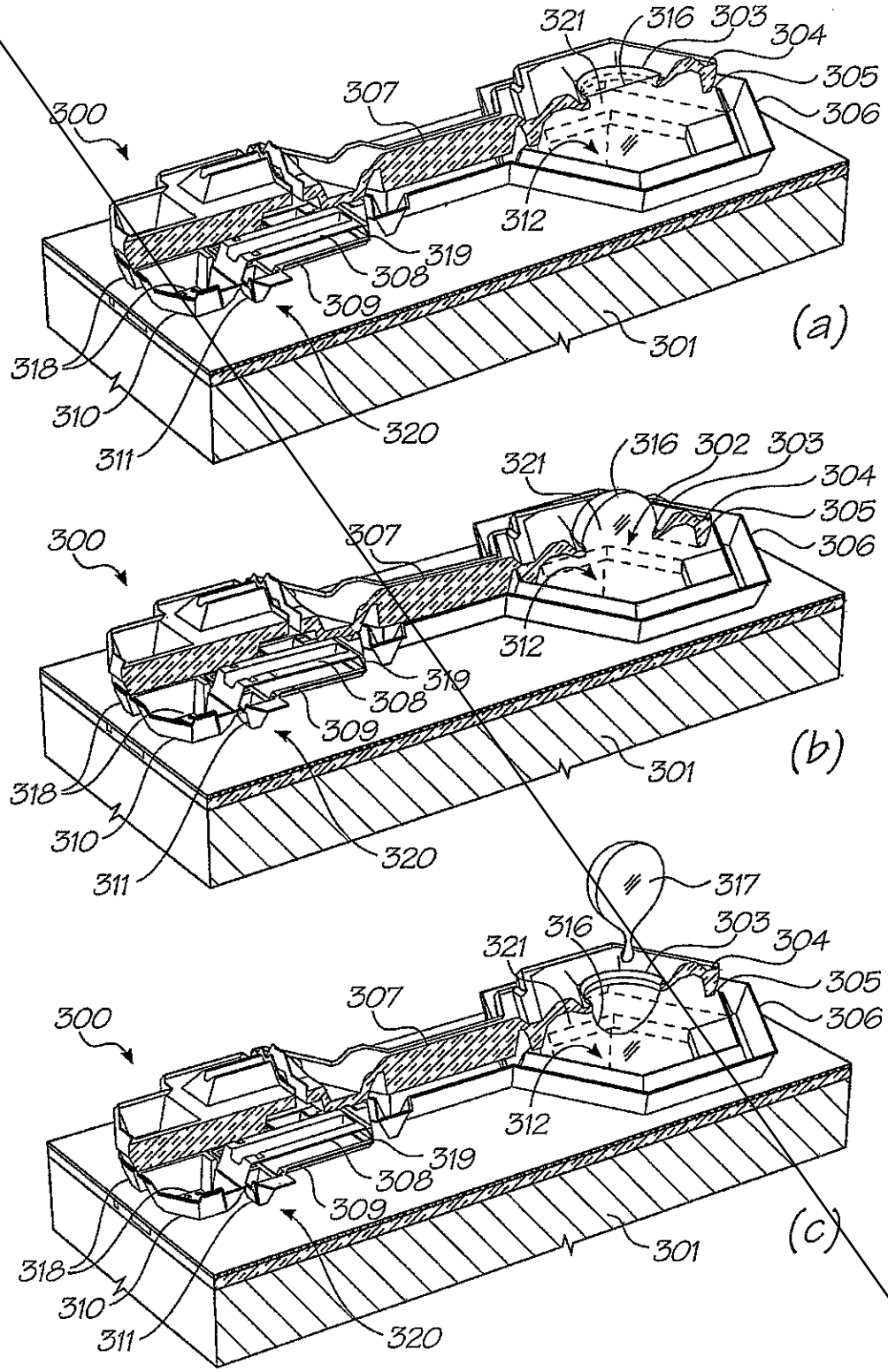

321
316
303
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(a)
316
302
303
304
305
306
321
307
300
312
319
308
309
318
310
311
320
301
(b)
317
316
303
304
321
305
306
307
300
312
319
308
309
318
310
311
320
301
(c)

FIG. 19

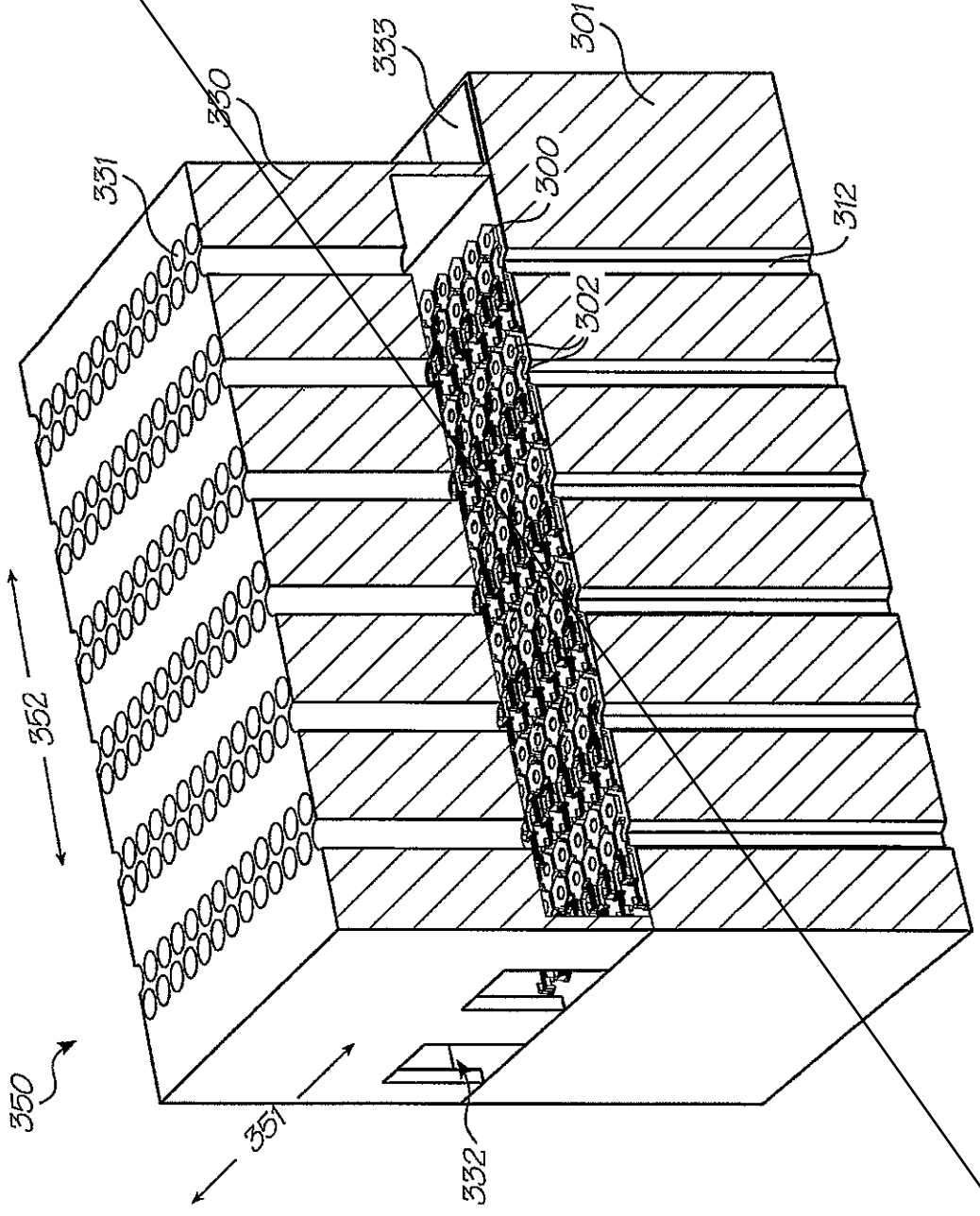


FIG. 20

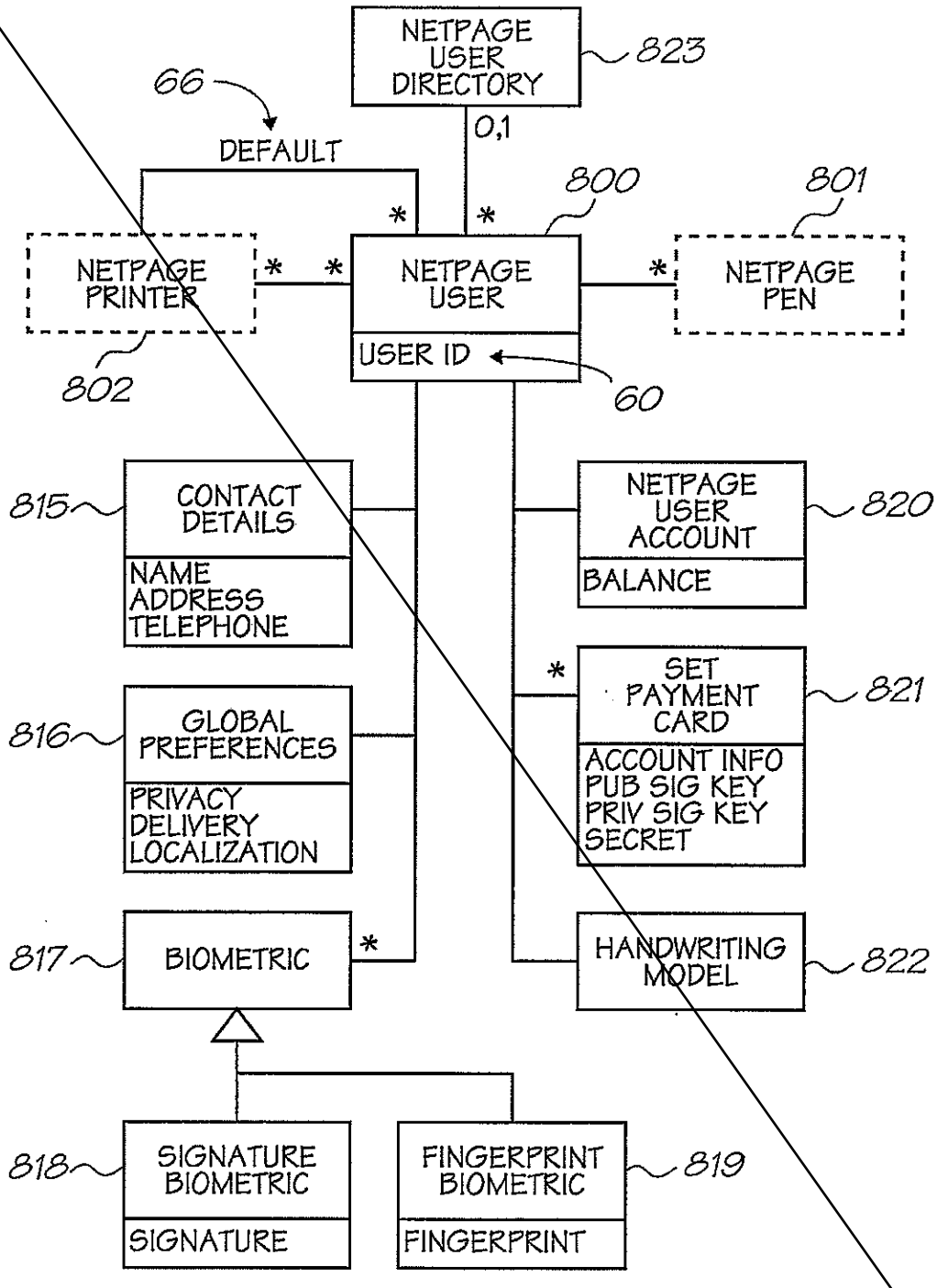

NETPAGE USER DIRECTORY
823
66
DEFAULT
0,1
800
801
NETPAGE PRINTER
NETPAGE USER
NETPAGE PEN
USER ID
60
802
815
CONTACT DETAILS
NAME
ADDRESS
TELEPHONE
NETPAGE USER ACCOUNT
820
BALANCE
816
GLOBAL PREFERENCES
PRIVACY
DELIVERY
LOCALIZATION
SET PAYMENT CARD
821
ACCOUNT INFO
PUB SIG KEY
PRIV SIG KEY
SECRET
817
BIOMETRIC
HANDWRITING MODEL
822
818
SIGNATURE BIOMETRIC
SIGNATURE
FINGERPRINT BIOMETRIC
819
FINGERPRINT

FIG. 21

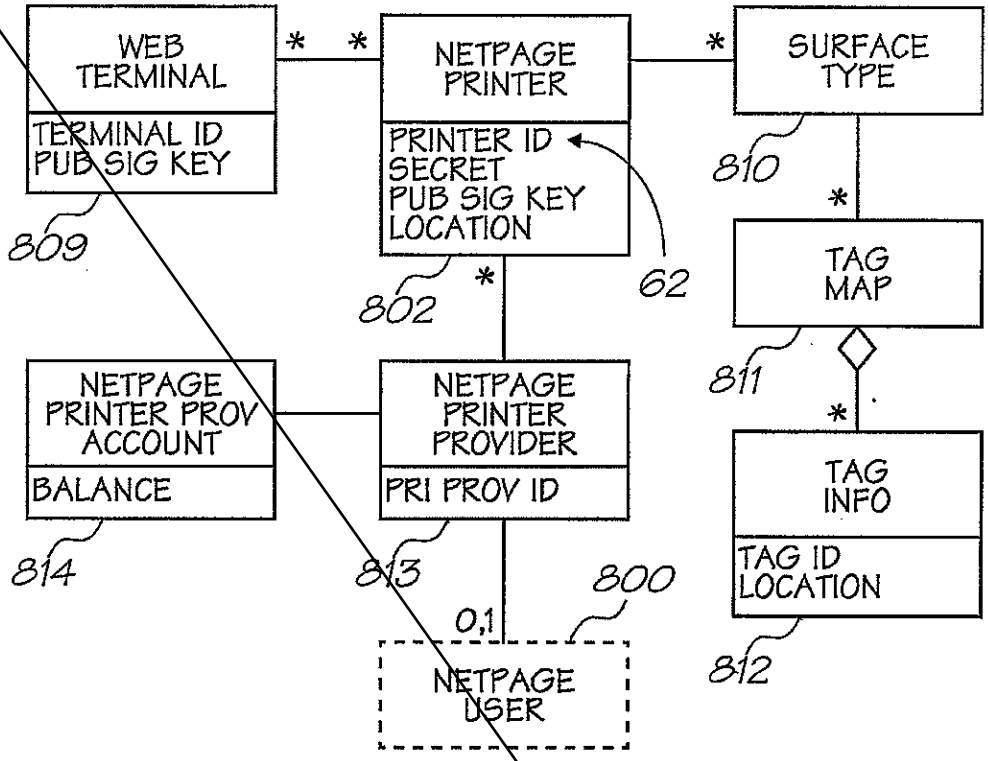

WEB TERMINAL
TERMINAL ID
PUB SIG KEY
809
NETPAGE PRINTER
PRINTER ID
SECRET
PUB SIG KEY
LOCATION
802
62
SURFACE TYPE
810
TAG MAP
811
TAG INFO
TAG ID
LOCATION
812
NETPAGE PRINTER PROV ACCOUNT
BALANCE
814
NETPAGE PRINTER PROVIDER
PRI PROV ID
813
NETPAGE USER
800
0,1
*

FIG. 22

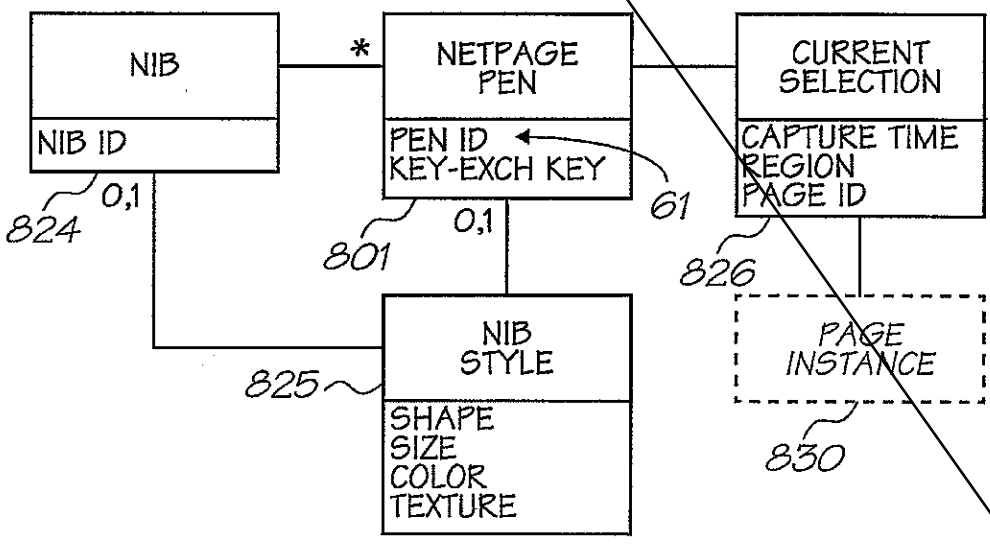

NIB
NIB ID
824
NETPAGE PEN
PEN ID
KEY-EXCH KEY
801
61
CURRENT SELECTION
CAPTURE TIME
REGION
PAGE ID
826
NIB STYLE
SHAPE
SIZE
COLOR
TEXTURE
825
PAGE INSTANCE
830
0,1
*

FIG. 23

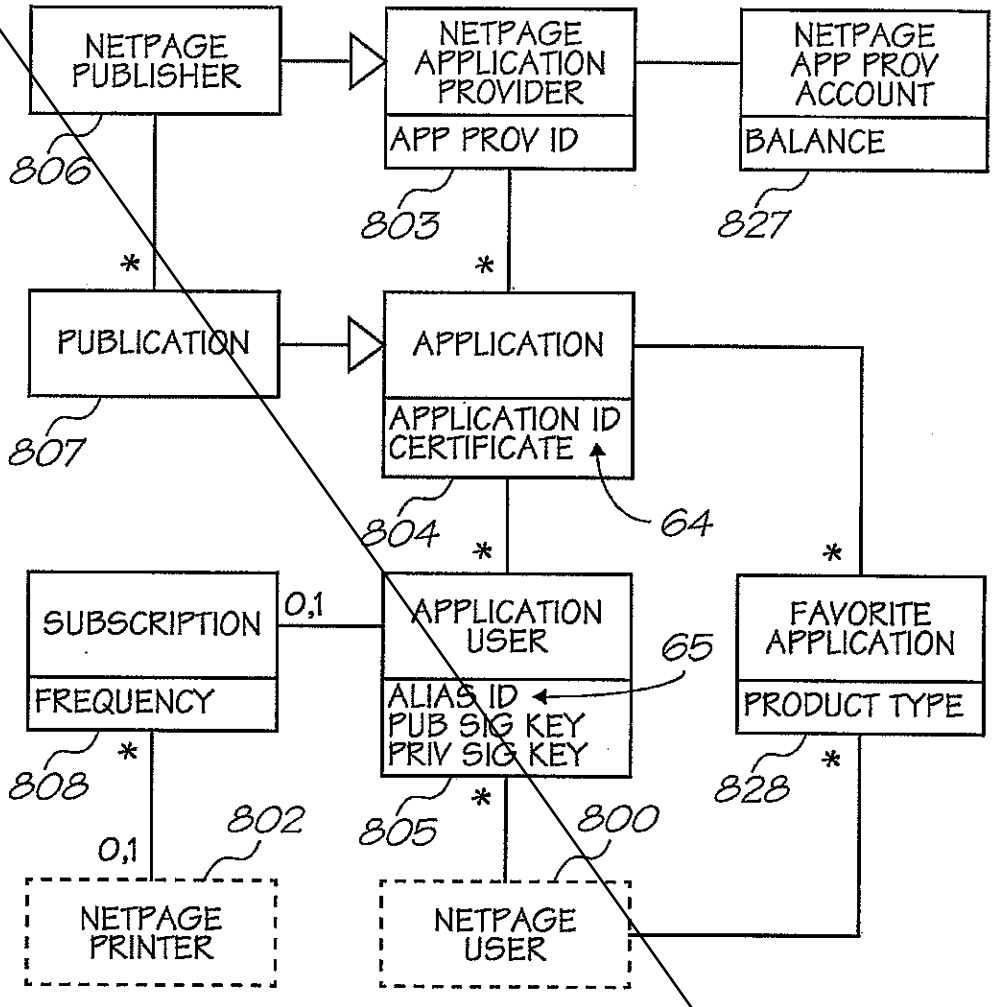

NETPAGE PUBLISHER
NETPAGE APPLICATION PROVIDER
APP PROV ID
NETPAGE APP PROV ACCOUNT
BALANCE
806
803
827
*
*
PUBLICATION
APPLICATION
APPLICATION ID
CERTIFICATE
807
804
64
*
*
SUBSCRIPTION
FREQUENCY
0,1
APPLICATION USER
ALIAS ID
PUB SIG KEY
PRIV SIG KEY
65
FAVORITE APPLICATION
PRODUCT TYPE
808
*
805
*
828
*
0,1
802
800
NETPAGE PRINTER
NETPAGE USER

FIG. 24

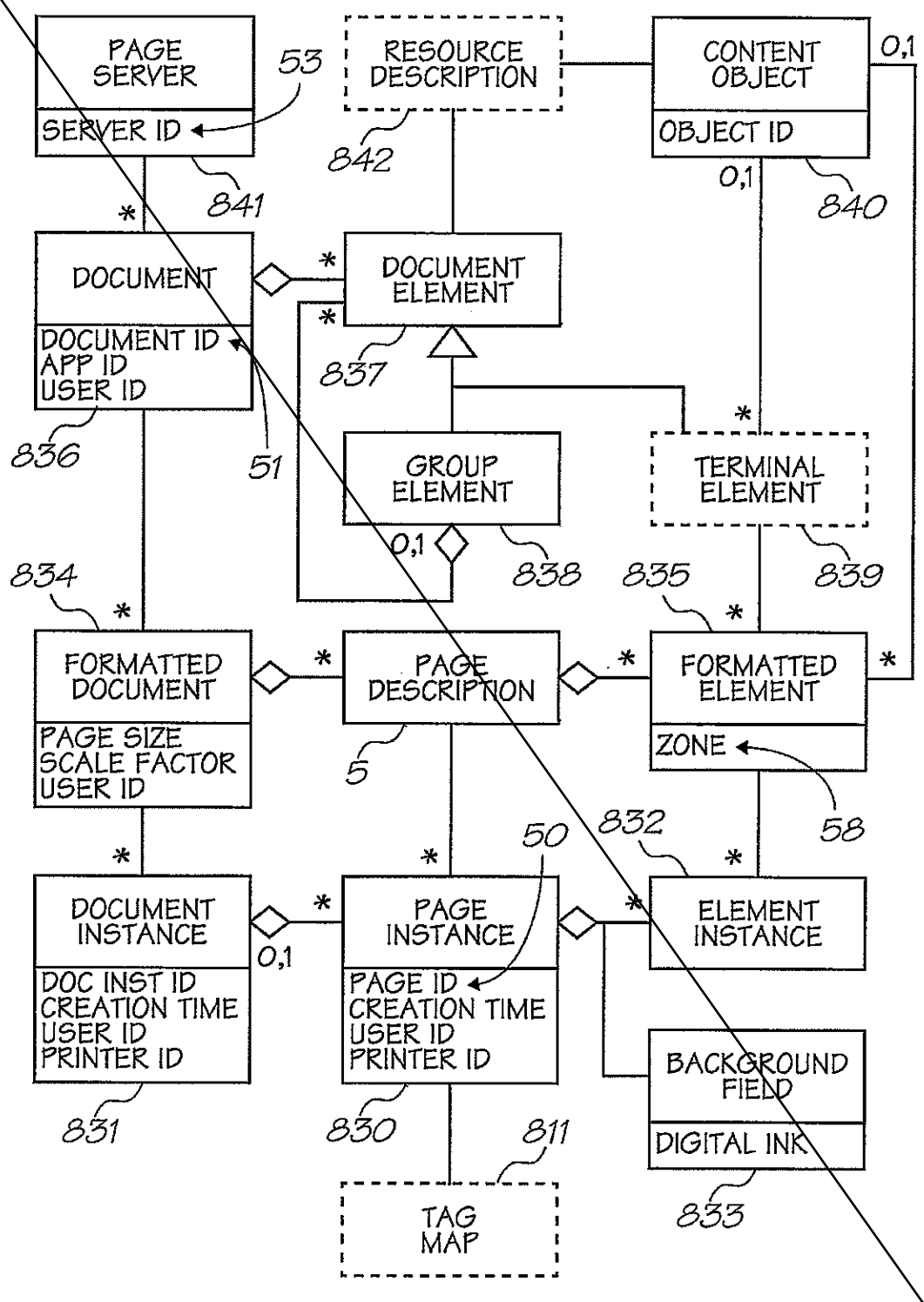

PAGE SERVER
SERVER ID
53
RESOURCE DESCRIPTION
842
CONTENT OBJECT
OBJECT ID
0,1
0,1
840
841
*
DOCUMENT
DOCUMENT ID
APP ID
USER ID
836
51
*
*
DOCUMENT ELEMENT
837
*
GROUP ELEMENT
0,1
838
*
TERMINAL ELEMENT
839
834
*
835
*
FORMATTED DOCUMENT
PAGE SIZE
SCALE FACTOR
USER ID
*
*
PAGE DESCRIPTION
5
*
*
FORMATTED ELEMENT
ZONE
58
*
*
832
*
50
DOCUMENT INSTANCE
DOC INST ID
CREATION TIME
USER ID
PRINTER ID
831
0,1
*
*
PAGE INSTANCE
PAGE ID
CREATION TIME
USER ID
PRINTER ID
830
*
ELEMENT INSTANCE
BACKGROUND FIELD
DIGITAL INK
833
811
TAG MAP

FIG. 25

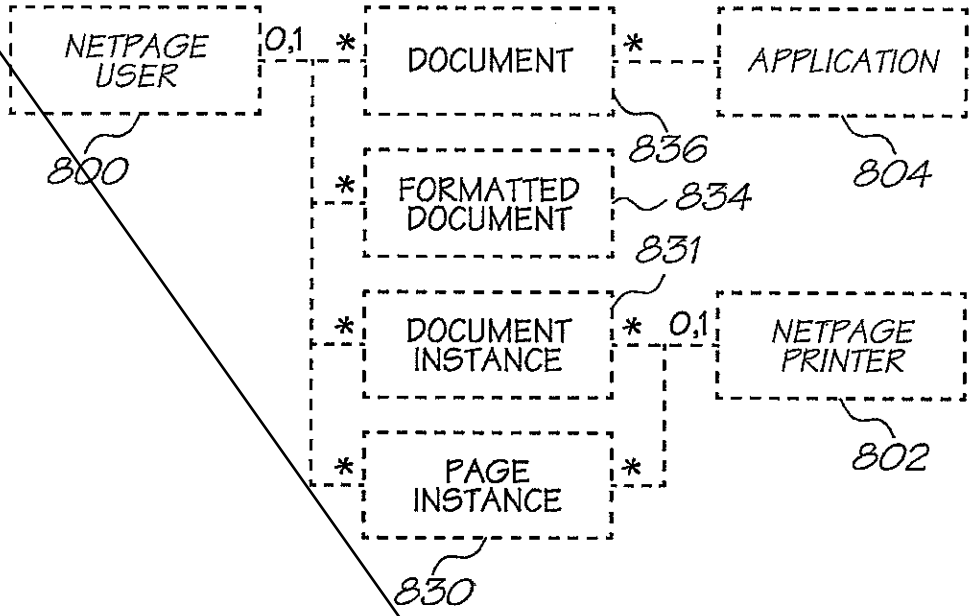

NETPAGE USER
0,1
*
DOCUMENT
*
APPLICATION
800
836
804
*
FORMATTED DOCUMENT
834
831
*
DOCUMENT INSTANCE
*
0,1
NETPAGE PRINTER
802
*
PAGE INSTANCE
*
830

FIG. 26

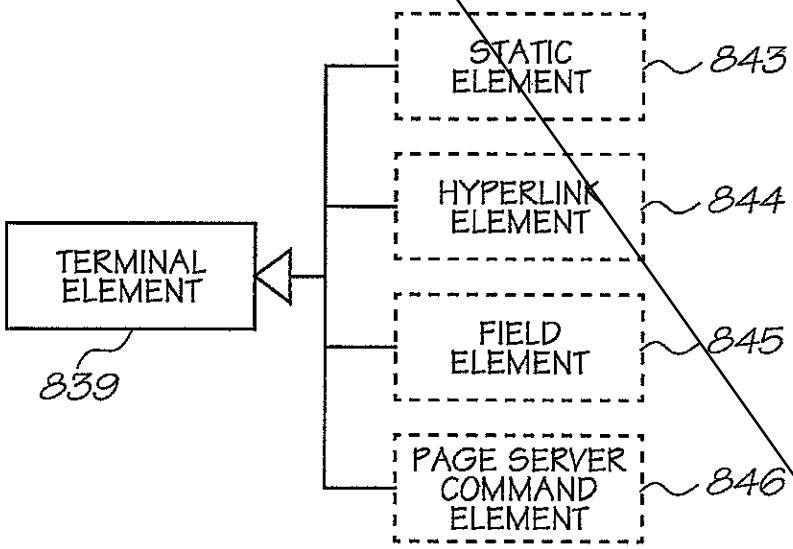

STATIC ELEMENT
843
HYPERLINK ELEMENT
844
TERMINAL ELEMENT
FIELD ELEMENT
845
839
PAGE SERVER COMMAND ELEMENT
846

FIG. 27

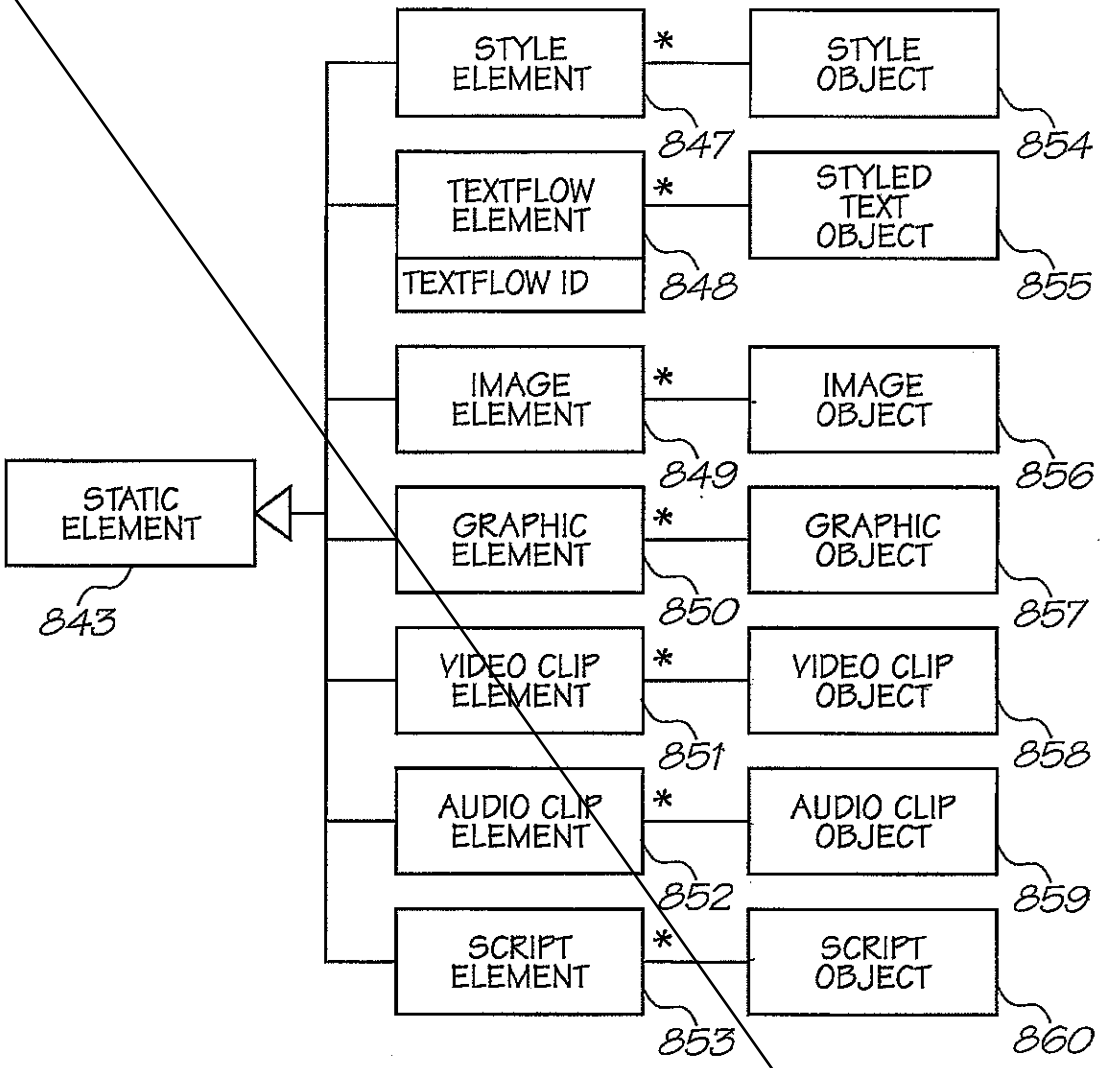

STATIC ELEMENT
843
STYLE ELEMENT
847
STYLE OBJECT
854
TEXTFLOW ELEMENT
TEXTFLOW ID
848
STYLED TEXT OBJECT
855
IMAGE ELEMENT
849
IMAGE OBJECT
856
GRAPHIC ELEMENT
850
GRAPHIC OBJECT
857
VIDEO CLIP ELEMENT
851
VIDEO CLIP OBJECT
858
AUDIO CLIP ELEMENT
852
AUDIO CLIP OBJECT
859
SCRIPT ELEMENT
853
SCRIPT OBJECT
860
*

FIG. 28

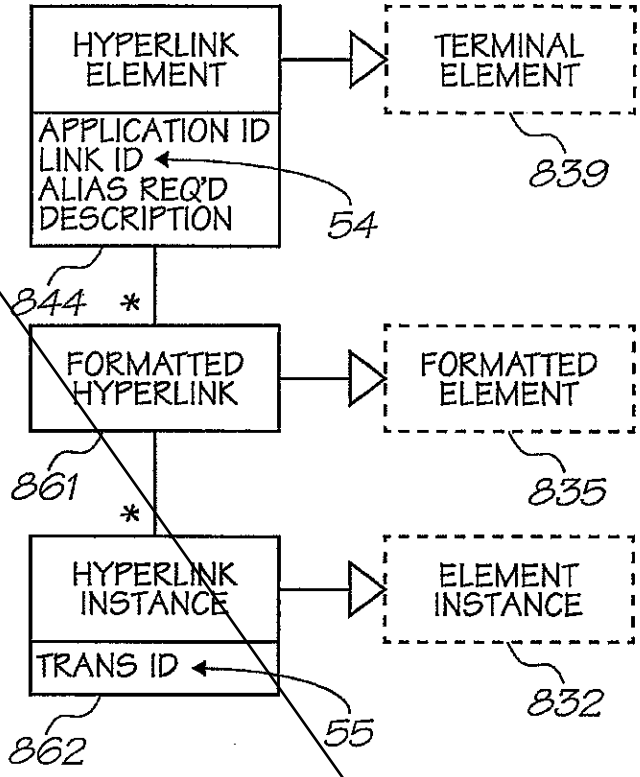

HYPERLINK ELEMENT
APPLICATION ID
LINK ID
ALIAS REQ'D
DESCRIPTION
54
844
*
TERMINAL ELEMENT
839
FORMATTED HYPERLINK
861
FORMATTED ELEMENT
835
*
HYPERLINK INSTANCE
TRANS ID
55
862
ELEMENT INSTANCE
832

FIG. 29

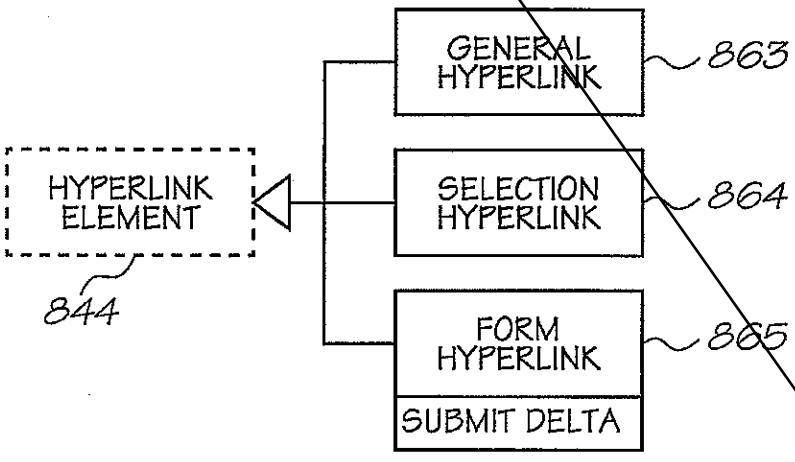

GENERAL HYPERLINK
863
HYPERLINK ELEMENT
844
SELECTION HYPERLINK
864
FORM HYPERLINK
SUBMIT DELTA
865

FIG. 30

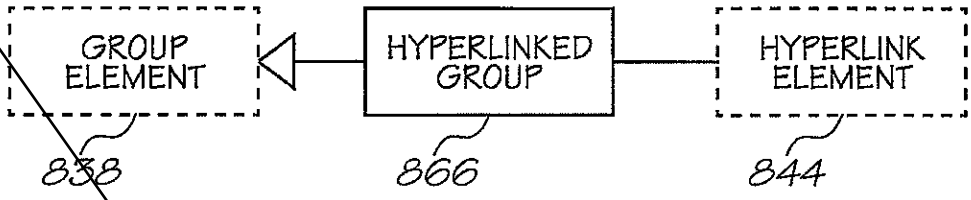

GROUP ELEMENT
HYPERLINKED GROUP
HYPERLINK ELEMENT
838
866
844

FIG. 31

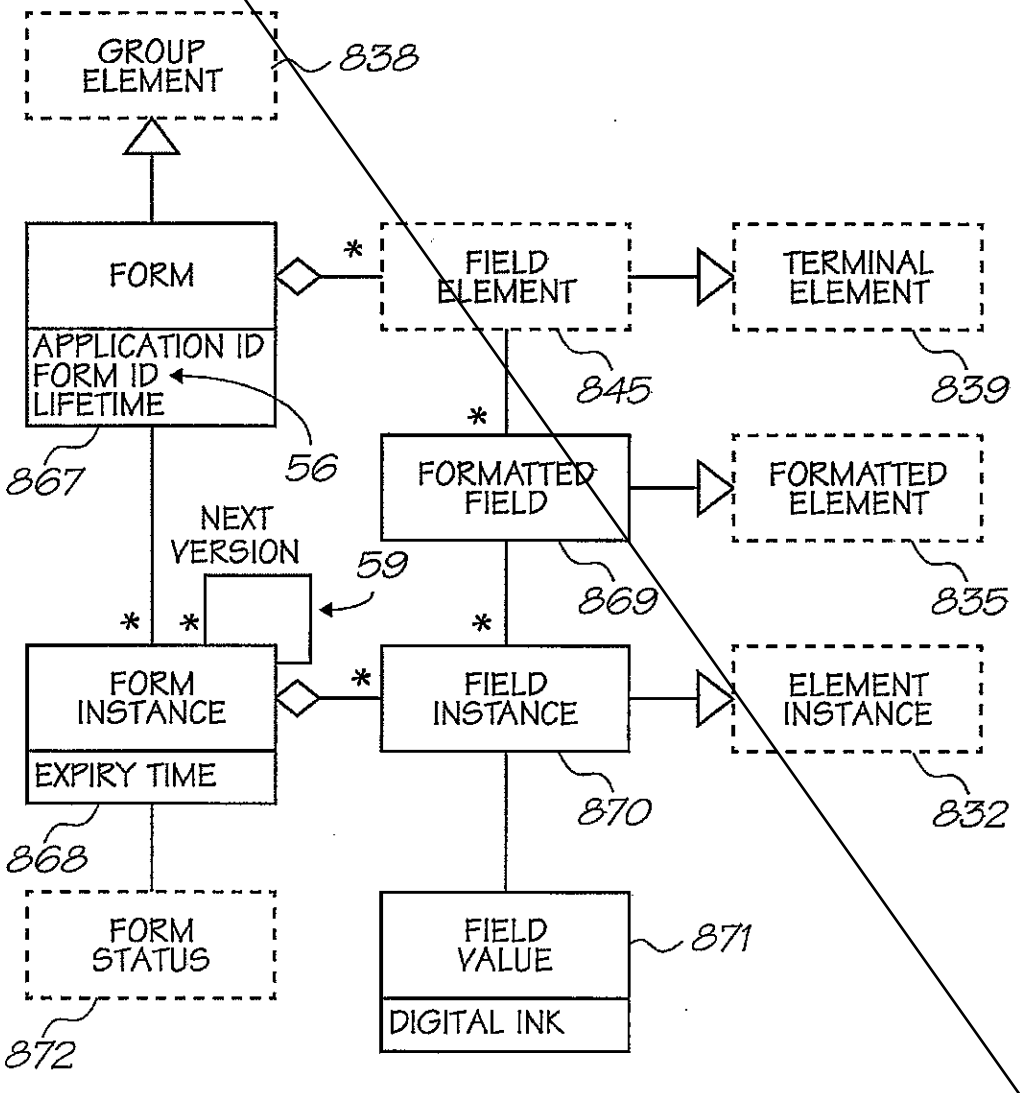

GROUP ELEMENT
838
FORM
APPLICATION ID
FORM ID
LIFETIME
867
56
*
FIELD ELEMENT
845
TERMINAL ELEMENT
839
*
FORMATTED FIELD
869
FORMATTED ELEMENT
835
NEXT VERSION
59
* *
FORM INSTANCE
EXPIRY TIME
868
*
*
FIELD INSTANCE
870
ELEMENT INSTANCE
832
FORM STATUS
872
FIELD VALUE
DIGITAL INK
871

FIG. 32

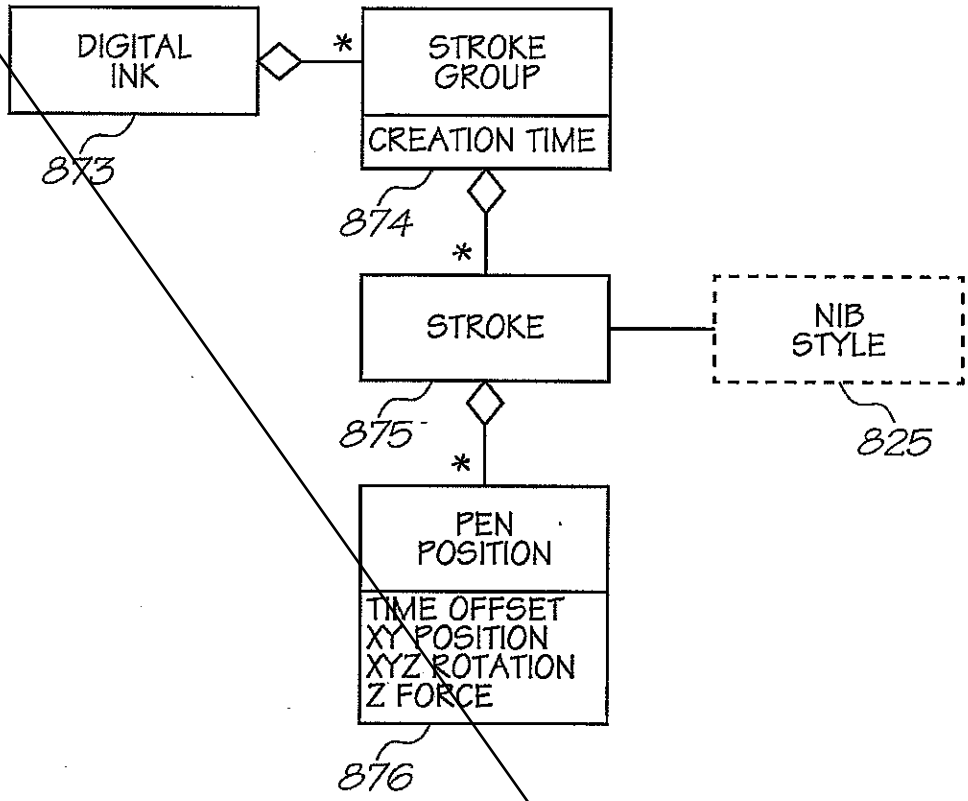

DIGITAL INK
*
STROKE GROUP
CREATION TIME
873
874
*
STROKE
NIB STYLE
875
825
*
PEN POSITION
TIME OFFSET
XY POSITION
XYZ ROTATION
Z FORCE
876

FIG. 33

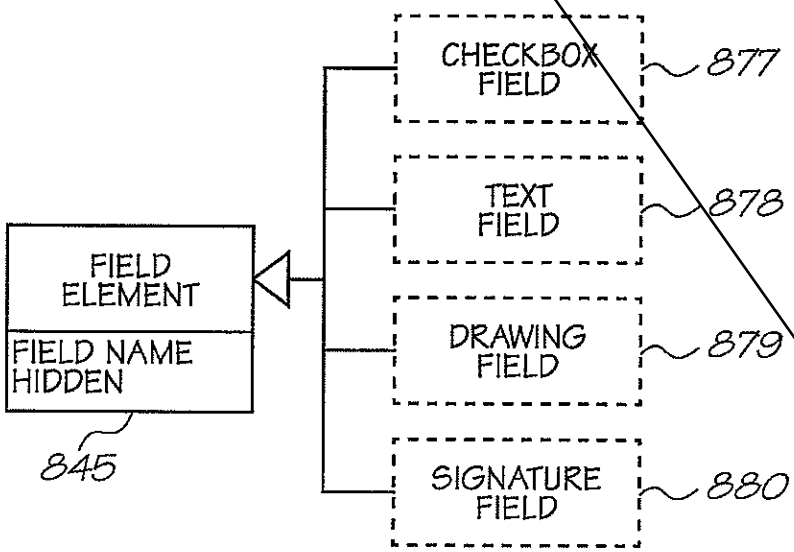

CHECKBOX FIELD
877
TEXT FIELD
878
FIELD ELEMENT
FIELD NAME
HIDDEN
DRAWING FIELD
879
SIGNATURE FIELD
880
845

FIG. 34

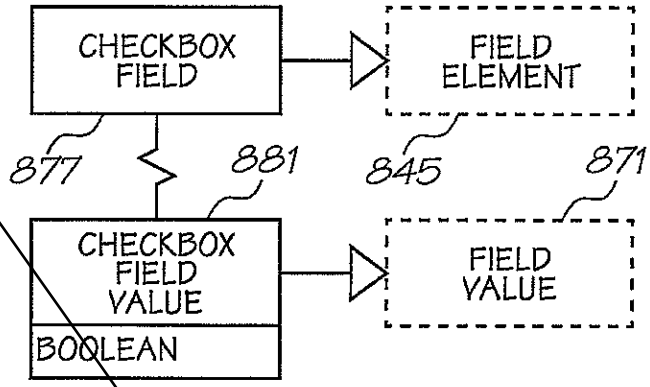


FIG. 35

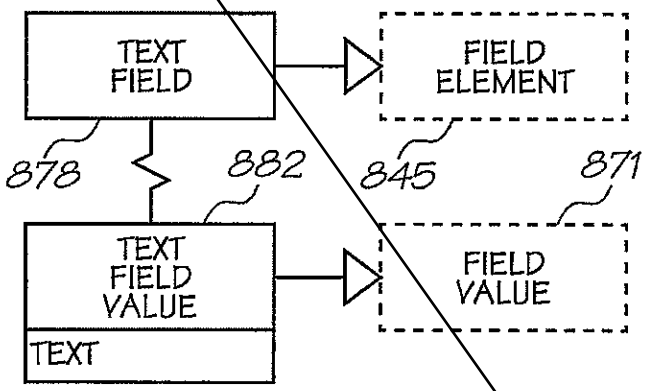


FIG. 36

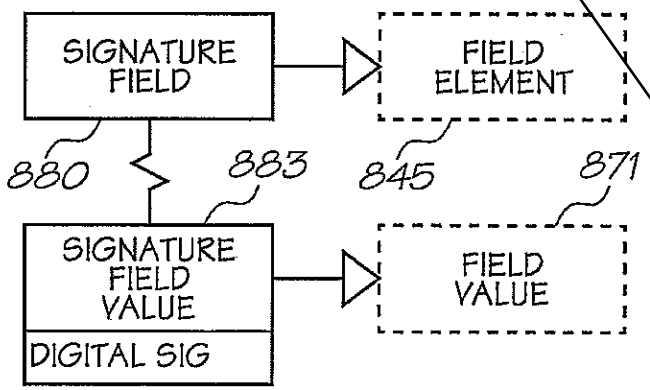


FIG. 37

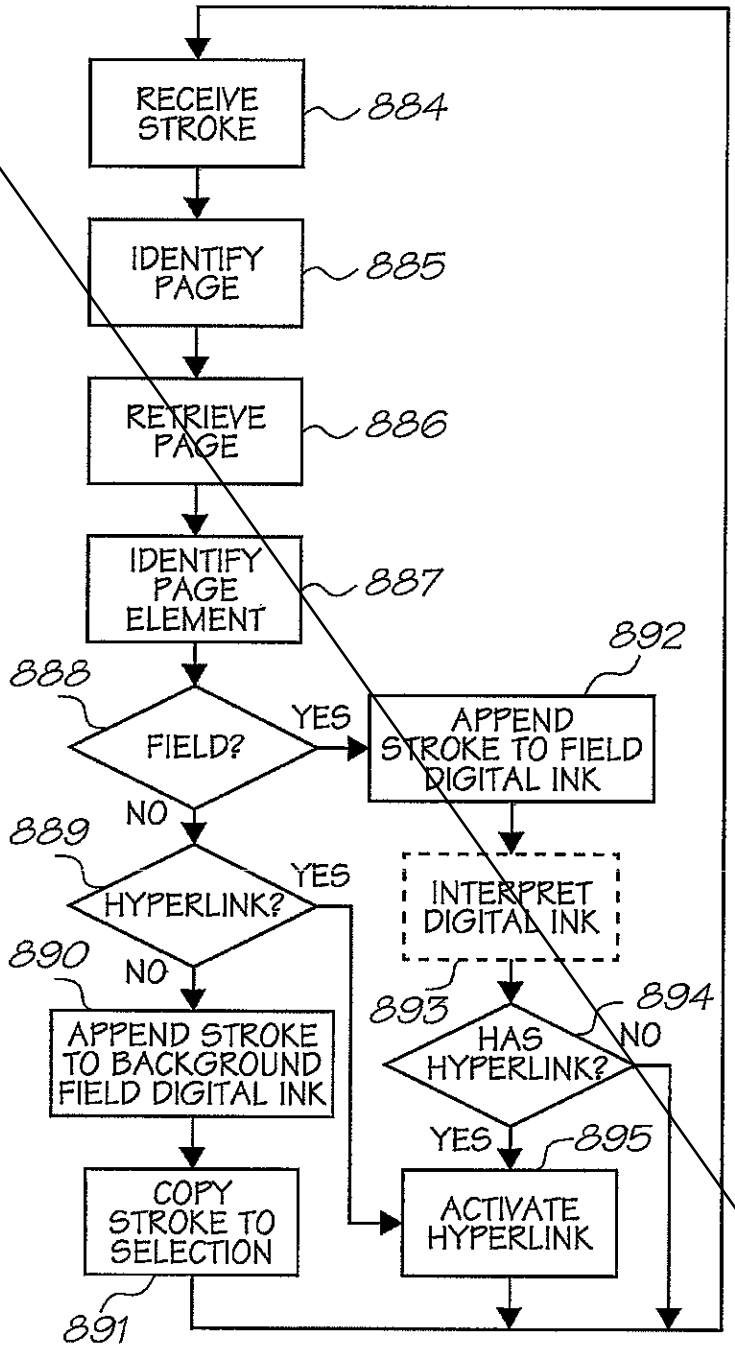

RECEIVE STROKE
884
IDENTIFY PAGE
885
RETRIEVE PAGE
886
IDENTIFY PAGE ELEMENT
887
888
FIELD?
YES
892
APPEND STROKE TO FIELD DIGITAL INK
NO
889
HYPERLINK?
YES
INTERPRET DIGITAL INK
890
NO
893
894
HAS HYPERLINK?
NO
YES
895
APPEND STROKE TO BACKGROUND FIELD DIGITAL INK
COPY STROKE TO SELECTION
ACTIVATE HYPERLINK
891

FIG. 38

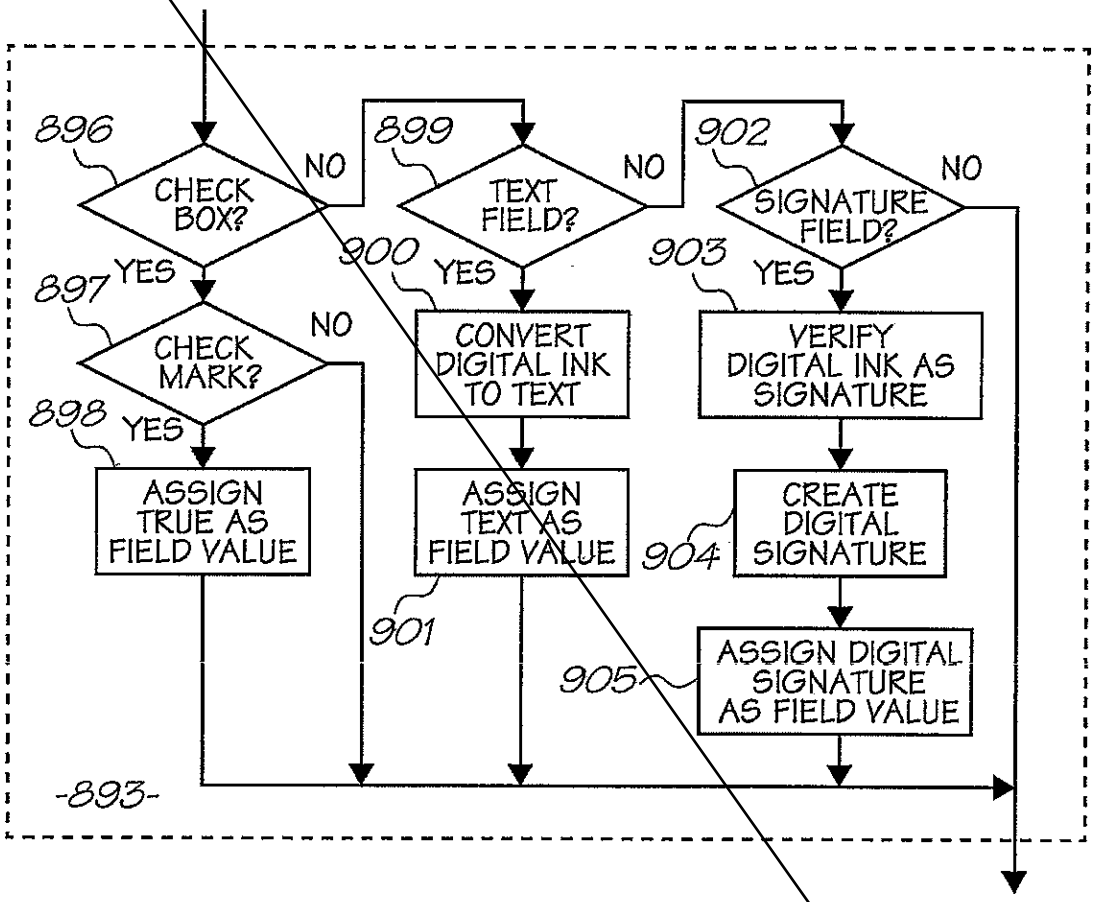

896
CHECK BOX?
NO
899
TEXT FIELD?
NO
902
SIGNATURE FIELD?
NO
897
YES
CHECK MARK?
NO
900
YES
CONVERT DIGITAL INK TO TEXT
903
YES
VERIFY DIGITAL INK AS SIGNATURE
898
YES
ASSIGN TRUE AS FIELD VALUE
ASSIGN TEXT AS FIELD VALUE
901
904
CREATE DIGITAL SIGNATURE
905
ASSIGN DIGITAL SIGNATURE AS FIELD VALUE
-893-

FIG. 38a

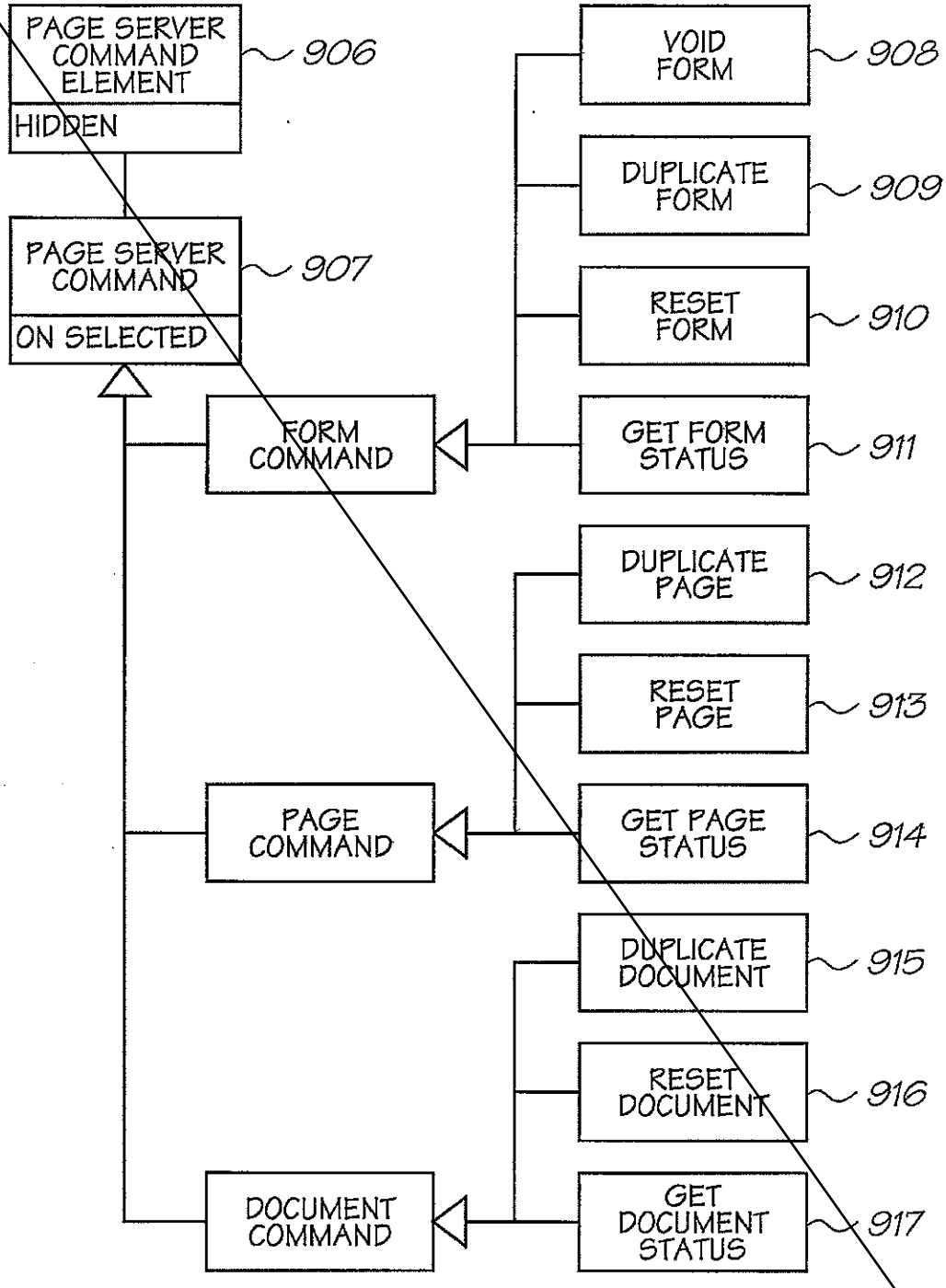

PAGE SERVER COMMAND ELEMENT
HIDDEN
906
PAGE SERVER COMMAND
ON SELECTED
907
FORM COMMAND
PAGE COMMAND
DOCUMENT COMMAND
VOID FORM
908
DUPLICATE FORM
909
RESET FORM
910
GET FORM STATUS
911
DUPLICATE PAGE
912
RESET PAGE
913
GET PAGE STATUS
914
DUPLICATE DOCUMENT
915
RESET DOCUMENT
916
GET DOCUMENT STATUS
917

FIG. 39

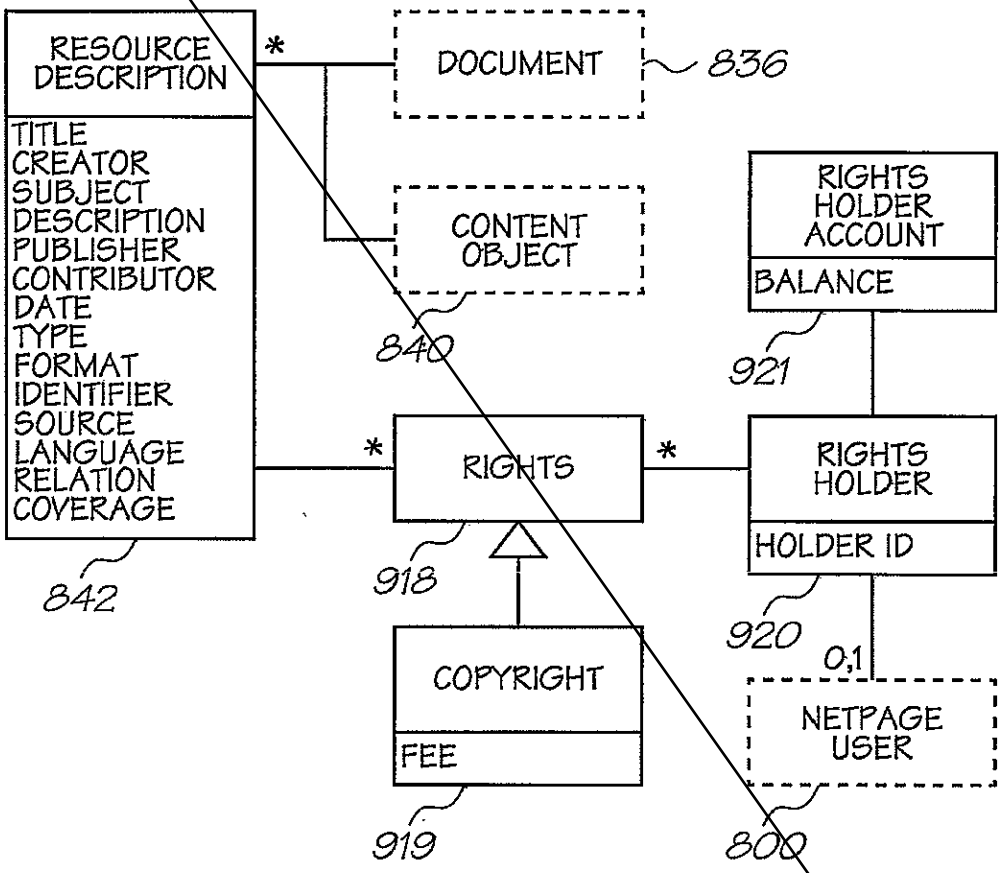

RESOURCE DESCRIPTION
TITLE
CREATOR
SUBJECT
DESCRIPTION
PUBLISHER
CONTRIBUTOR
DATE
TYPE
FORMAT
IDENTIFIER
SOURCE
LANGUAGE
RELATION
COVERAGE
842
*
DOCUMENT
836
CONTENT OBJECT
840
*
RIGHTS
918
*
COPYRIGHT
FEE
919
RIGHTS HOLDER ACCOUNT
BALANCE
921
RIGHTS HOLDER
HOLDER ID
920
0,1
NETPAGE USER
800

FIG. 40

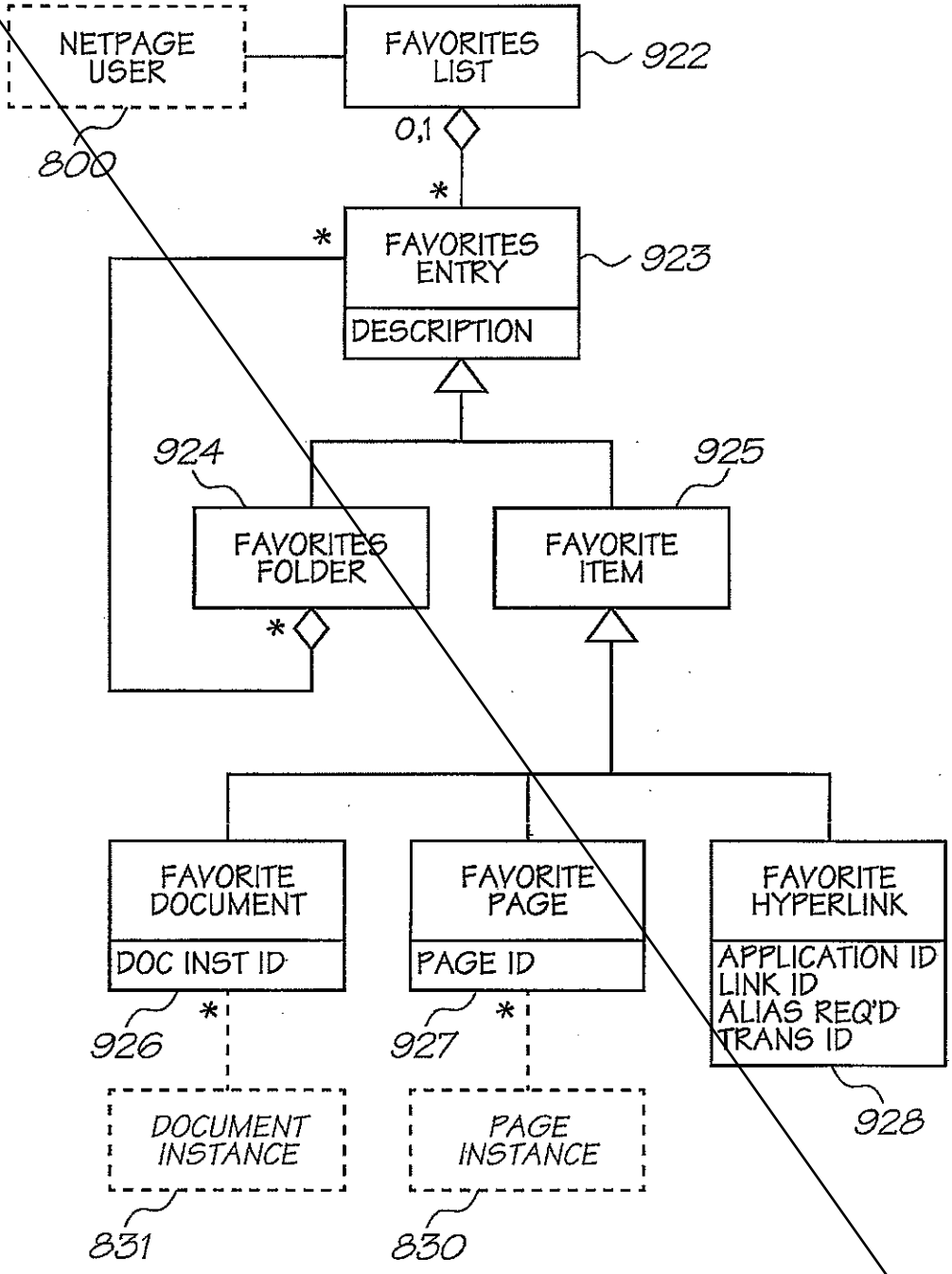

NETPAGE USER
800
FAVORITES LIST
922
0,1
*
*
FAVORITES ENTRY
923
DESCRIPTION
924
925
FAVORITES FOLDER
FAVORITE ITEM
*
FAVORITE DOCUMENT
DOC INST ID
FAVORITE PAGE
PAGE ID
FAVORITE HYPERLINK
APPLICATION ID
LINK ID
ALIAS REQ'D
TRANS ID
926
927
928
*
*
DOCUMENT INSTANCE
PAGE INSTANCE
831
830

FIG. 41

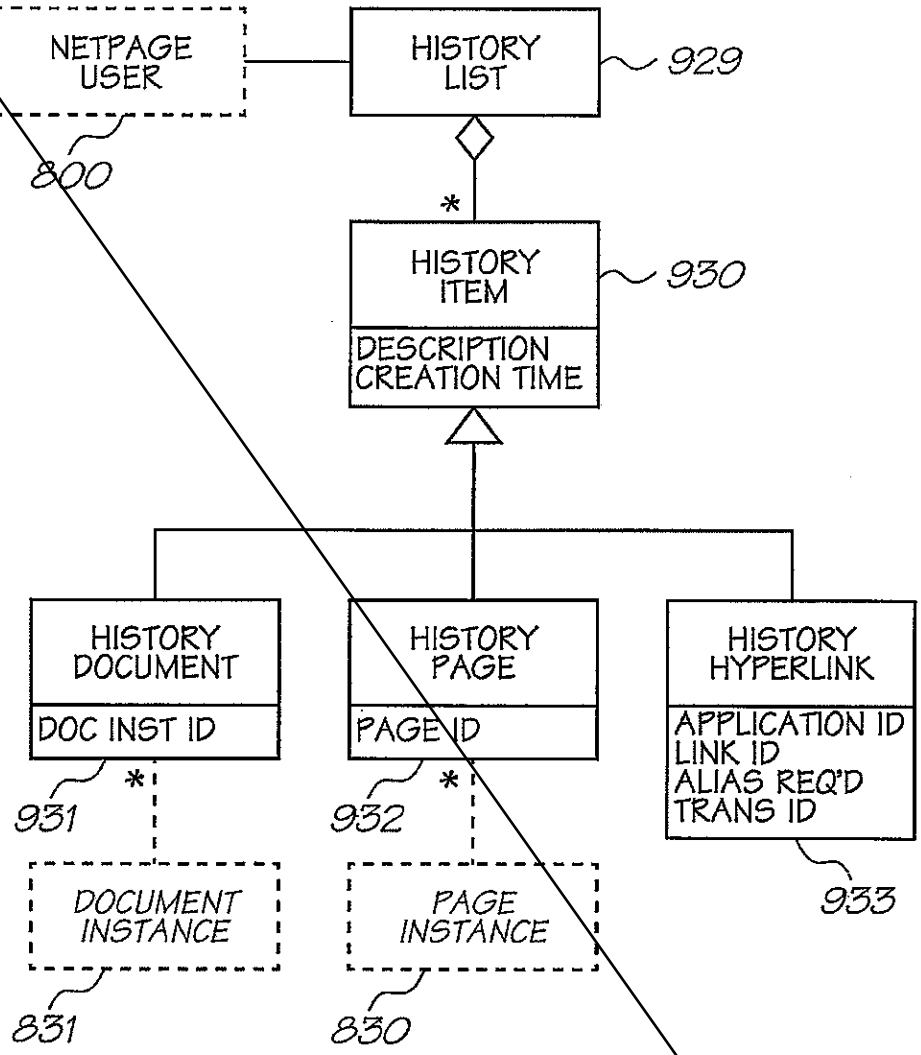

NETPAGE USER
800
HISTORY LIST
929
*
HISTORY ITEM
930
DESCRIPTION
CREATION TIME
HISTORY DOCUMENT
DOC INST ID
931
*
HISTORY PAGE
PAGE ID
932
*
HISTORY HYPERLINK
APPLICATION ID
LINK ID
ALIAS REQ'D
TRANS ID
933
DOCUMENT INSTANCE
831
PAGE INSTANCE
830

FIG. 42

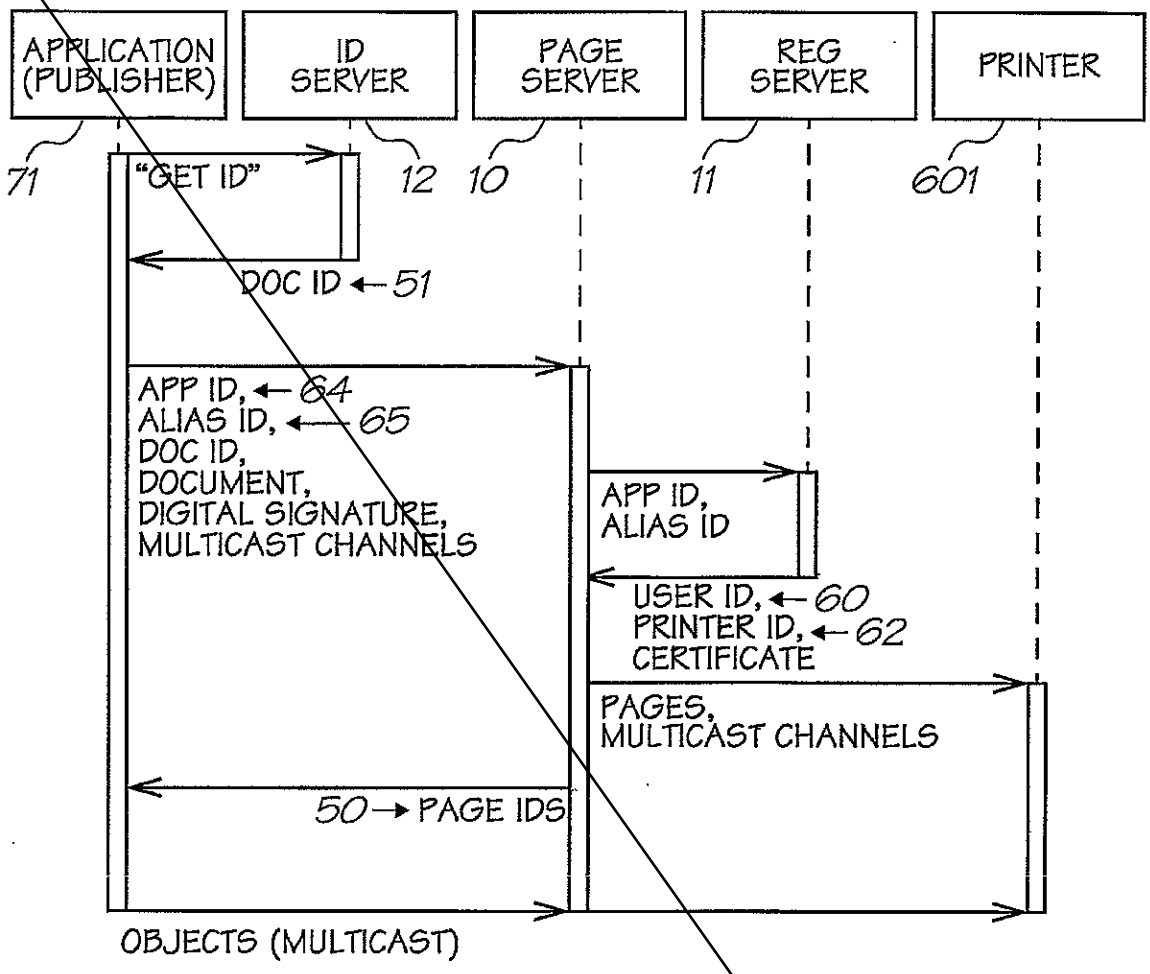

APPLICATION (PUBLISHER)
ID SERVER
PAGE SERVER
REG SERVER
PRINTER
71
12
10
11
601
"GET ID"
DOC ID ← 51
APP ID, ← 64
ALIAS ID, ← 65
DOC ID,
DOCUMENT,
DIGITAL SIGNATURE,
MULTICAST CHANNELS
APP ID,
ALIAS ID
USER ID, ← 60
PRINTER ID, ← 62
CERTIFICATE
PAGES,
MULTICAST CHANNELS
50 → PAGE IDS
OBJECTS (MULTICAST)

FIG. 43

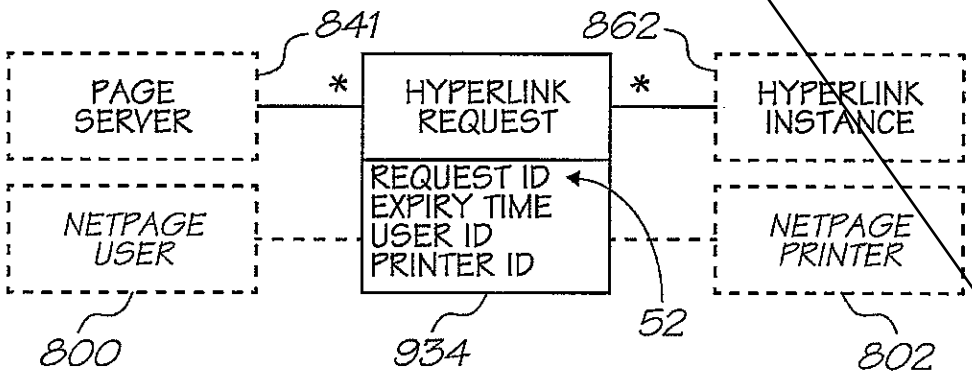

841
862
PAGE SERVER
*
HYPERLINK REQUEST
*
HYPERLINK INSTANCE
REQUEST ID
EXPIRY TIME
USER ID
PRINTER ID
NETPAGE USER
NETPAGE PRINTER
800
934
52
802

FIG. 44

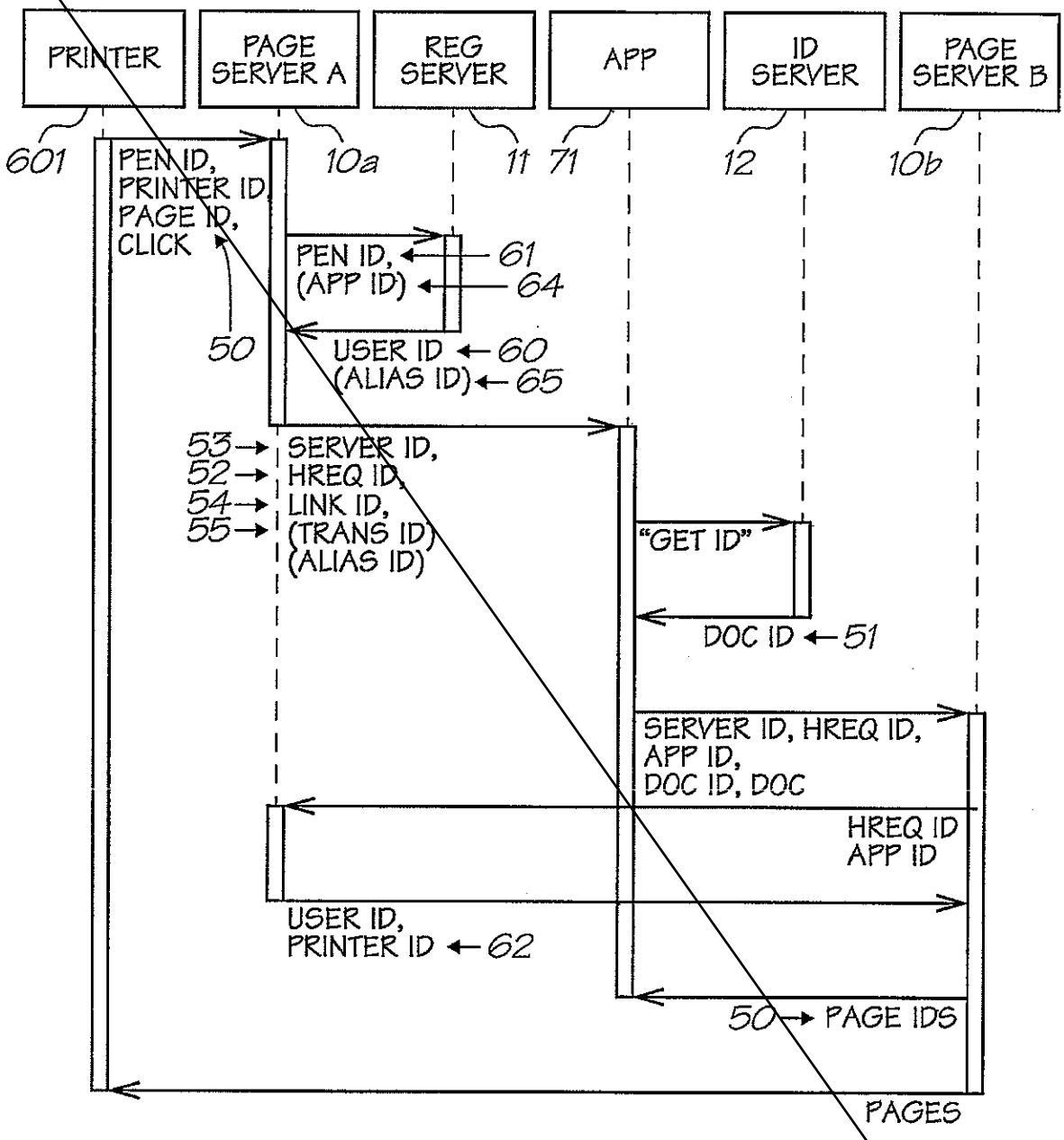

PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID,
PAGE ID,
CLICK
50
PEN ID, 61
(APP ID) 64
USER ID 60
(ALIAS ID) 65
53 SERVER ID,
52 HREQ ID,
54 LINK ID,
55 (TRANS ID)
(ALIAS ID)
"GET ID"
DOC ID 51
SERVER ID, HREQ ID,
APP ID,
DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID 62
50 PAGE IDS
PAGES

FIG. 45

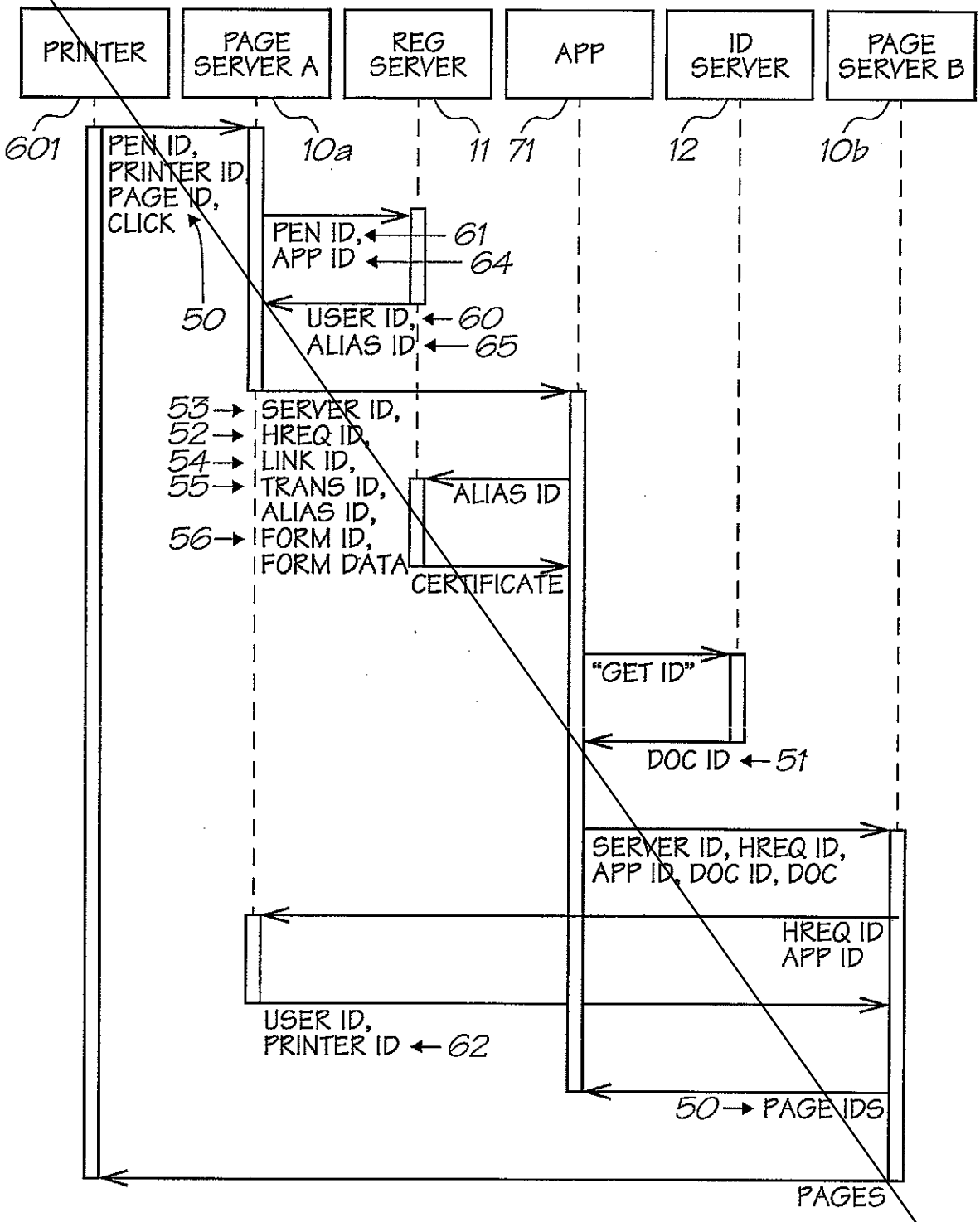

PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID,
APP ID
61
64
USER ID,
ALIAS ID
60
65
53
52
54
55
56
SERVER ID,
HREQ ID,
LINK ID,
TRANS ID,
ALIAS ID,
FORM ID,
FORM DATA
ALIAS ID
CERTIFICATE
"GET ID"
DOC ID
51
SERVER ID, HREQ ID,
APP ID, DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID
62
50
PAGE IDS
PAGES

FIG. 46

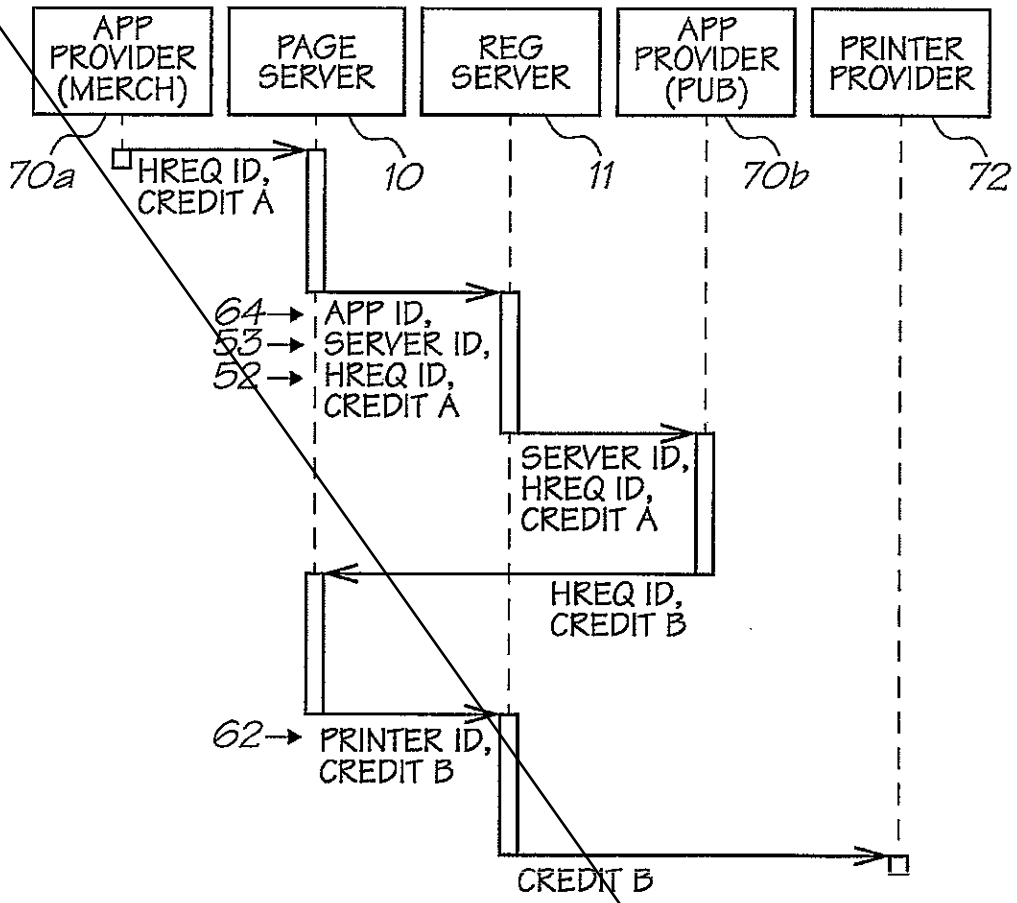

APP PROVIDER (MERCH)
PAGE SERVER
REG SERVER
APP PROVIDER (PUB)
PRINTER PROVIDER
70a
10
11
70b
72
HREQ ID, CREDIT A
64
53
52
APP ID, SERVER ID, HREQ ID, CREDIT A
SERVER ID, HREQ ID, CREDIT A
HREQ ID, CREDIT B
62
PRINTER ID, CREDIT B
CREDIT B

FIG. 47

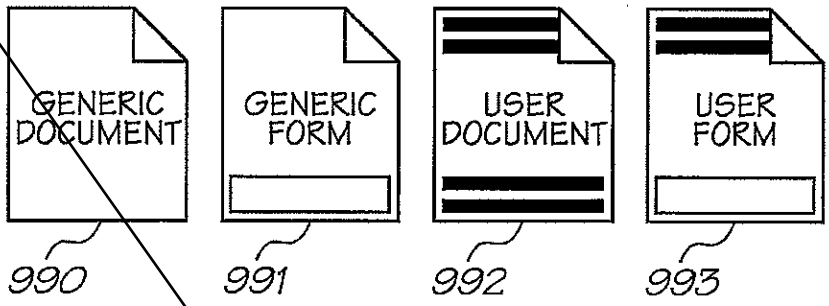

GENERIC DOCUMENT
GENERIC FORM
USER DOCUMENT
USER FORM
990
991
992
993

FIG. 48

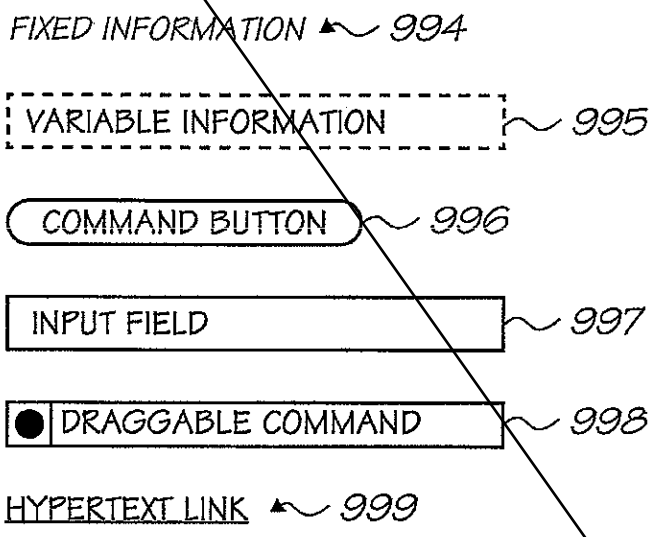

FIXED INFORMATION
994
VARIABLE INFORMATION
995
COMMAND BUTTON
996
INPUT FIELD
997
DRAGGABLE COMMAND
998
HYPERTEXT LINK
999

FIG. 49

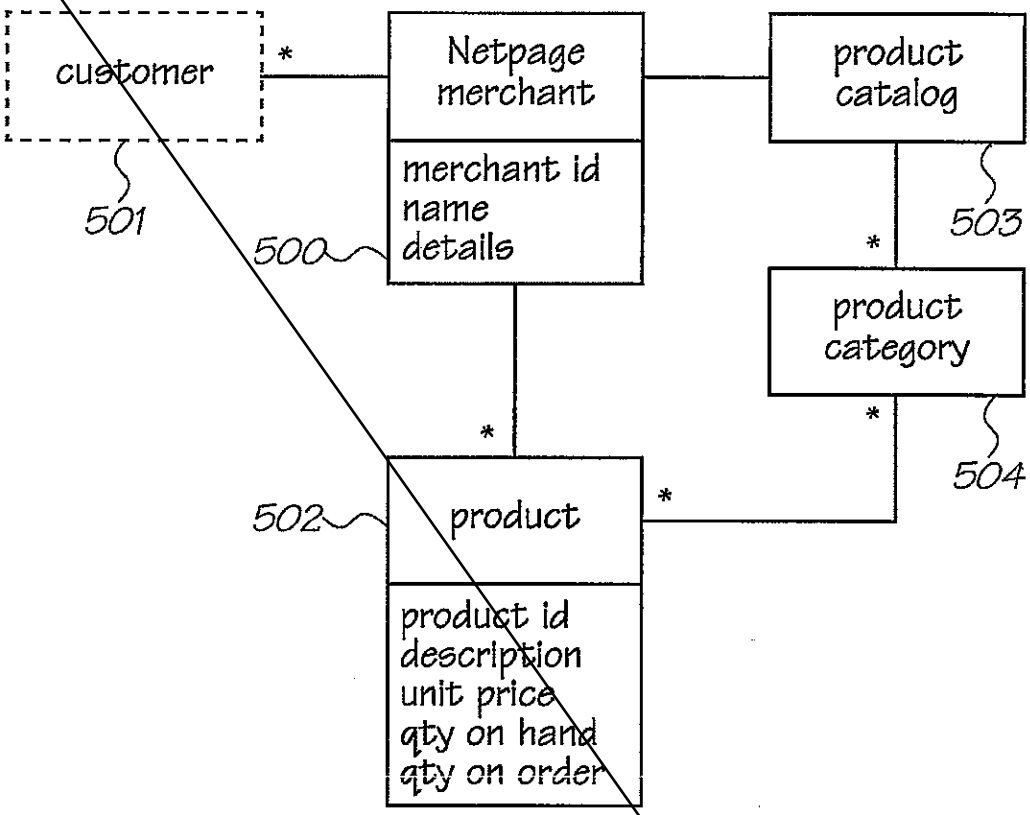

customer
*
Netpage merchant
product catalog
merchant id
name
details
501
500
503
*
product category
*
504
*
502
product
*
product id
description
unit price
qty on hand
qty on order

FIG. 50

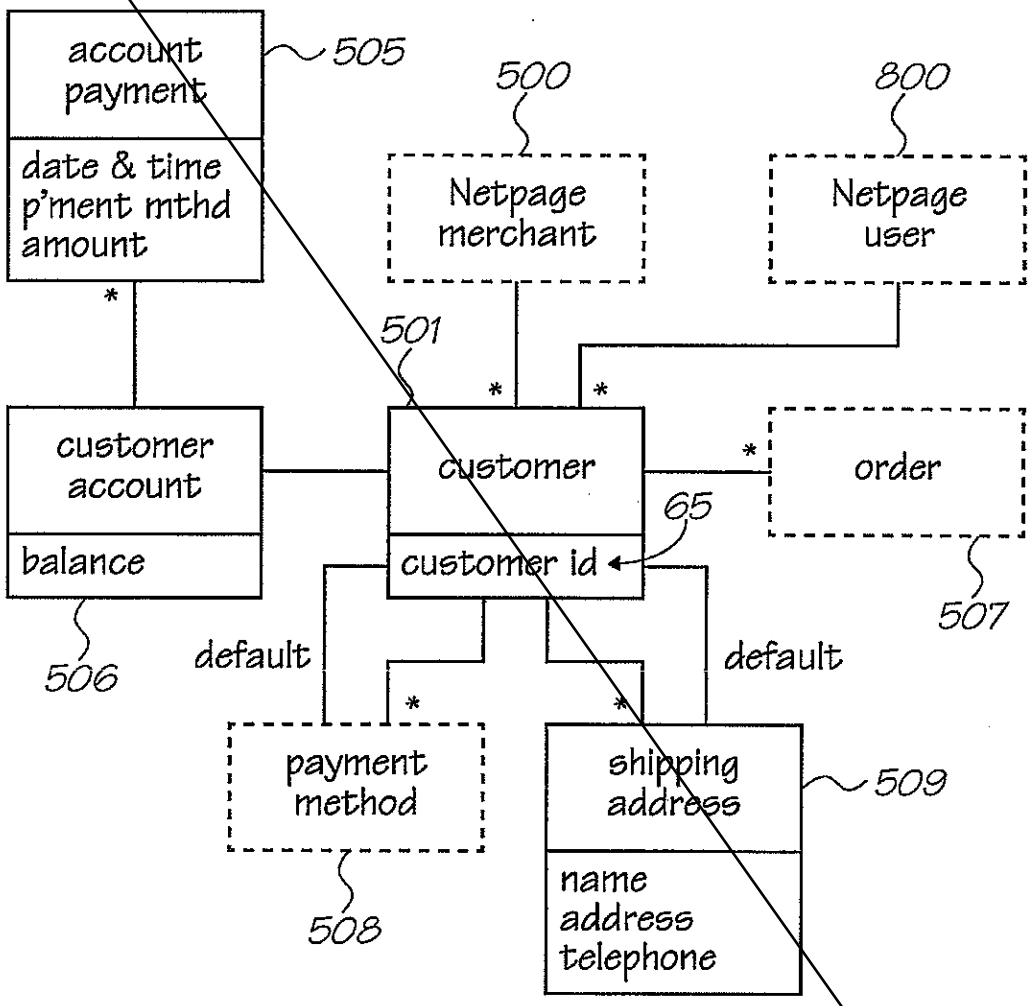

account
payment
date & time
p'ment mthd
amount
505
500
Netpage
merchant
800
Netpage
user
501
customer
account
balance
customer
customer id
65
order
507
506
default
default
payment
method
508
shipping
address
509
name
address
telephone

FIG. 51

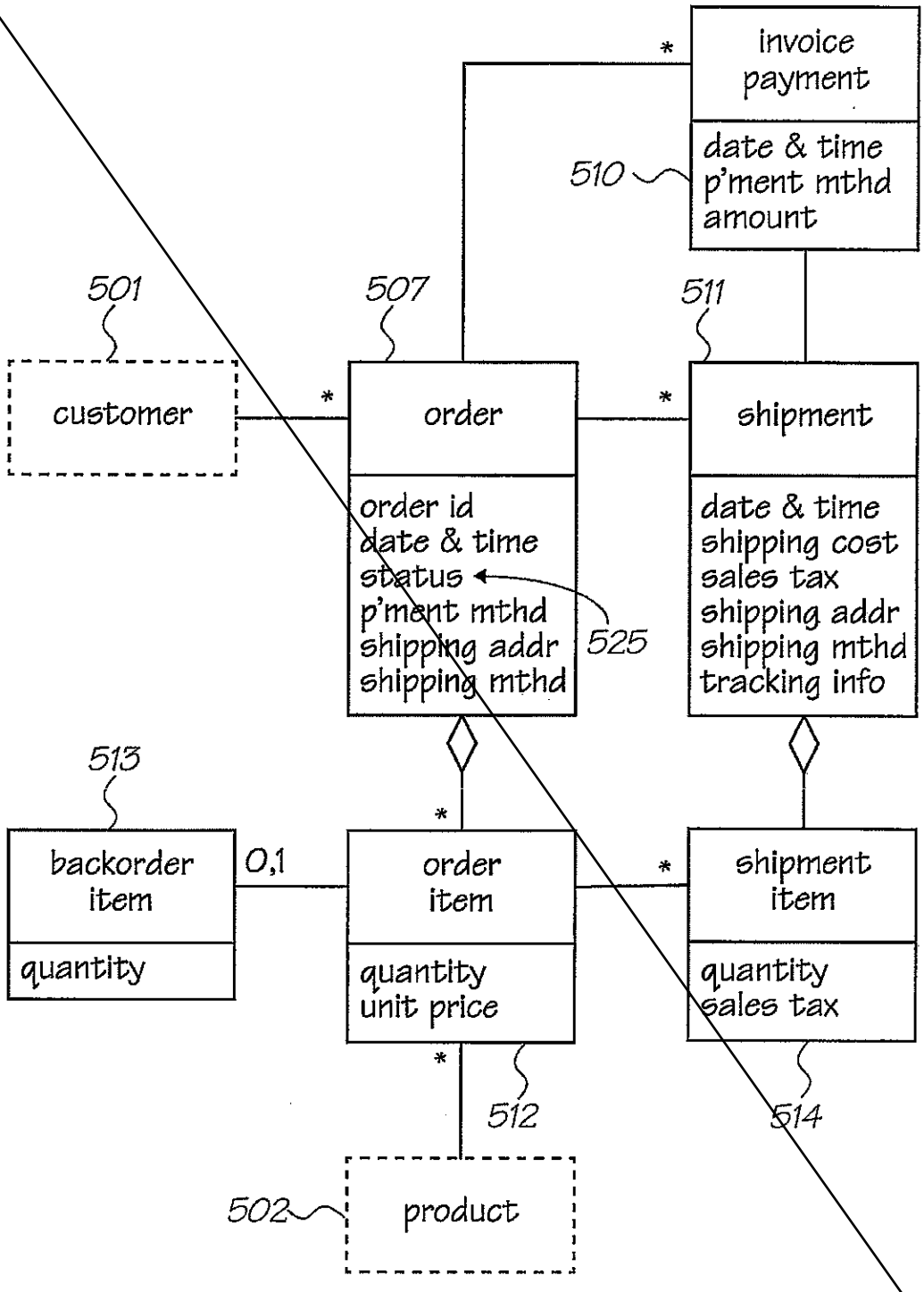

invoice
payment
date & time
p'ment mthd
amount
510
501
507
511
customer
order
shipment
order id
date & time
status
p'ment mthd
shipping addr
shipping mthd
525
date & time
shipping cost
sales tax
shipping addr
shipping mthd
tracking info
513
backorder
item
quantity
0,1
order
item
quantity
unit price
shipment
item
quantity
sales tax
512
514
502
product

FIG. 52

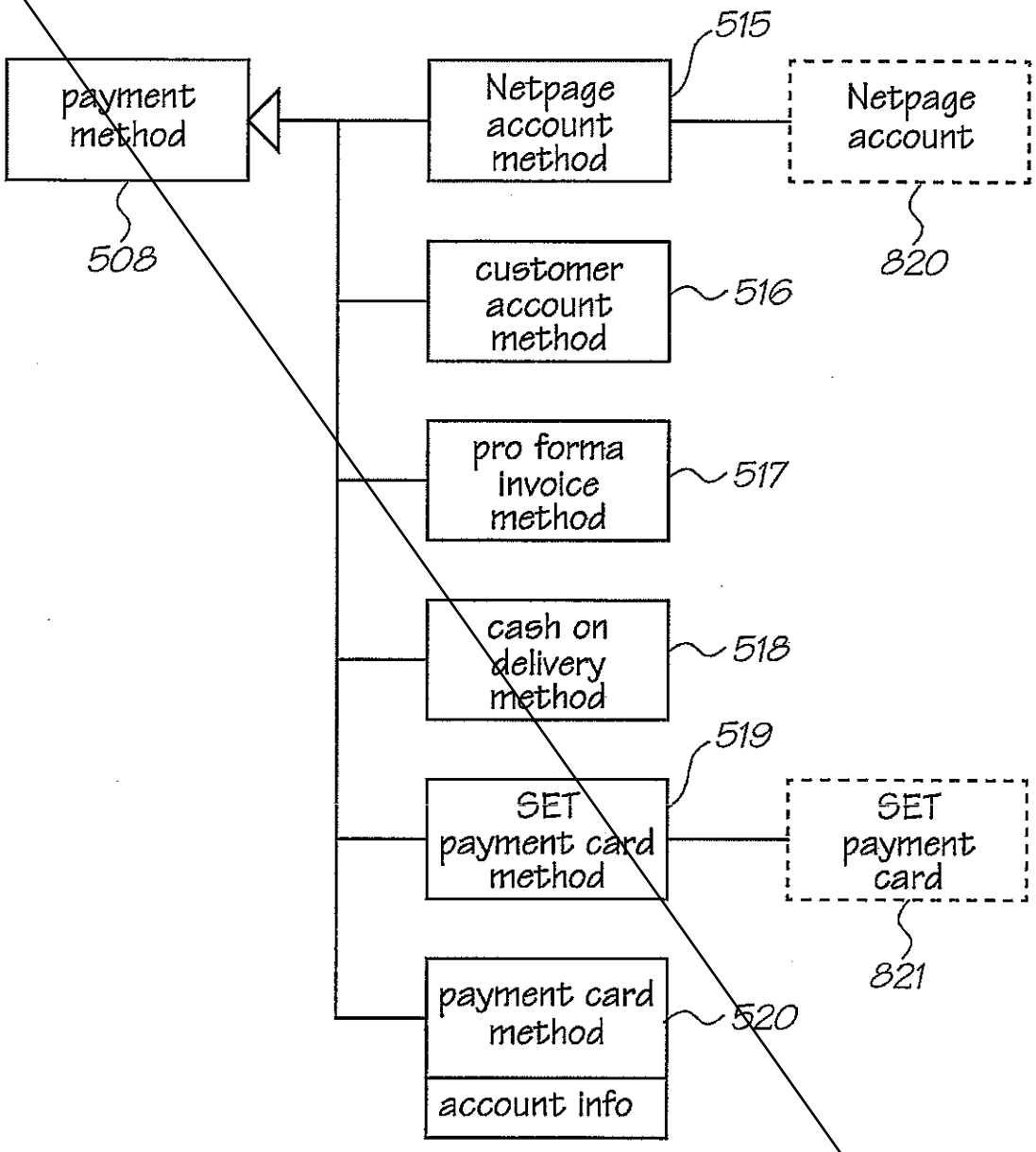

payment method
508
Netpage account method
515
Netpage account
820
customer account method
516
pro forma invoice method
517
cash on delivery method
518
SET payment card method
519
SET payment card
821
payment card method
520
account info

FIG. 53

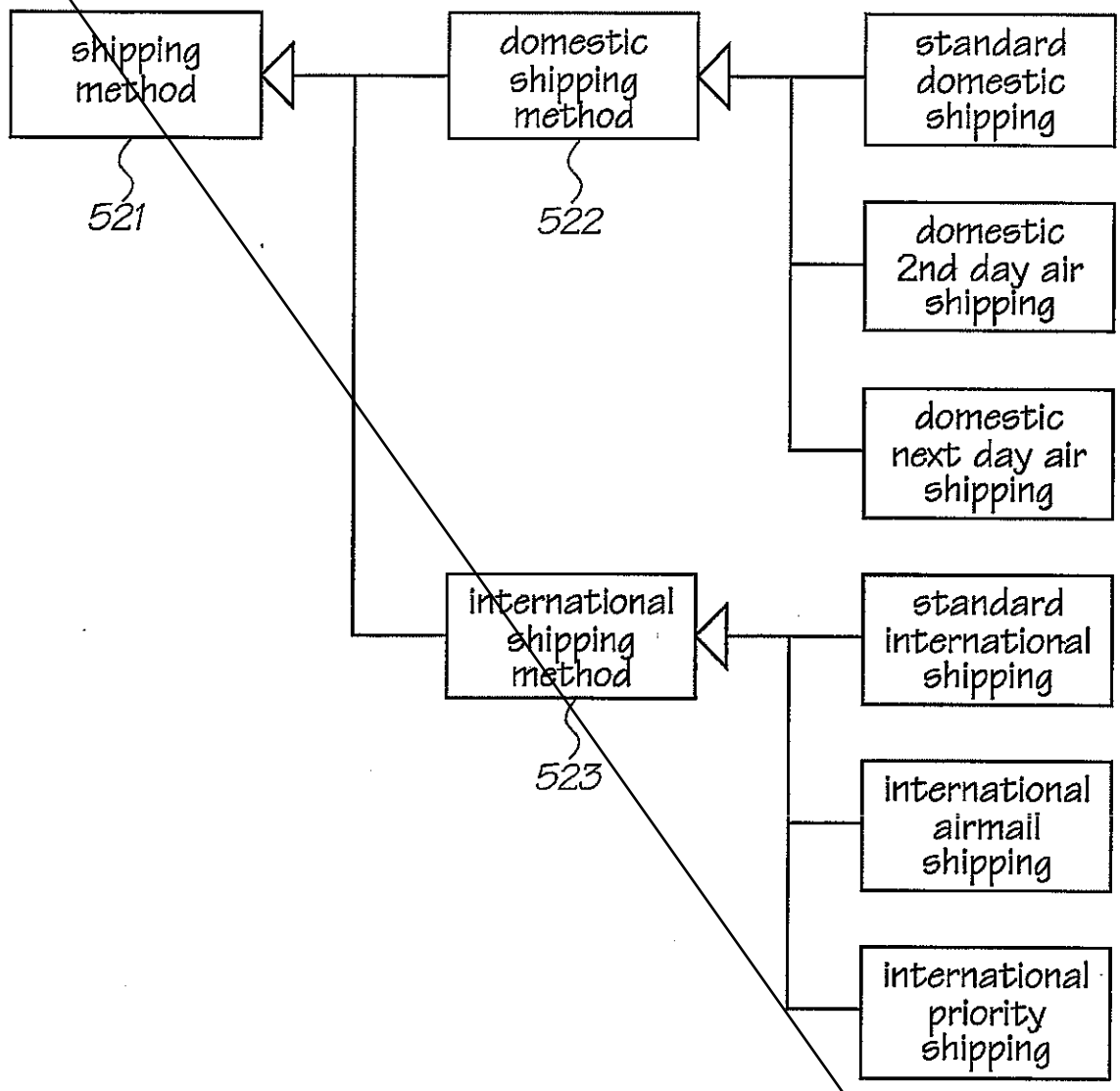

shipping method
521
domestic shipping method
522
standard domestic shipping
domestic 2nd day air shipping
domestic next day air shipping
international shipping method
523
standard international shipping
international airmail shipping
international priority shipping

FIG. 54

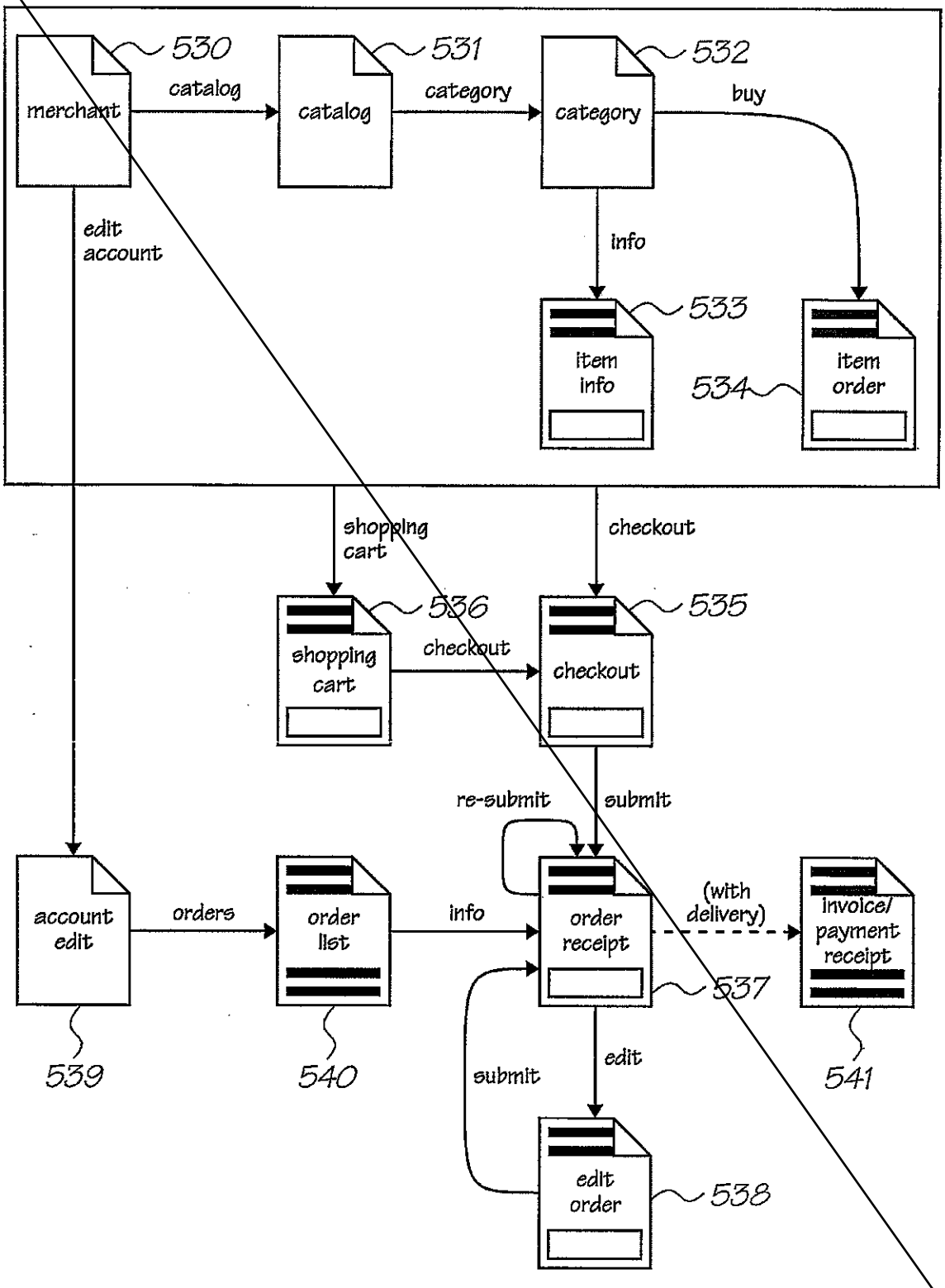

530
merchant
catalog
531
catalog
category
532
category
buy
edit
account
info
533
item
info
534
item
order
shopping
cart
checkout
536
shopping
cart
checkout
535
checkout
re-submit
submit
account
edit
orders
order
list
info
order
receipt
(with
delivery)
invoice/
payment
receipt
537
edit
submit
edit
order
538
539
540
541

FIG. 55

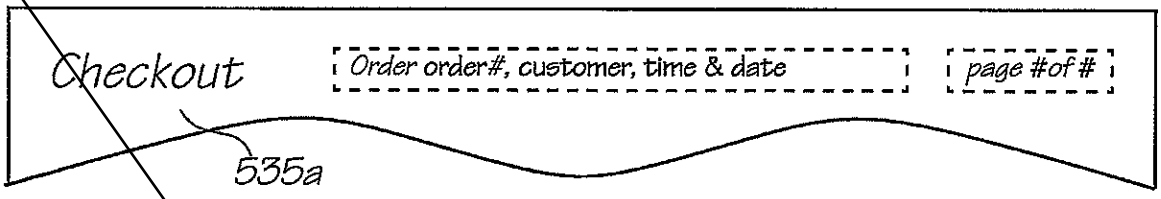

Checkout
Order order#, customer, time & date
page #of #
535a

FIG. 56

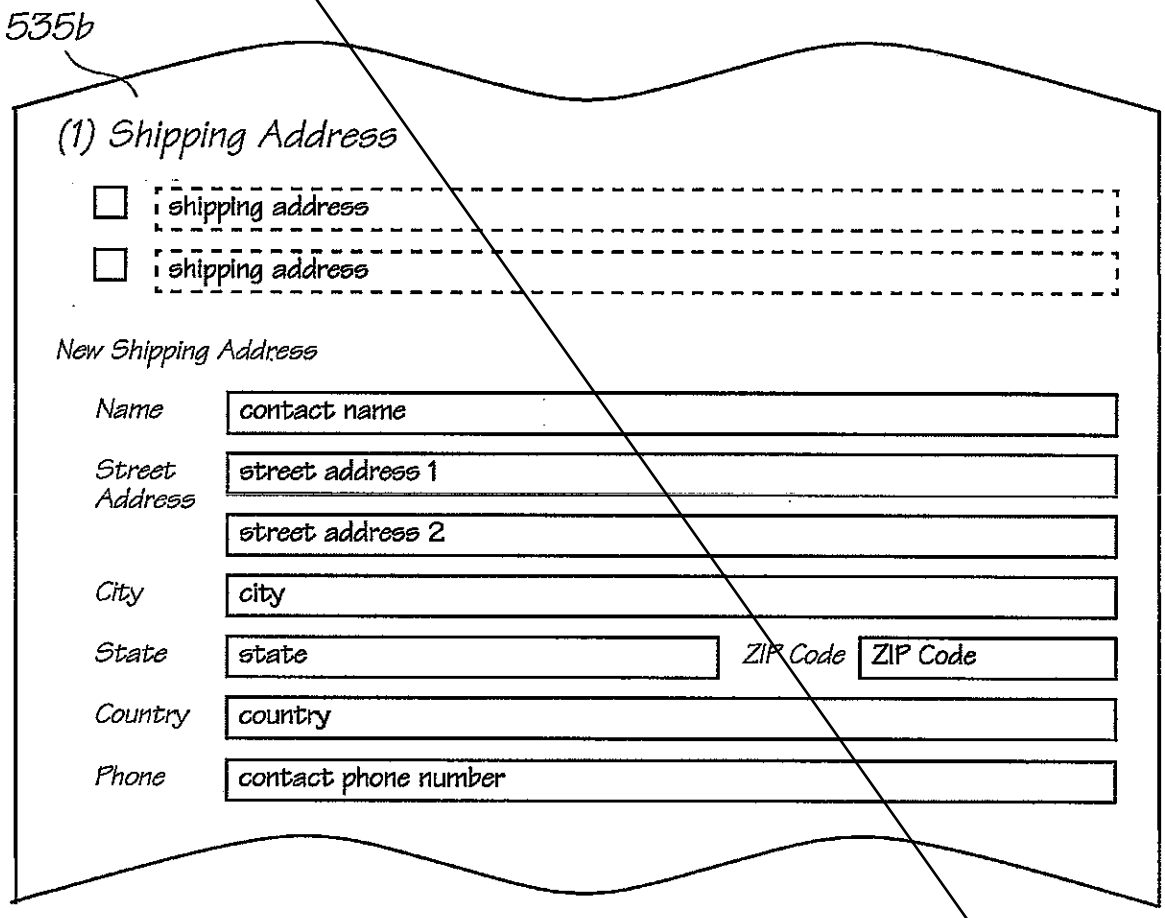

535b
(1) Shipping Address
shipping address
shipping address
New Shipping Address
Name
contact name
Street Address
street address 1
street address 2
City
city
State
state
ZIP Code
ZIP Code
Country
country
Phone
contact phone number

FIG. 57

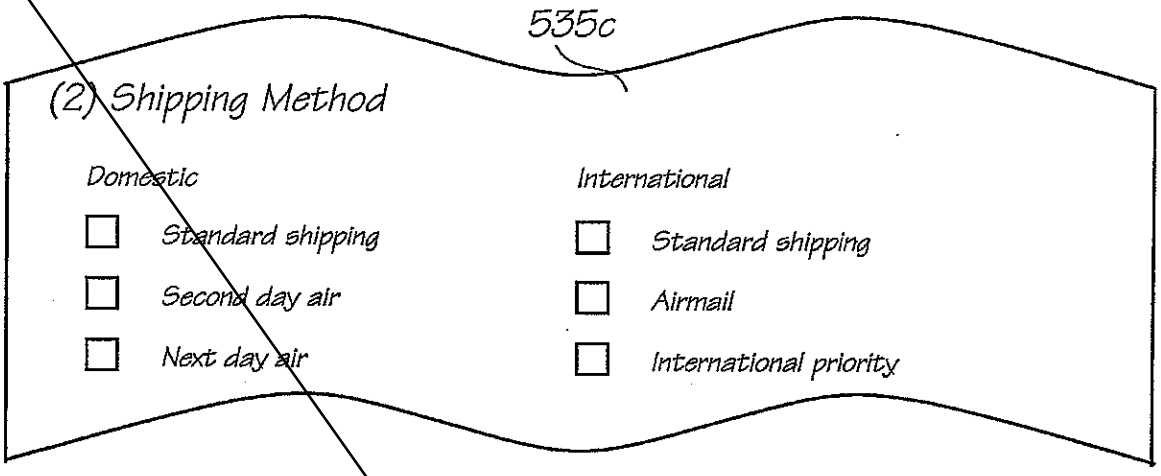

535c
(2) Shipping Method
Domestic
Standard shipping
Second day air
Next day air
International
Standard shipping
Airmail
International priority

FIG. 58

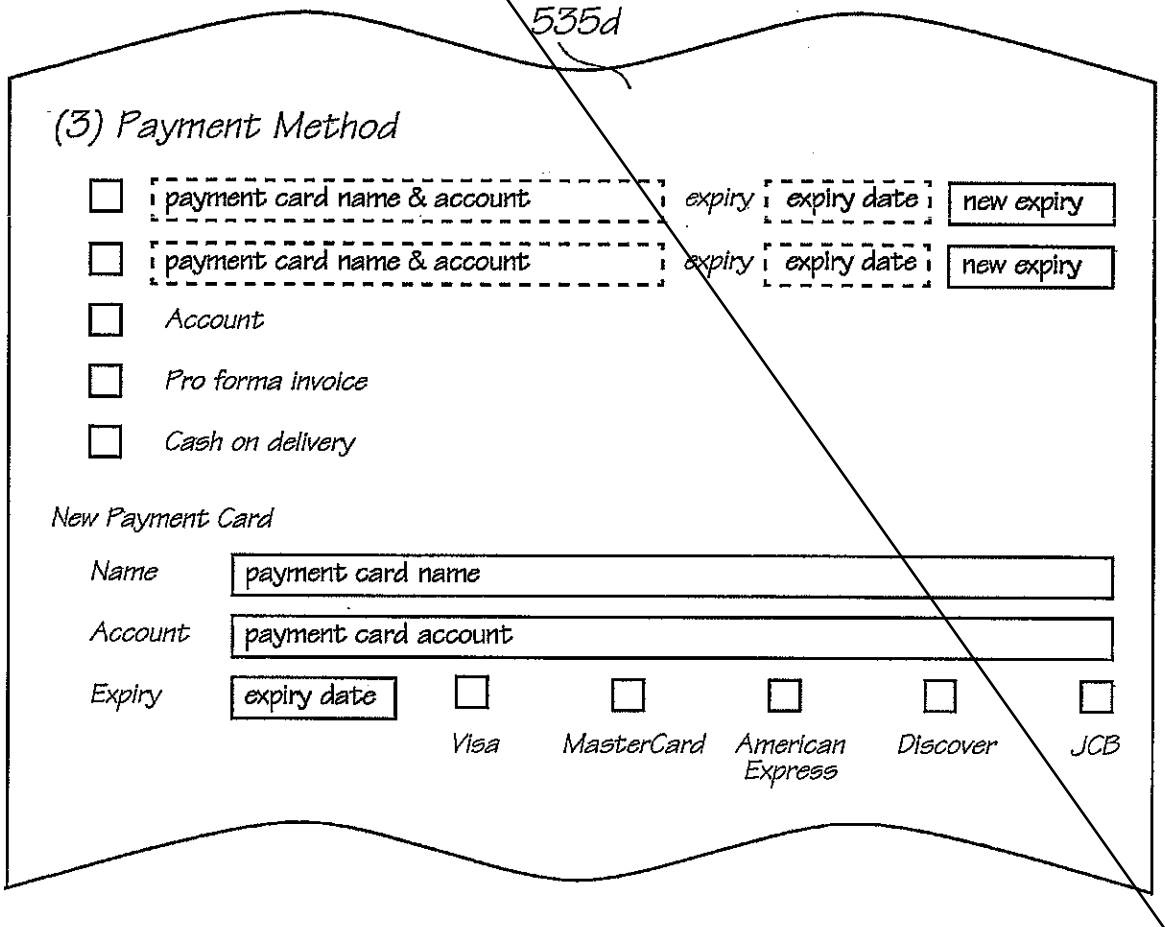

535d
(3) Payment Method
payment card name & account
expiry
expiry date
new expiry
payment card name & account
expiry
expiry date
new expiry
Account
Pro forma invoice
Cash on delivery
New Payment Card
Name
payment card name
Account
payment card account
Expiry
expiry date
Visa
MasterCard
American Express
Discover
JCB

FIG. 59

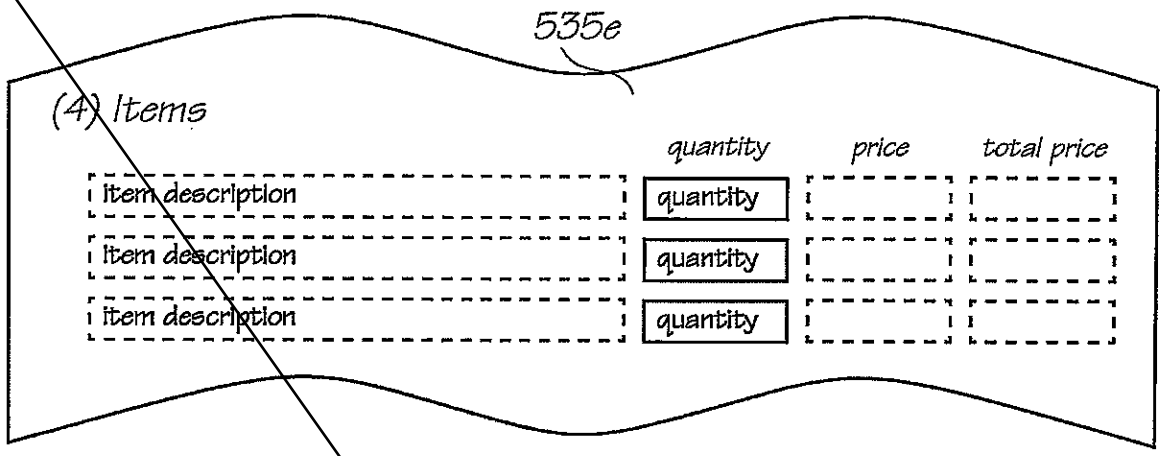

535e
(4) Items
quantity
price
total price
item description
quantity
item description
quantity
item description
quantity

FIG. 60

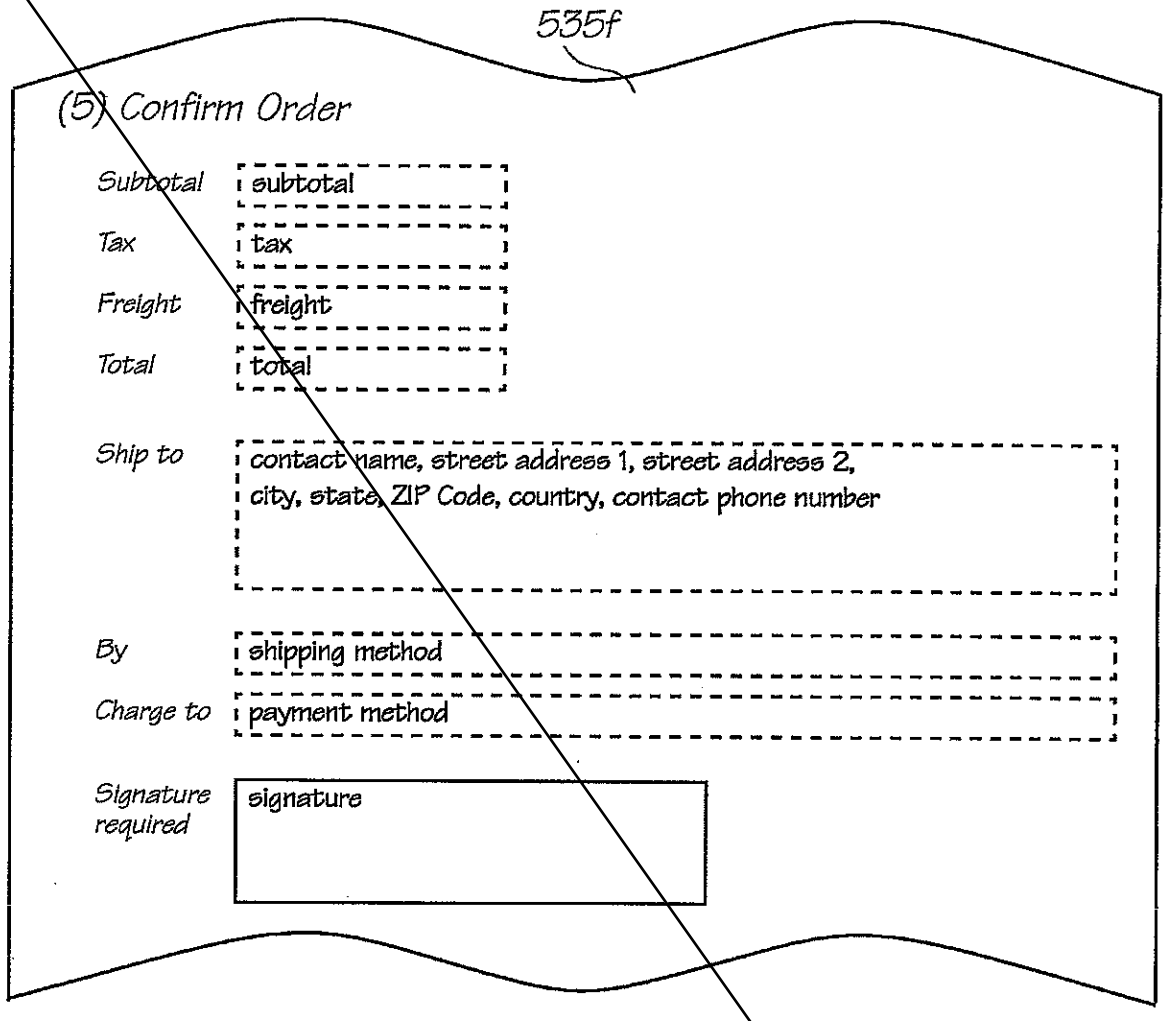

535f
(5) Confirm Order
Subtotal
subtotal
Tax
tax
Freight
freight
Total
total
Ship to
contact name, street address 1, street address 2,
city, state, ZIP Code, country, contact phone number
By
shipping method
Charge to
payment method
Signature required
signature

FIG. 61

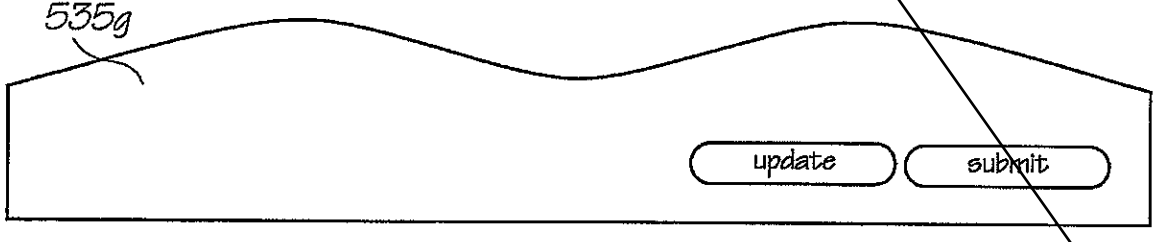
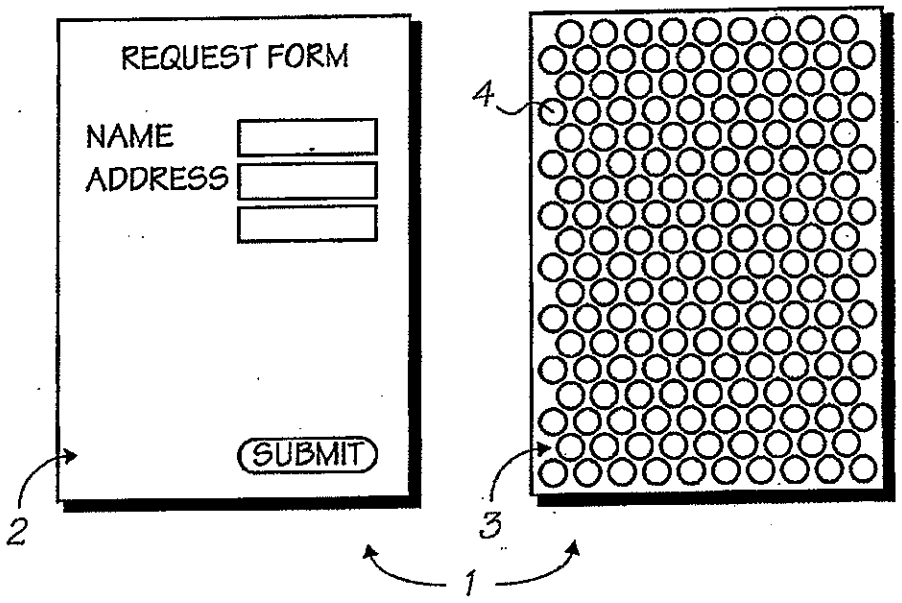

535g
update
submit

FIG. 62


REQUEST FORM
NAME
ADDRESS
SUBMIT
4
2
3
1

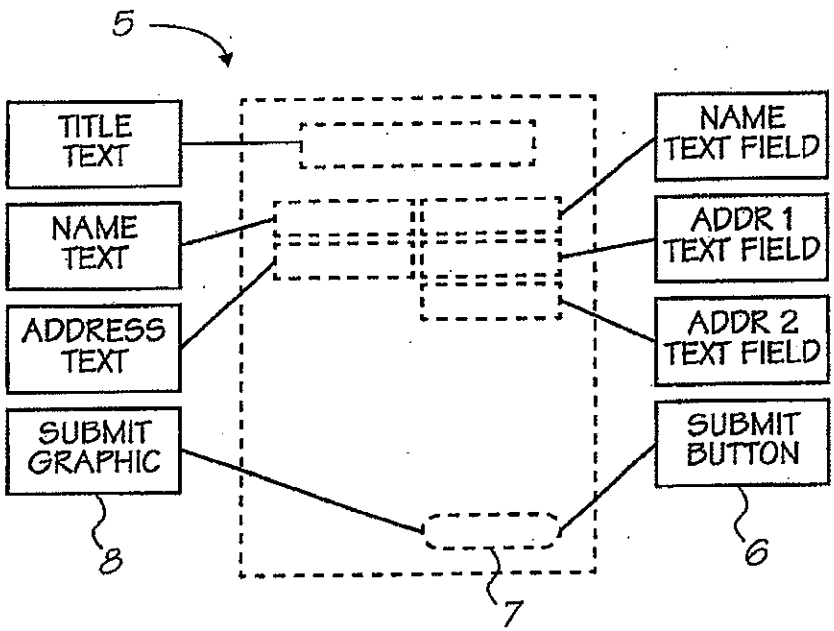

5
TITLE TEXT
NAME TEXT
ADDRESS TEXT
SUBMIT GRAPHIC
NAME TEXT FIELD
ADDR 1 TEXT FIELD
ADDR 2 TEXT FIELD
SUBMIT BUTTON
8
7
6

FIG. 1

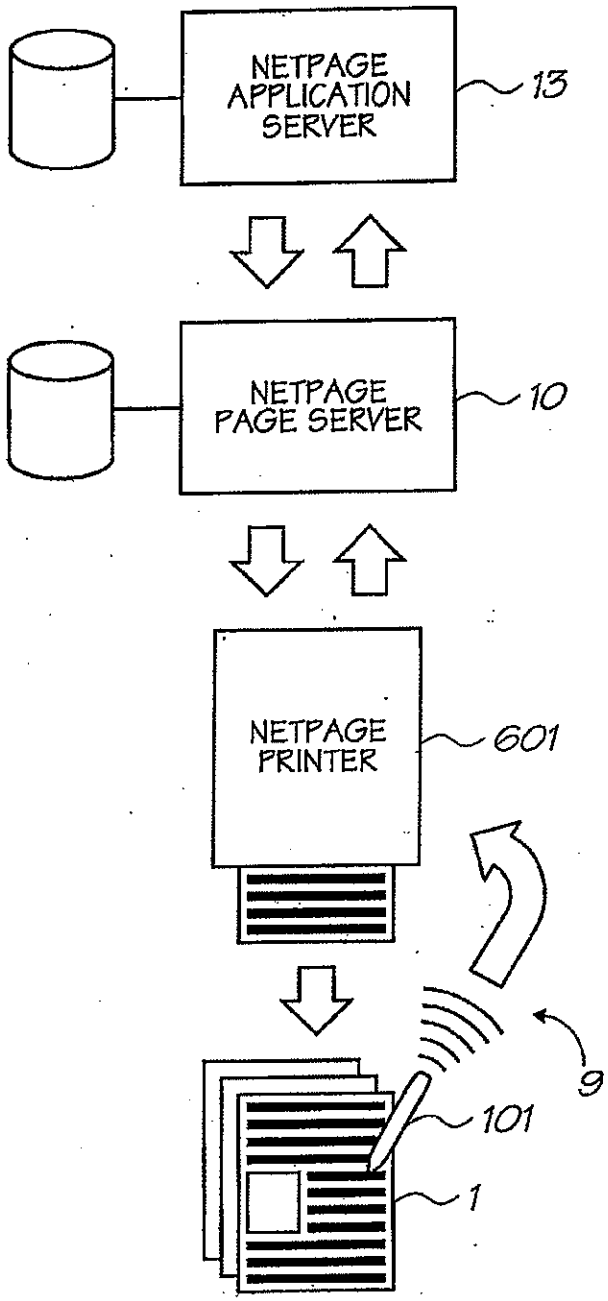

NETPAGE
APPLICATION
SERVER
13
NETPAGE
PAGE SERVER
10
NETPAGE
PRINTER
601
9
101
1

FIG. 2

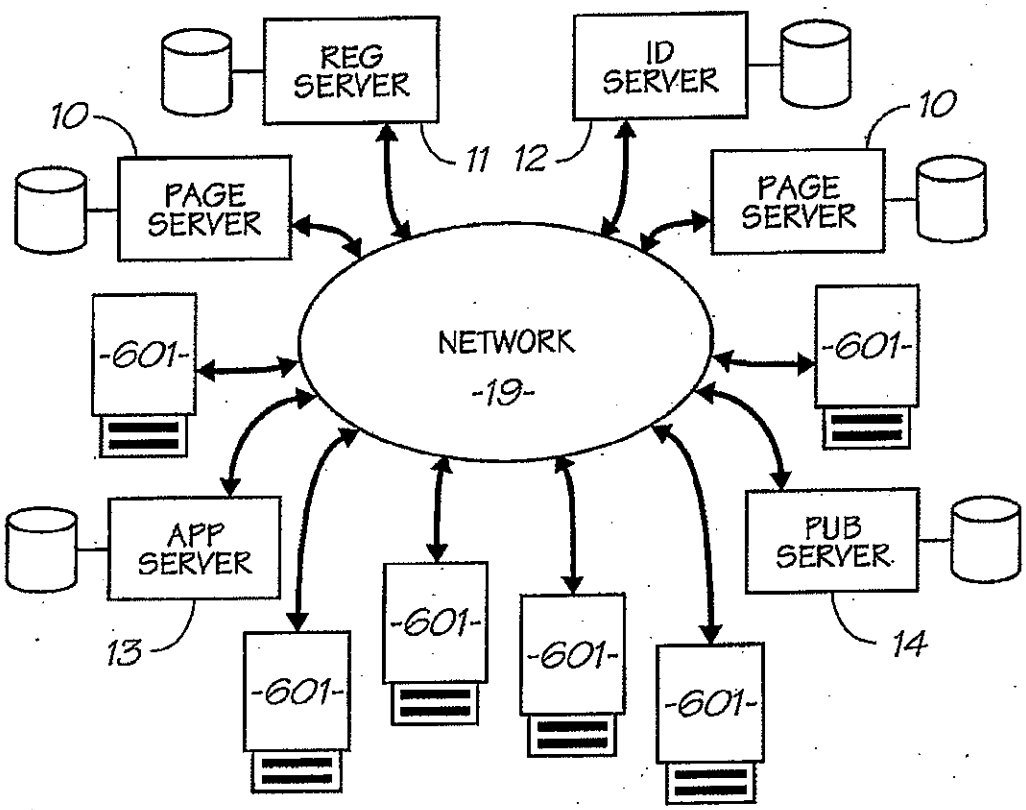

REG SERVER
ID SERVER
10
10
PAGE SERVER
PAGE SERVER
11
12
NETWORK
-19-
-601-
-601-
APP SERVER
PUB SERVER
13
14
-601-
-601-
-601-
-601-

FIG. 3

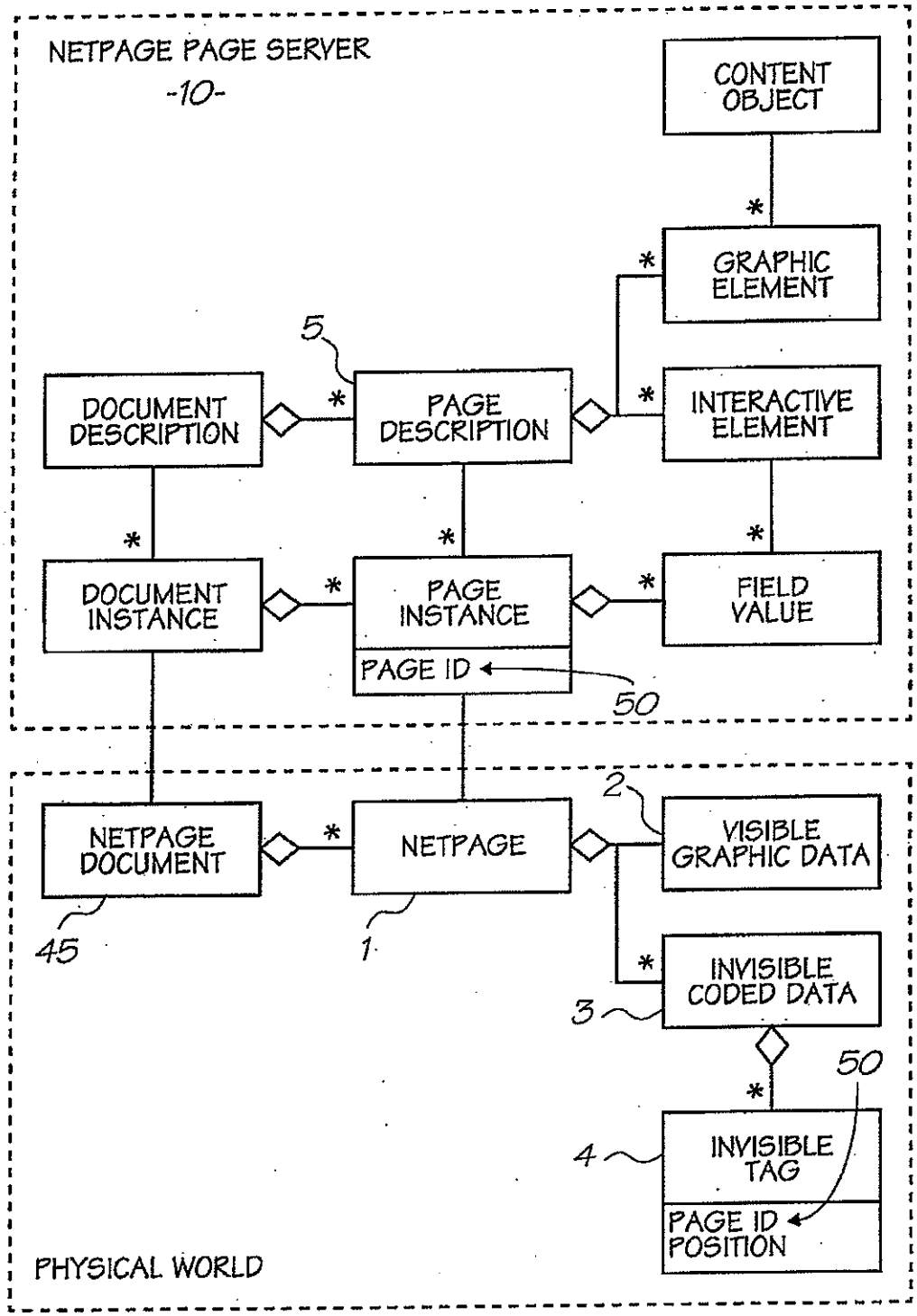

NETPAGE PAGE SERVER
-10-
CONTENT OBJECT
GRAPHIC ELEMENT
INTERACTIVE ELEMENT
FIELD VALUE
DOCUMENT DESCRIPTION
PAGE DESCRIPTION
DOCUMENT INSTANCE
PAGE INSTANCE
PAGE ID
50
5
NETPAGE DOCUMENT
NETPAGE
VISIBLE GRAPHIC DATA
INVISIBLE CODED DATA
INVISIBLE TAG
PAGE ID
POSITION
2
3
4
45
1
PHYSICAL WORLD

FIG. 4

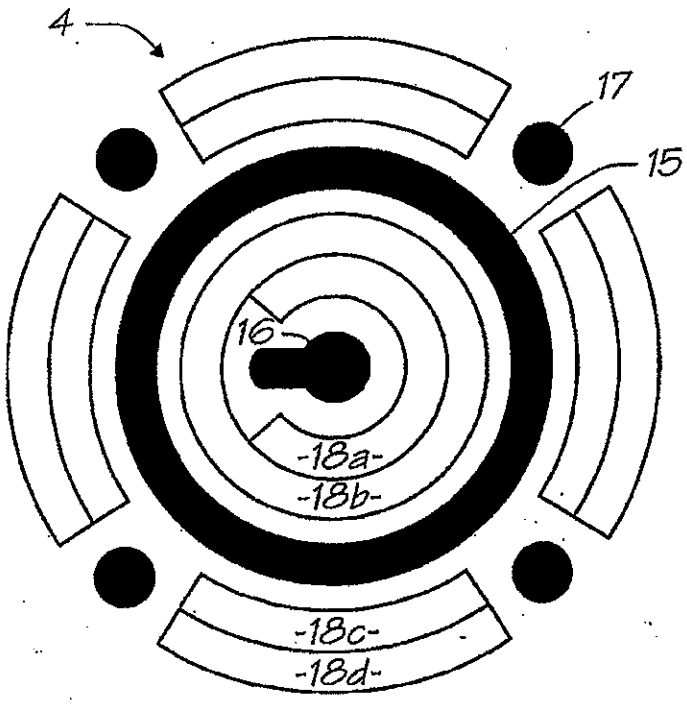


FIG. 5a

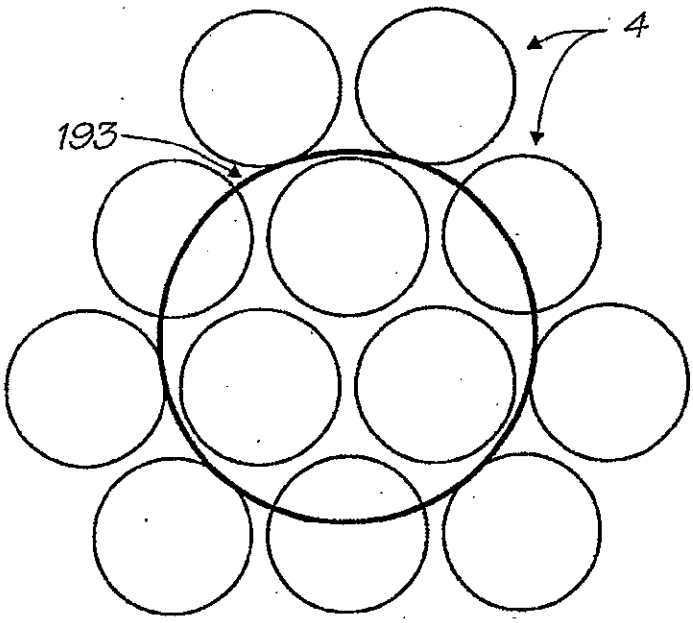


FIG. 5b

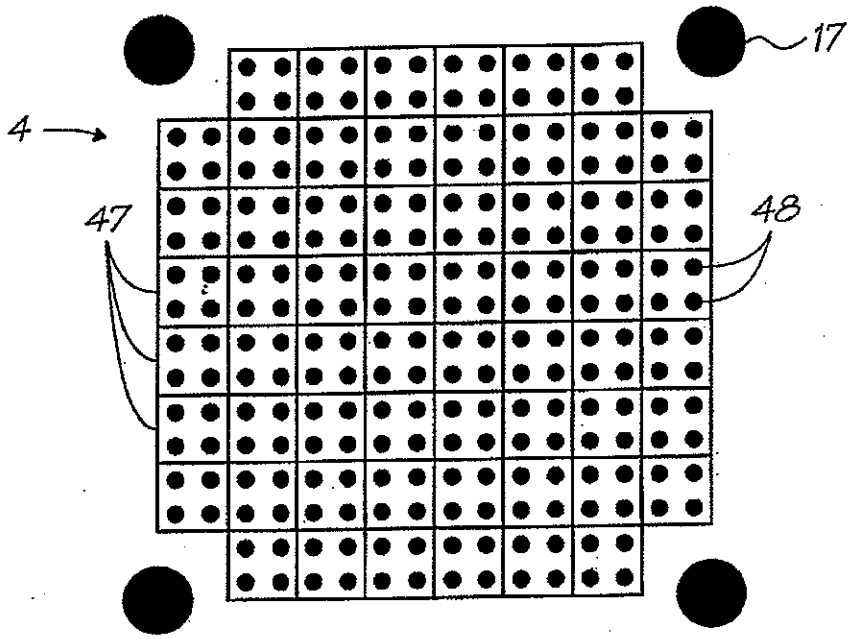


FIG. 6a

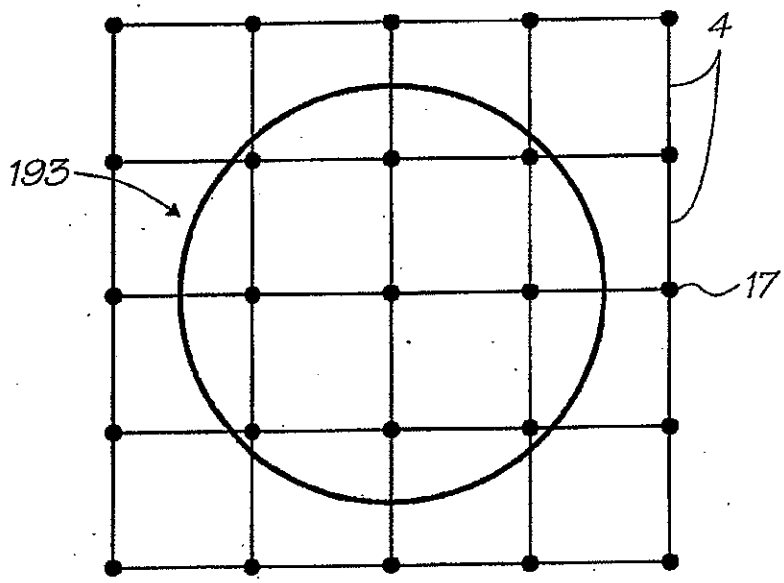


FIG. 6b

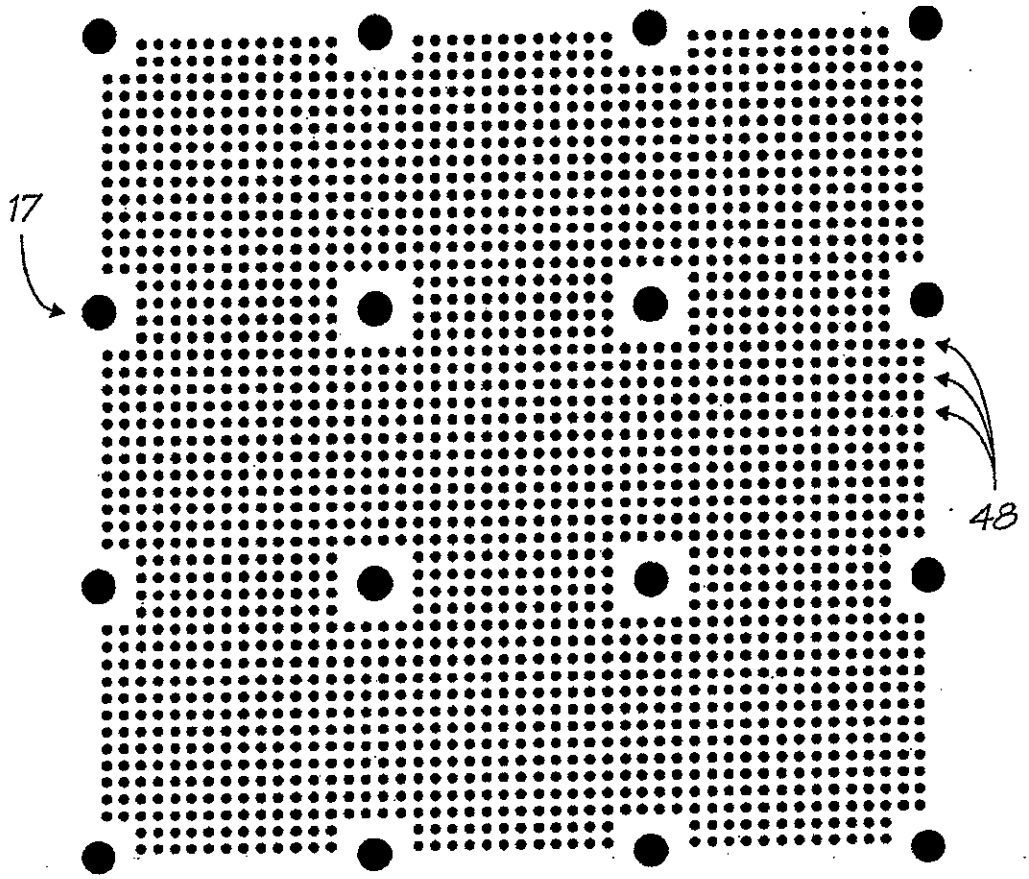

17
48

FIG. 6c

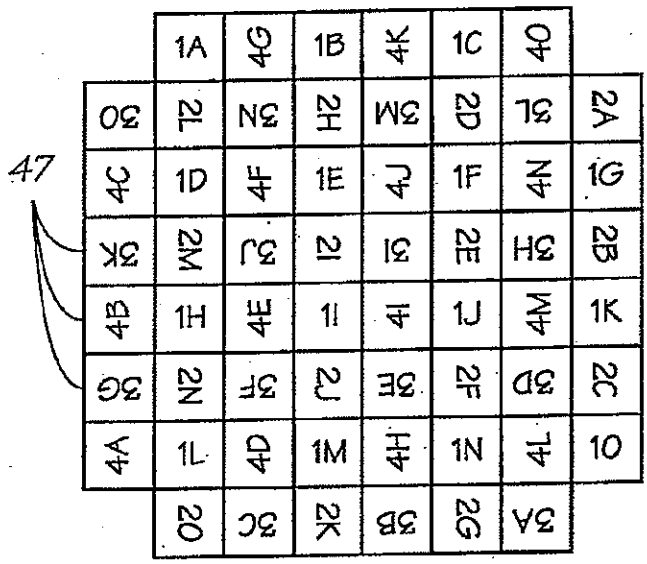

47
1A 4G 1B 4K 1C 4O
3O 2L 3N 2H 3M 2D 3L 2A
4C 1D 4F 1E 4J 1F 4N 1G
3K 2M 3J 2I 3I 2E 3H 2B
4B 1H 4E 1I 4I 1J 4M 1K
3G 2N 3F 2J 3E 2F 3D 2C
4A 1L 4D 1M 4H 1N 4L 1O
2O 3C 2K 3B 2G 3A

FIG. 6d

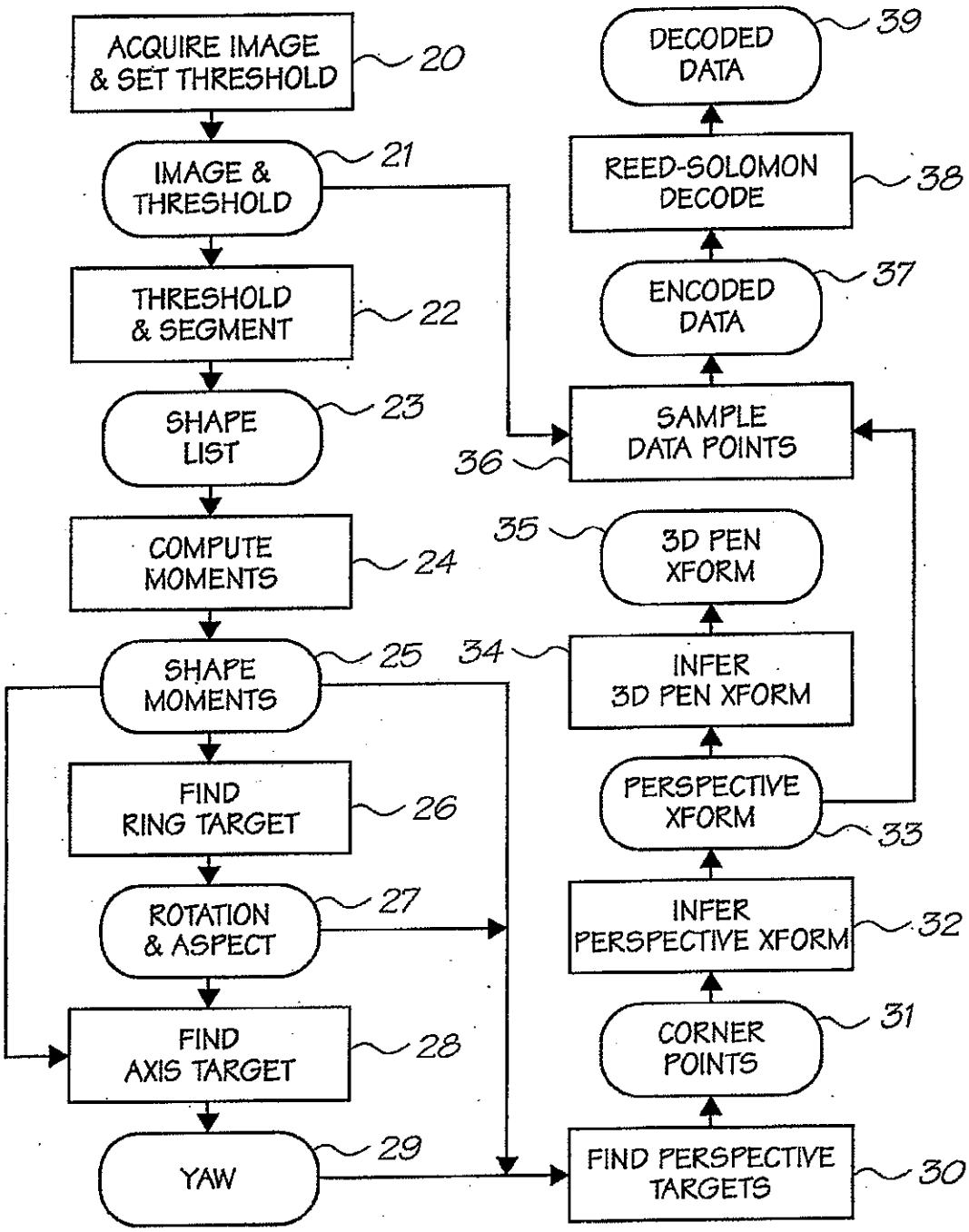

ACQUIRE IMAGE & SET THRESHOLD
20
IMAGE & THRESHOLD
21
THRESHOLD & SEGMENT
22
SHAPE LIST
23
COMPUTE MOMENTS
24
SHAPE MOMENTS
25
FIND RING TARGET
26
ROTATION & ASPECT
27
FIND AXIS TARGET
28
YAW
29
FIND PERSPECTIVE TARGETS
30
CORNER POINTS
31
INFER PERSPECTIVE XFORM
32
PERSPECTIVE XFORM
33
INFER 3D PEN XFORM
34
3D PEN XFORM
35
SAMPLE DATA POINTS
36
ENCODED DATA
37
REED-SOLOMON DECODE
38
DECODED DATA
39

FIG. 7

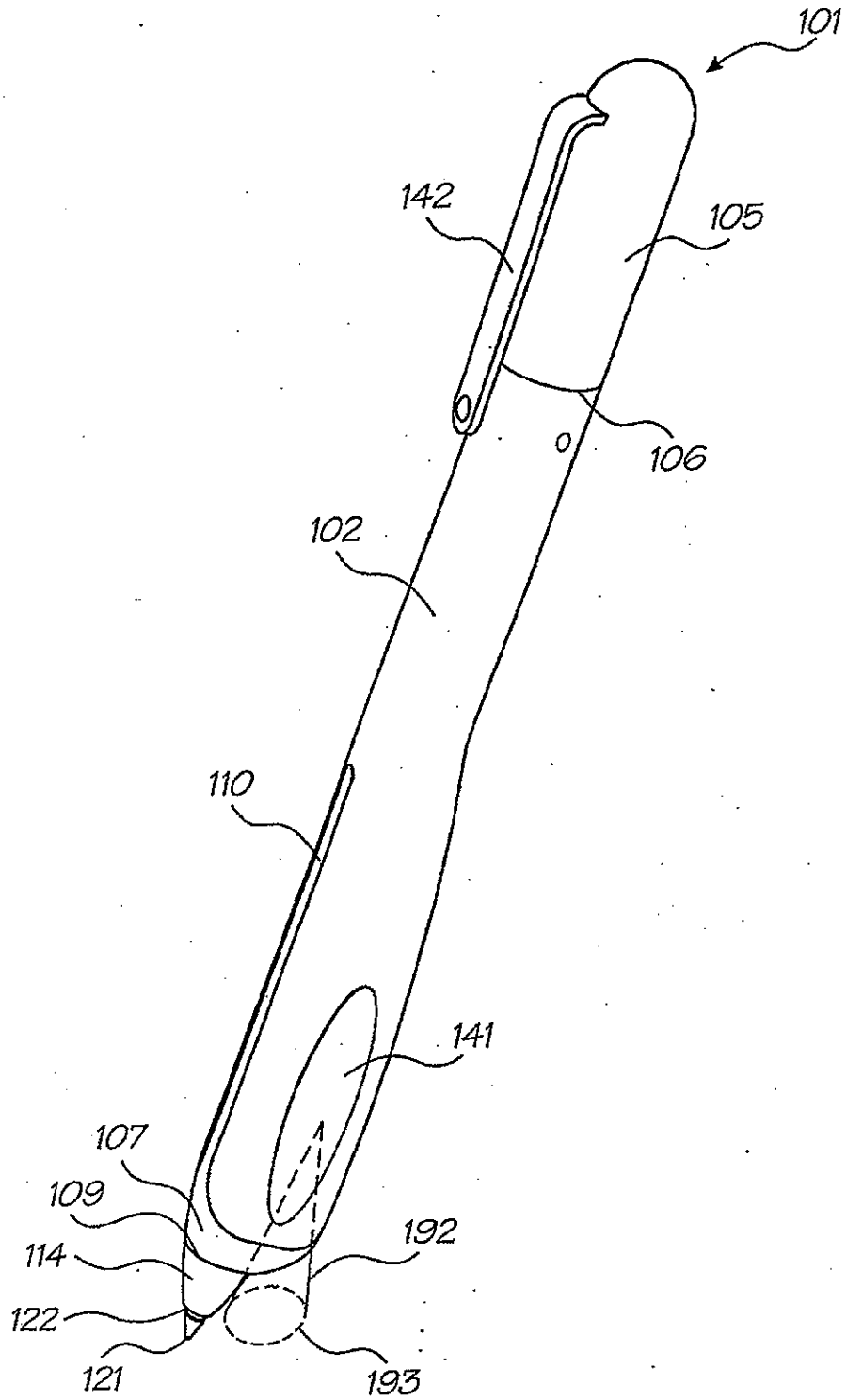


FIG. 8

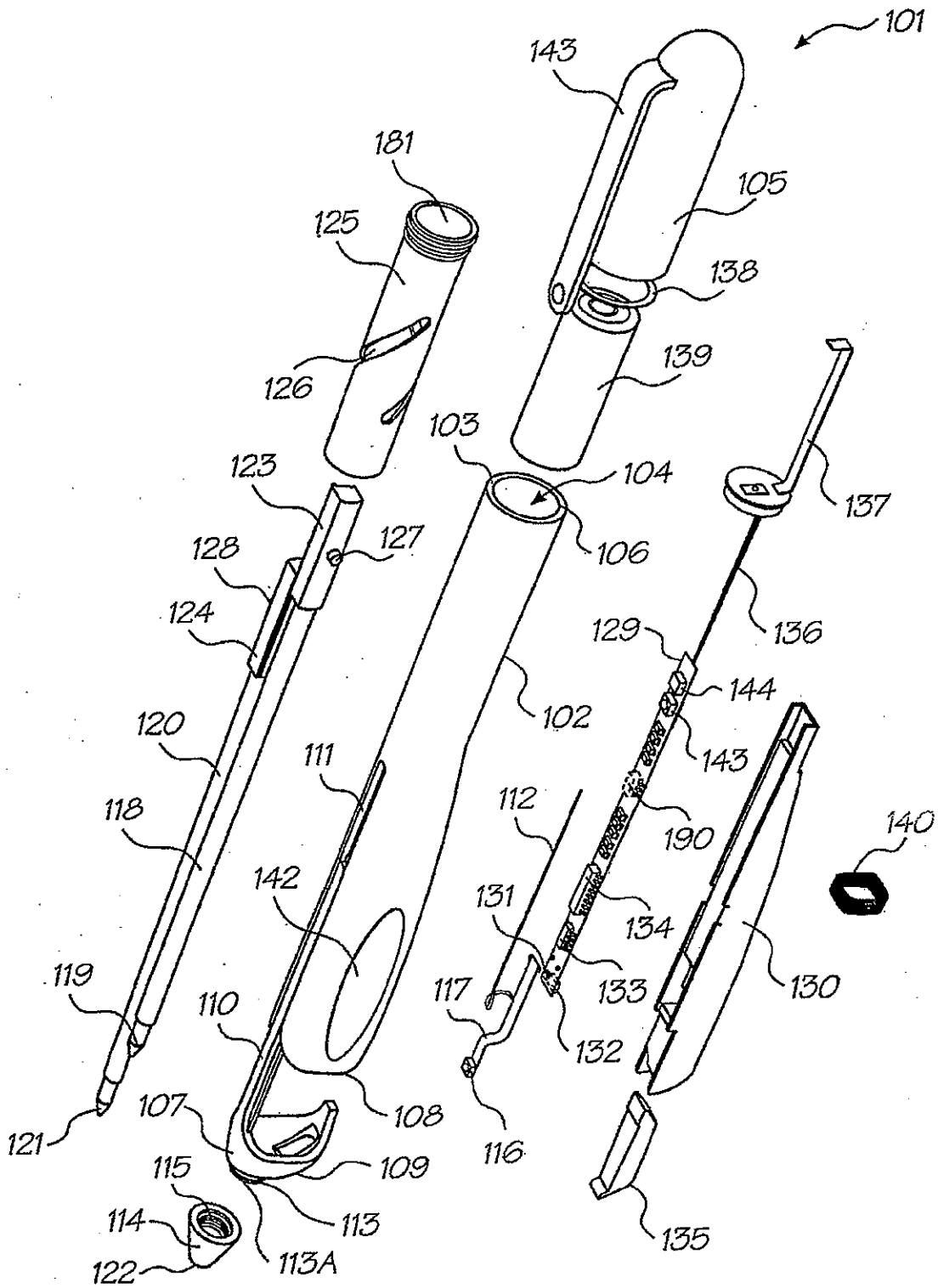

101
143
181
105
125
138
126
139
103
104
123
137
106
128
127
136
124
129
102
144
120
143
111
112
118
190
140
142
131
134
119
133
130
110
117
132
107
108
116
121
109
115
113
114
113A
122
135

FIG. 9

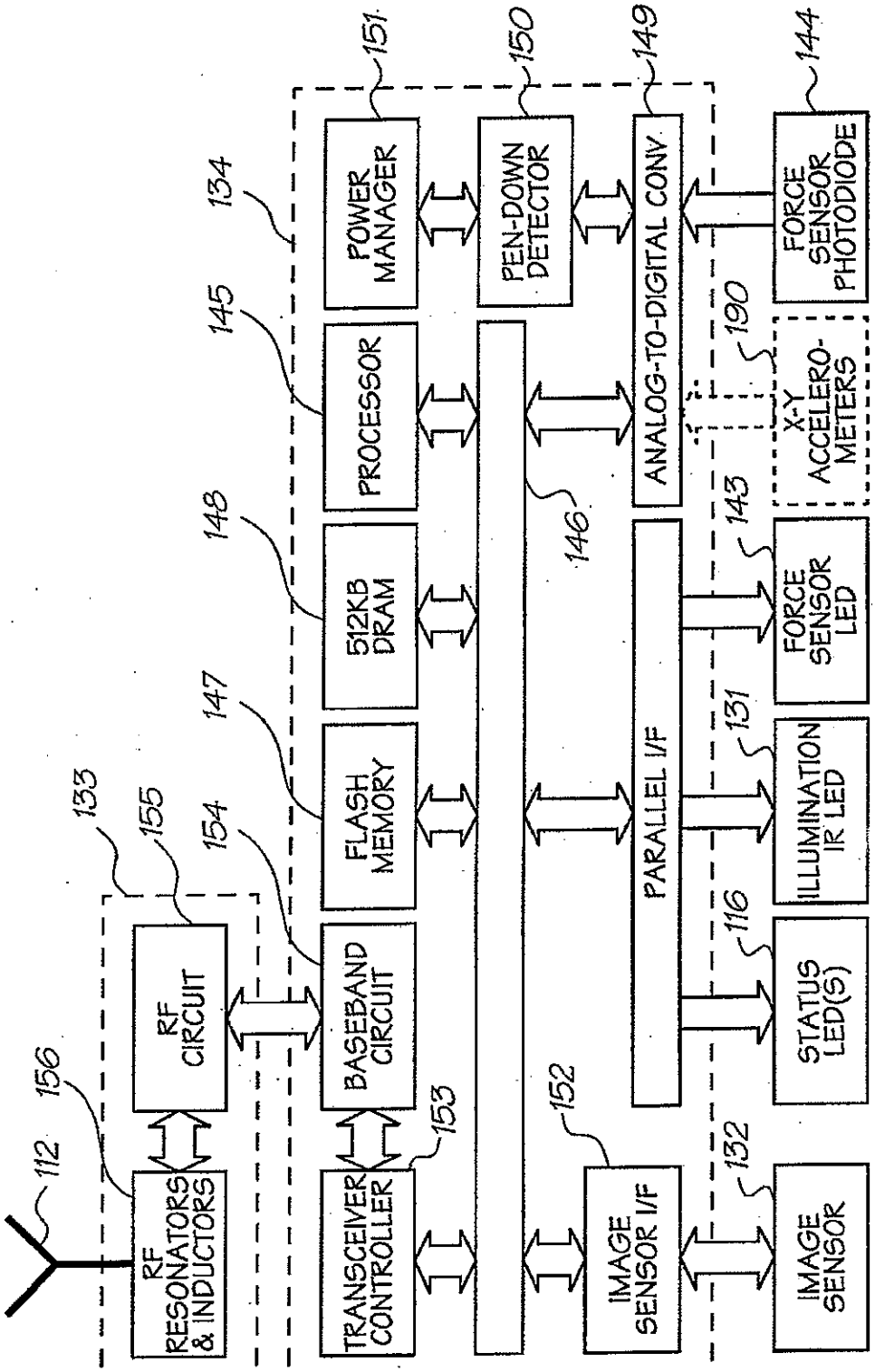

112
156
RF RESONATORS & INDUCTORS
133
155
RF CIRCUIT
154
BASEBAND CIRCUIT
153
TRANSCEIVER CONTROLLER
132
IMAGE SENSOR
152
IMAGE SENSOR I/F
147
FLASH MEMORY
148
512KB DRAM
145
PROCESSOR
134
151
POWER MANAGER
150
PEN-DOWN DETECTOR
149
ANALOG-TO-DIGITAL CONV
144
FORCE SENSOR PHOTODIODE
190
X-Y ACCELERO-METERS
146
PARALLEL I/F
143
FORCE SENSOR LED
131
ILLUMINATION IR LED
116
STATUS LED(S)

FIG. 10

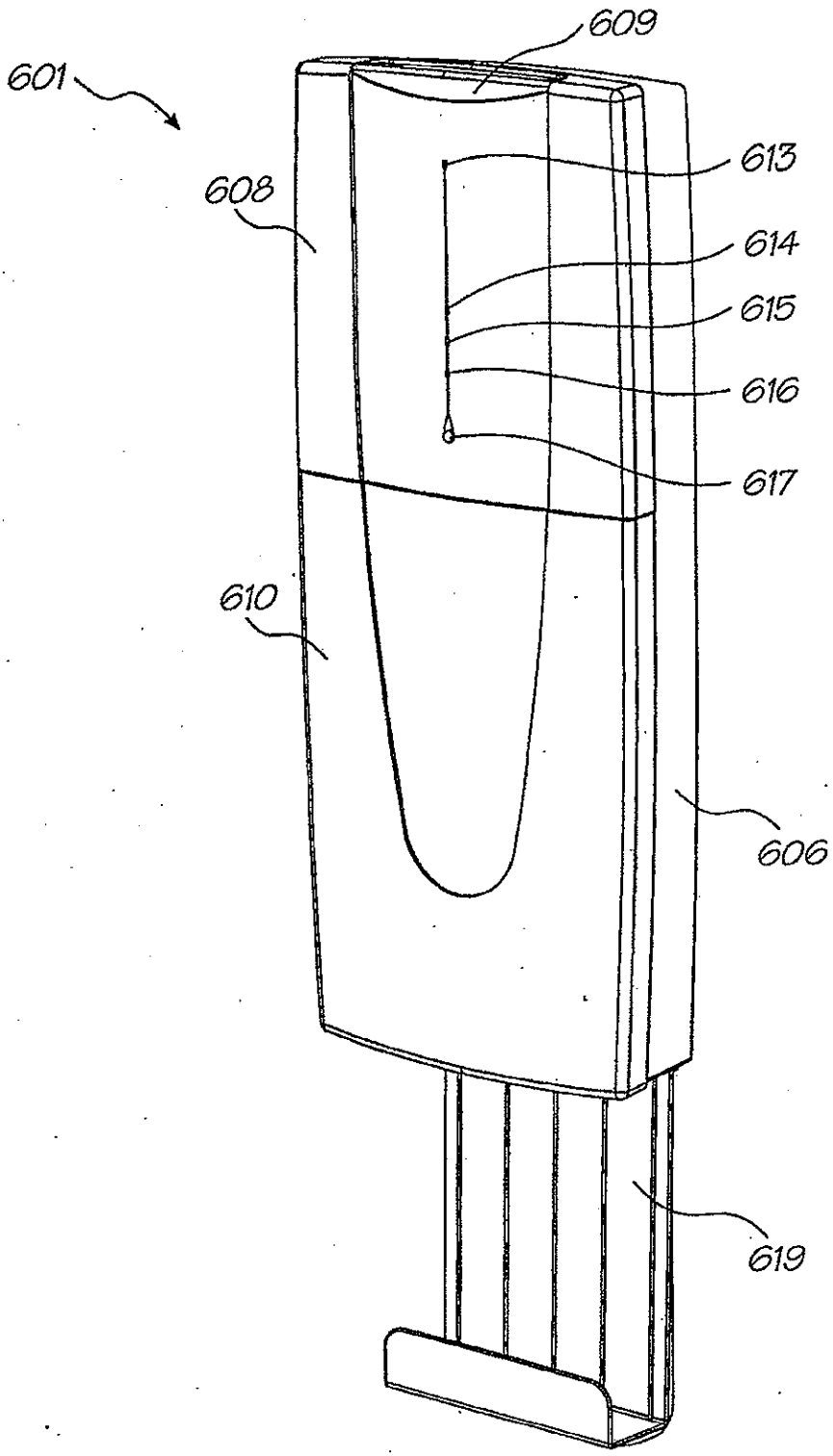


FIG. 11

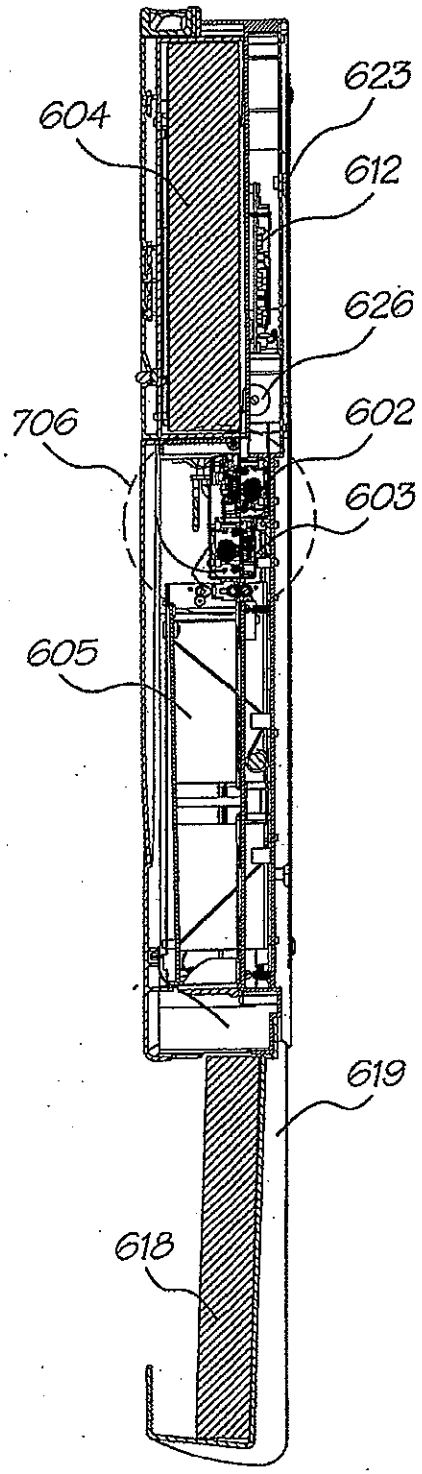


FIG. 12

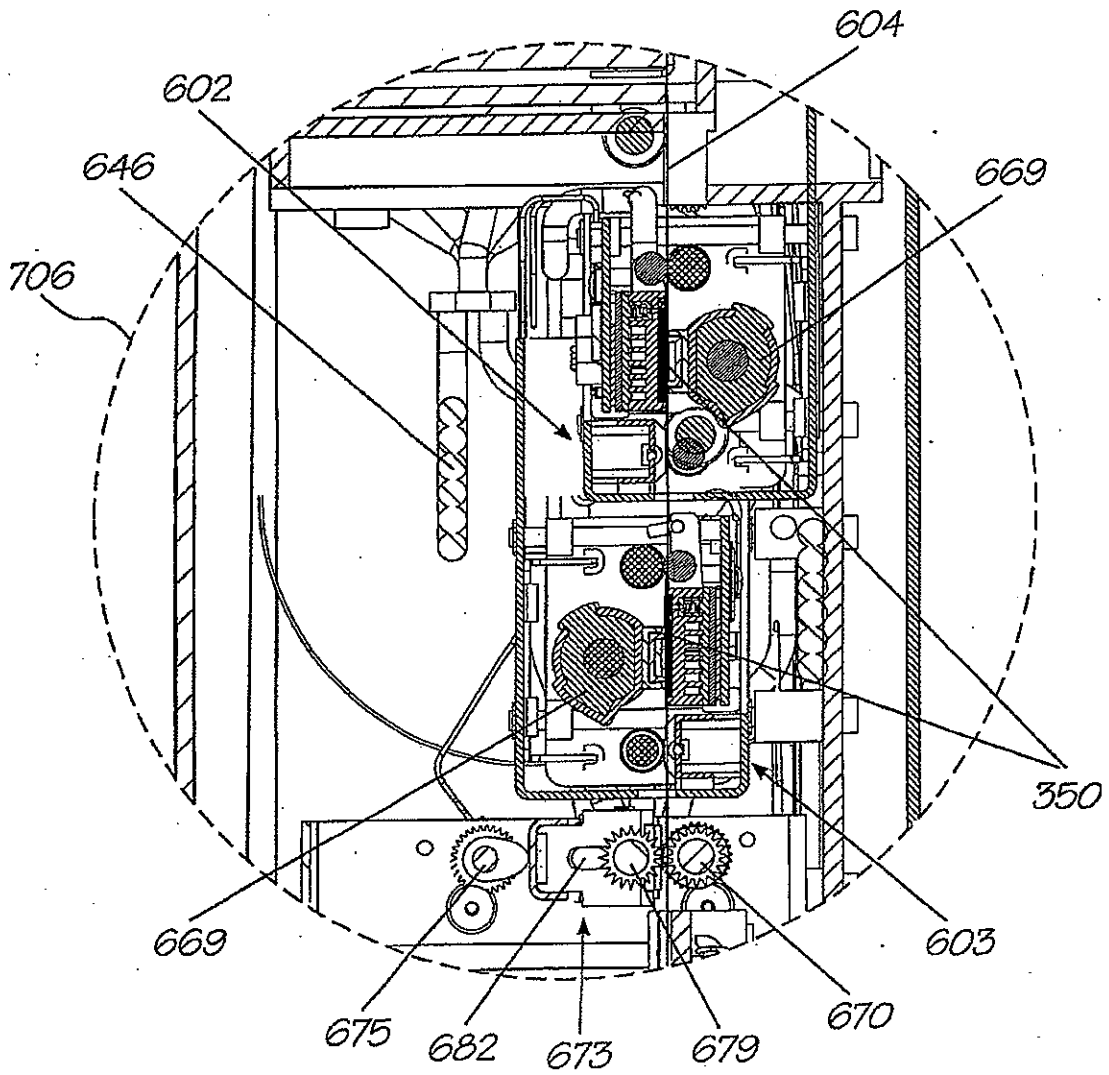


FIG. 12a

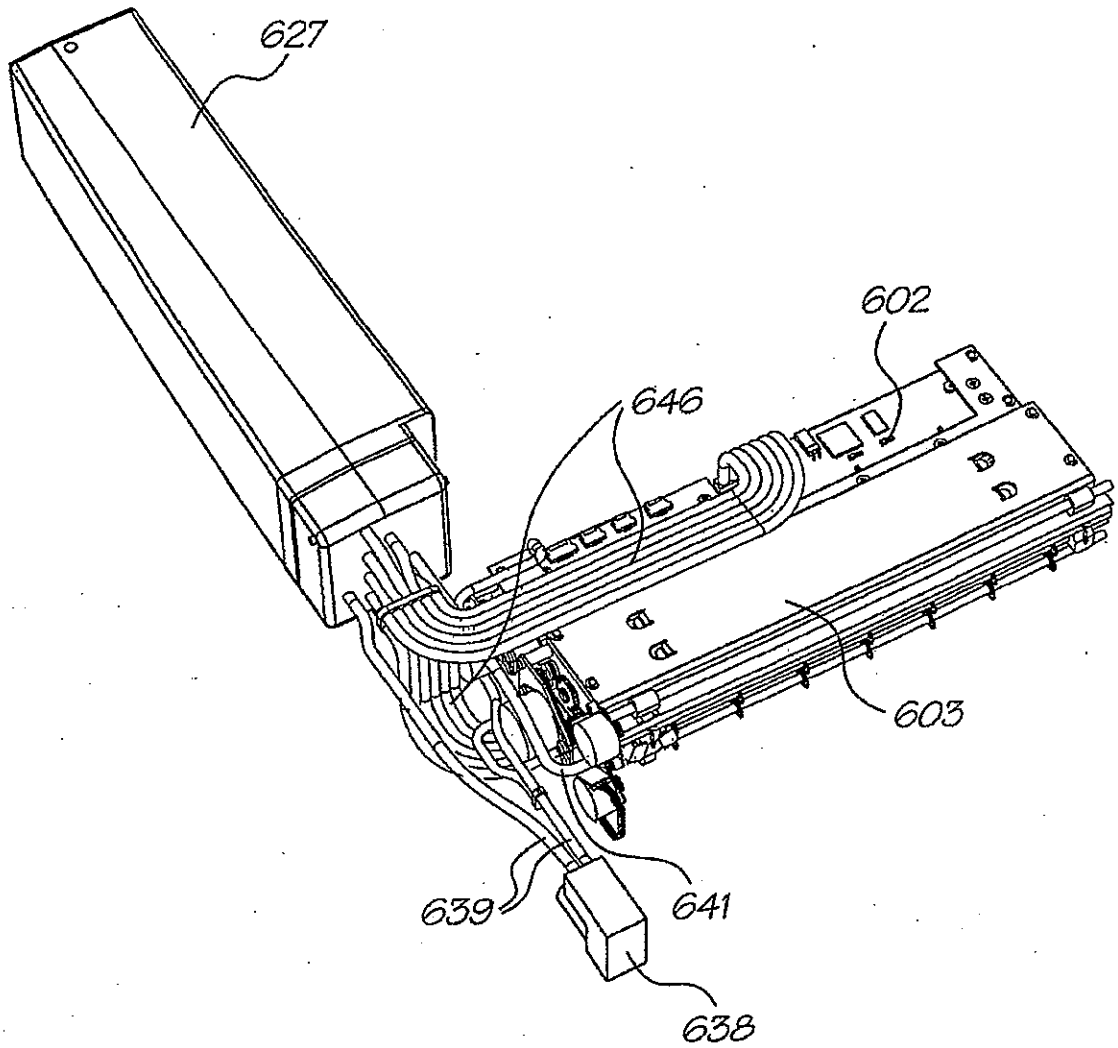


FIG. 13

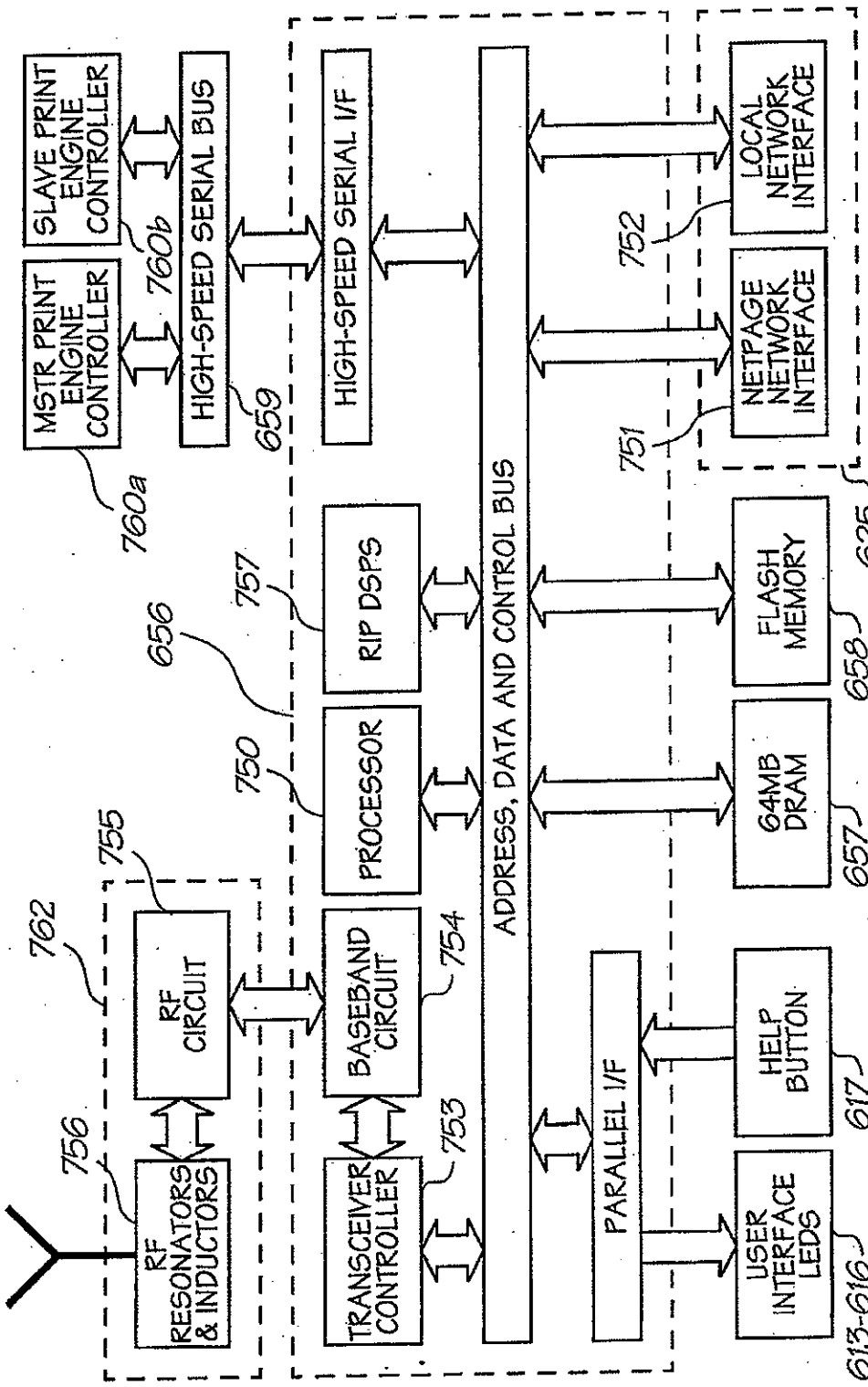

762
756
755
RF RESONATORS & INDUCTORS
RF CIRCUIT
TRANSCEIVER CONTROLLER
753
BASEBAND CIRCUIT
754
PROCESSOR
750
656
RIP DSPS
757
HIGH-SPEED SERIAL I/F
659
MSTR PRINT ENGINE CONTROLLER
760a
SLAVE PRINT ENGINE CONTROLLER
760b
HIGH-SPEED SERIAL BUS
ADDRESS, DATA AND CONTROL BUS
PARALLEL I/F
HELP BUTTON
617
USER INTERFACE LEDS
613-616
64MB DRAM
657
FLASH MEMORY
658
751
NETPAGE NETWORK INTERFACE
752
LOCAL NETWORK INTERFACE
625

FIG. 14

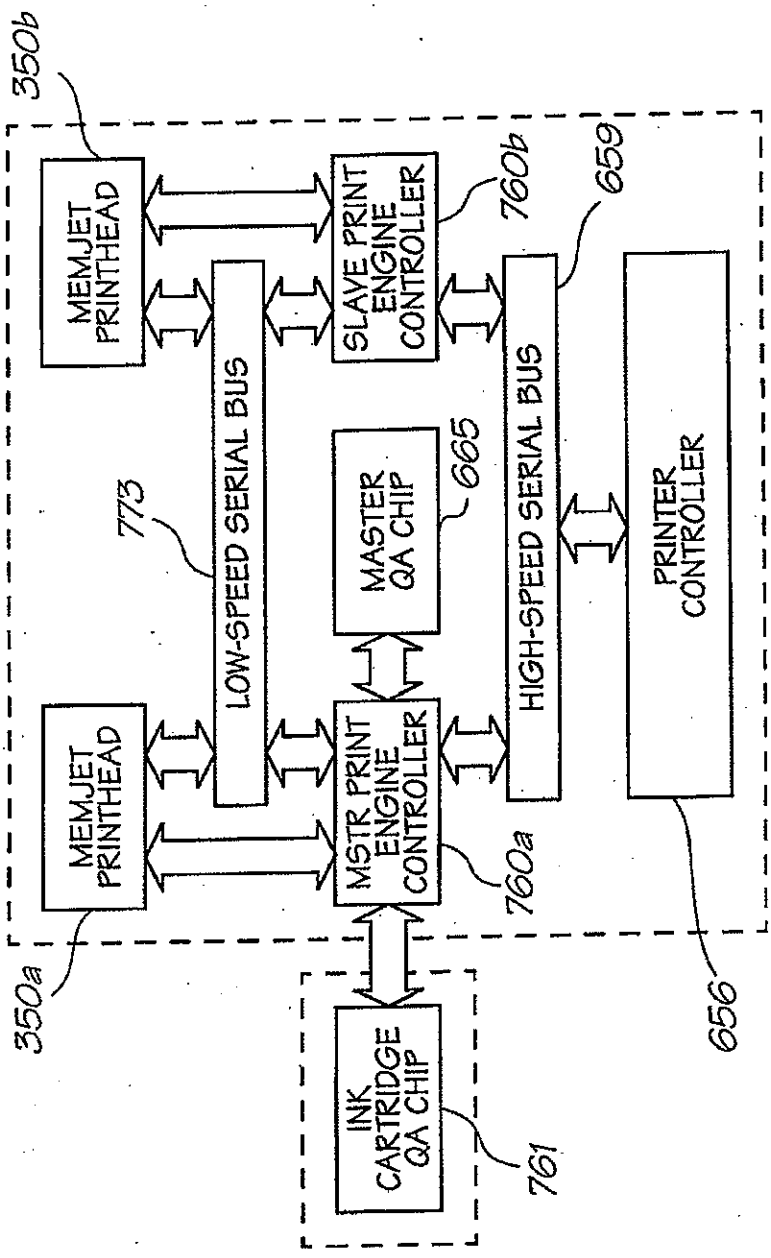

350b
MEMJET PRINTHEAD
SLAVE PRINT ENGINE CONTROLLER
760b
659
773
LOW-SPEED SERIAL BUS
MASTER QA CHIP
665
HIGH-SPEED SERIAL BUS
PRINTER CONTROLLER
MEMJET PRINTHEAD
MSTR PRINT ENGINE CONTROLLER
760a
350a
656
INK CARTRIDGE QA CHIP
761

FIG. 15

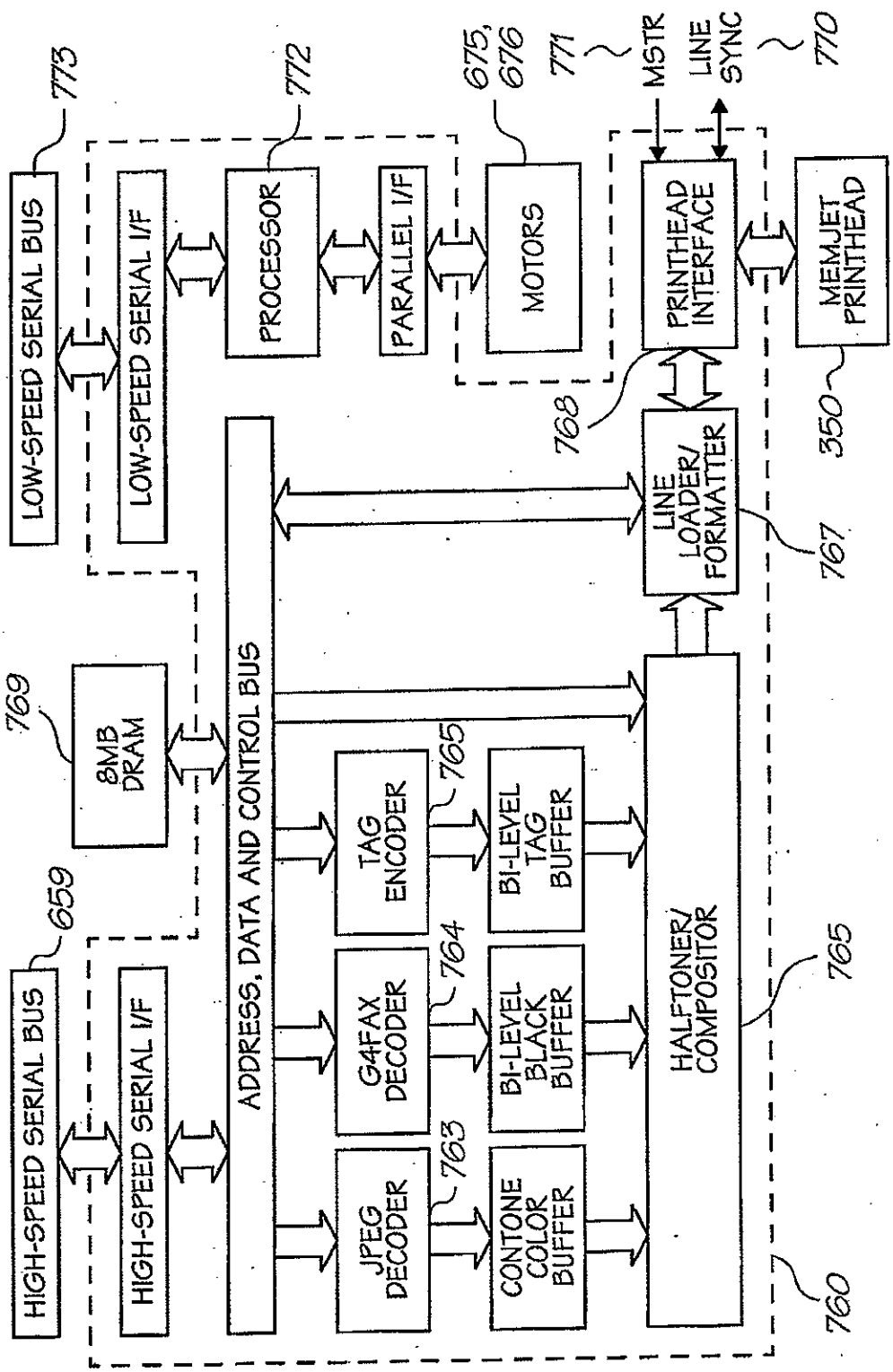

HIGH-SPEED SERIAL BUS
659
HIGH-SPEED SERIAL I/F
8MB DRAM
769
ADDRESS, DATA AND CONTROL BUS
JPEG DECODER
763
G4FAX DECODER
764
TAG ENCODER
765
CONTONE COLOR BUFFER
BI-LEVEL BLACK BUFFER
BI-LEVEL TAG BUFFER
HALFTONER/ COMPOSITOR
765
760
LOW-SPEED SERIAL BUS
773
LOW-SPEED SERIAL I/F
PROCESSOR
772
PARALLEL I/F
MOTORS
675, 676
771
MSTR
LINE SYNC
770
PRINTHEAD INTERFACE
768
LINE LOADER/ FORMATTER
767
MEMJET PRINTHEAD
350

FIG. 16

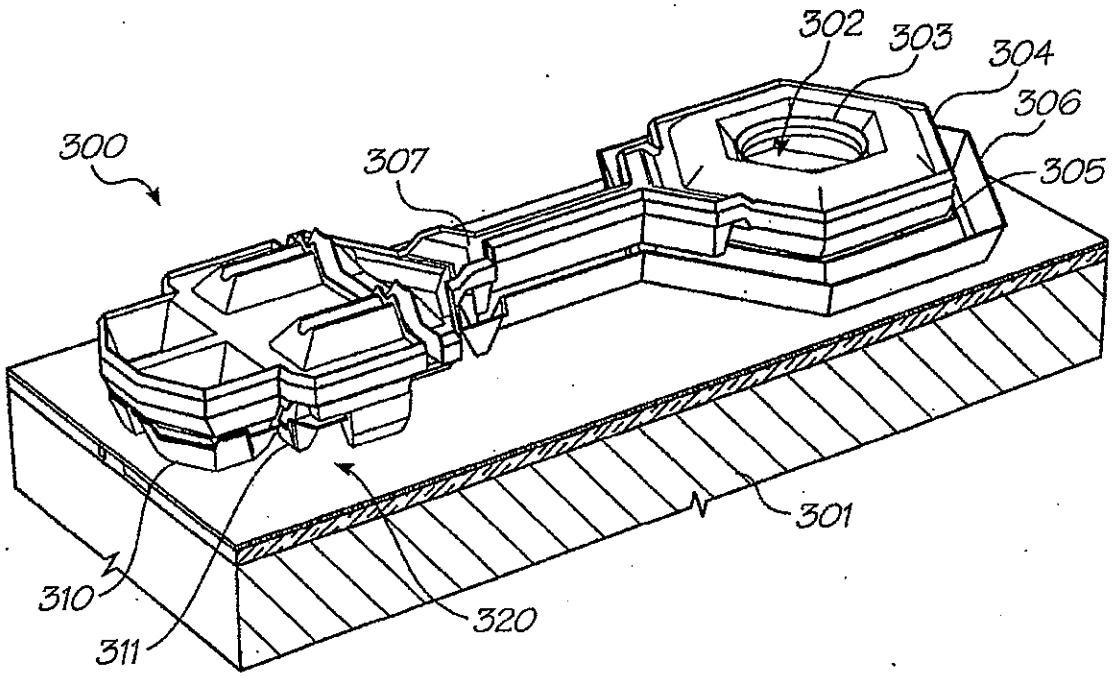


FIG. 17

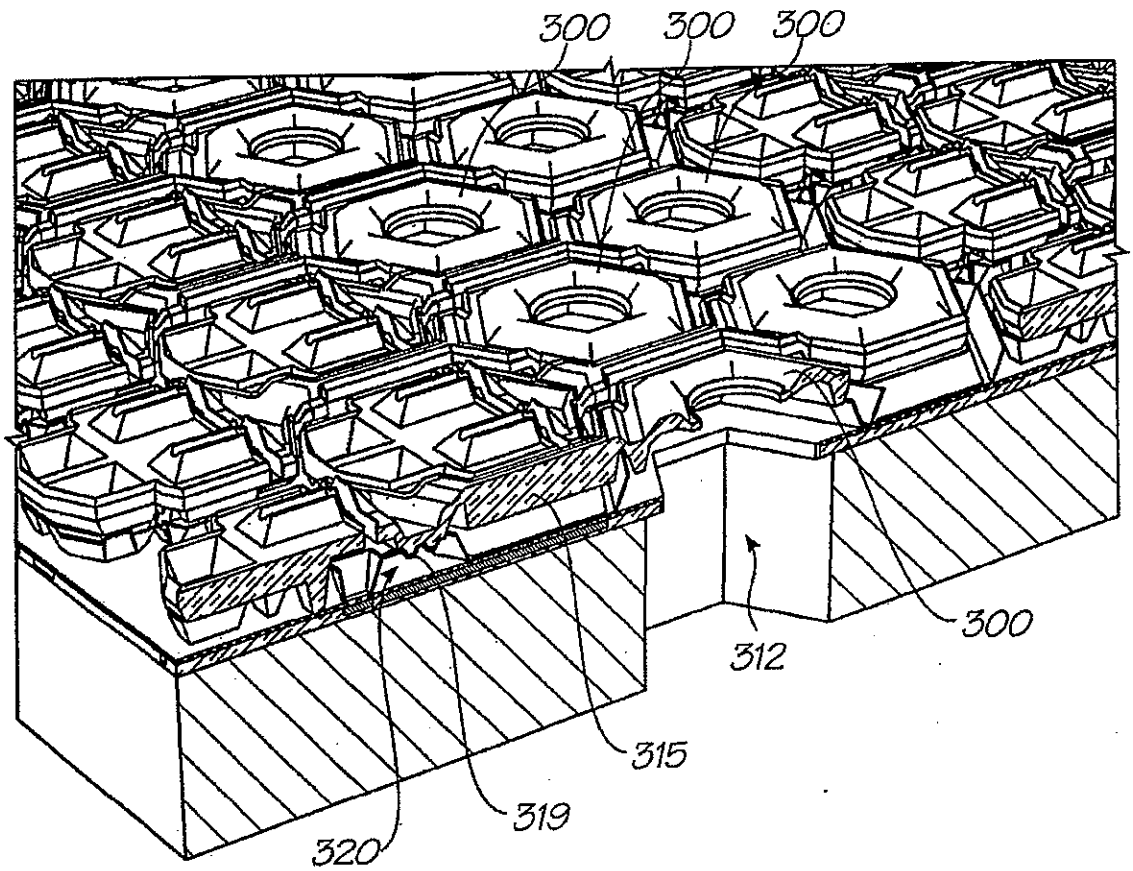


FIG. 18

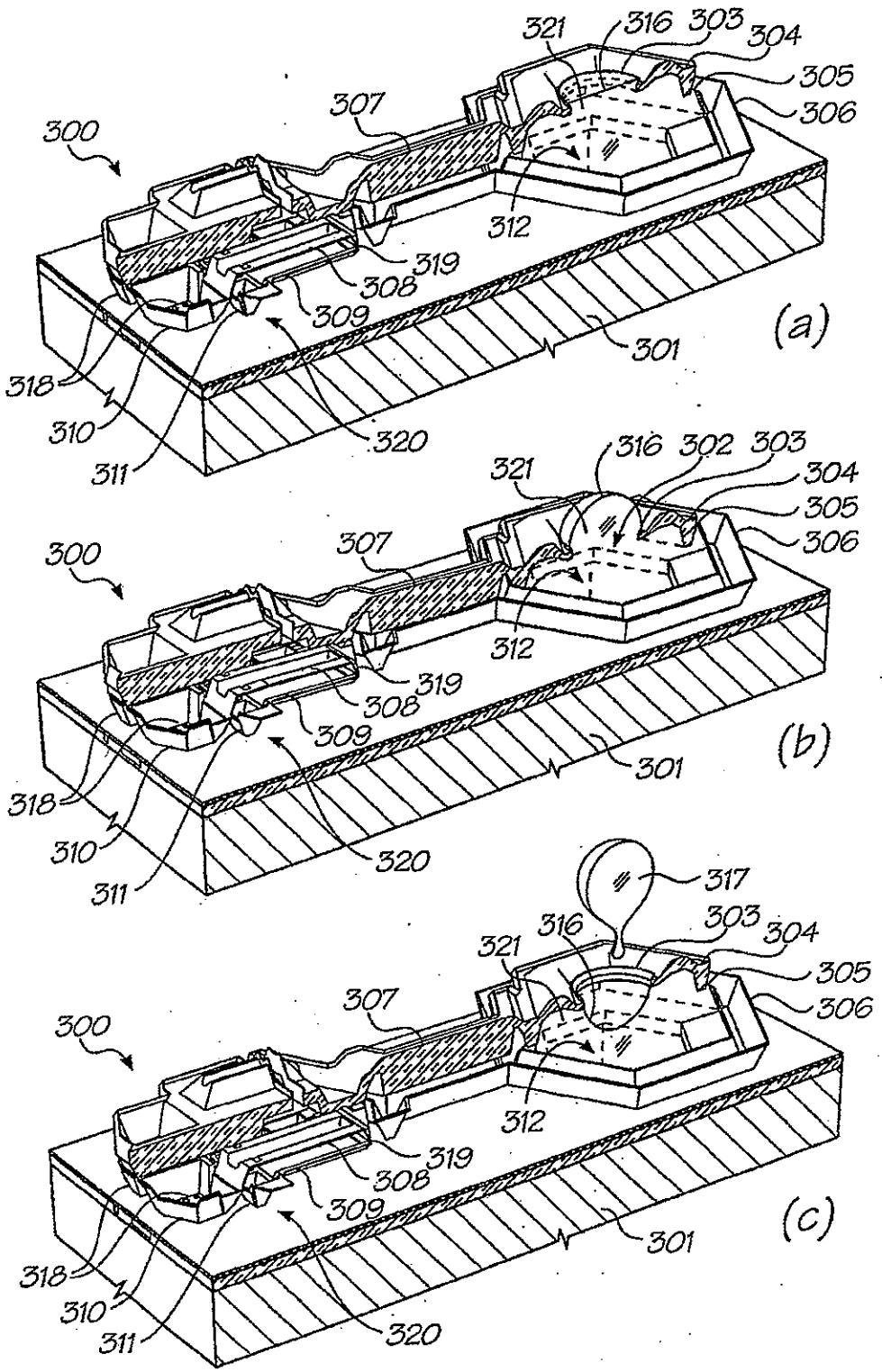

321
316
303
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(a)
316
302
303
304
305
306
321
307
300
312
319
308
309
318
310
311
320
301
(b)
317
316
303
304
321
305
306
307
300
312
319
308
309
318
310
311
320
301
(c)

FIG. 19

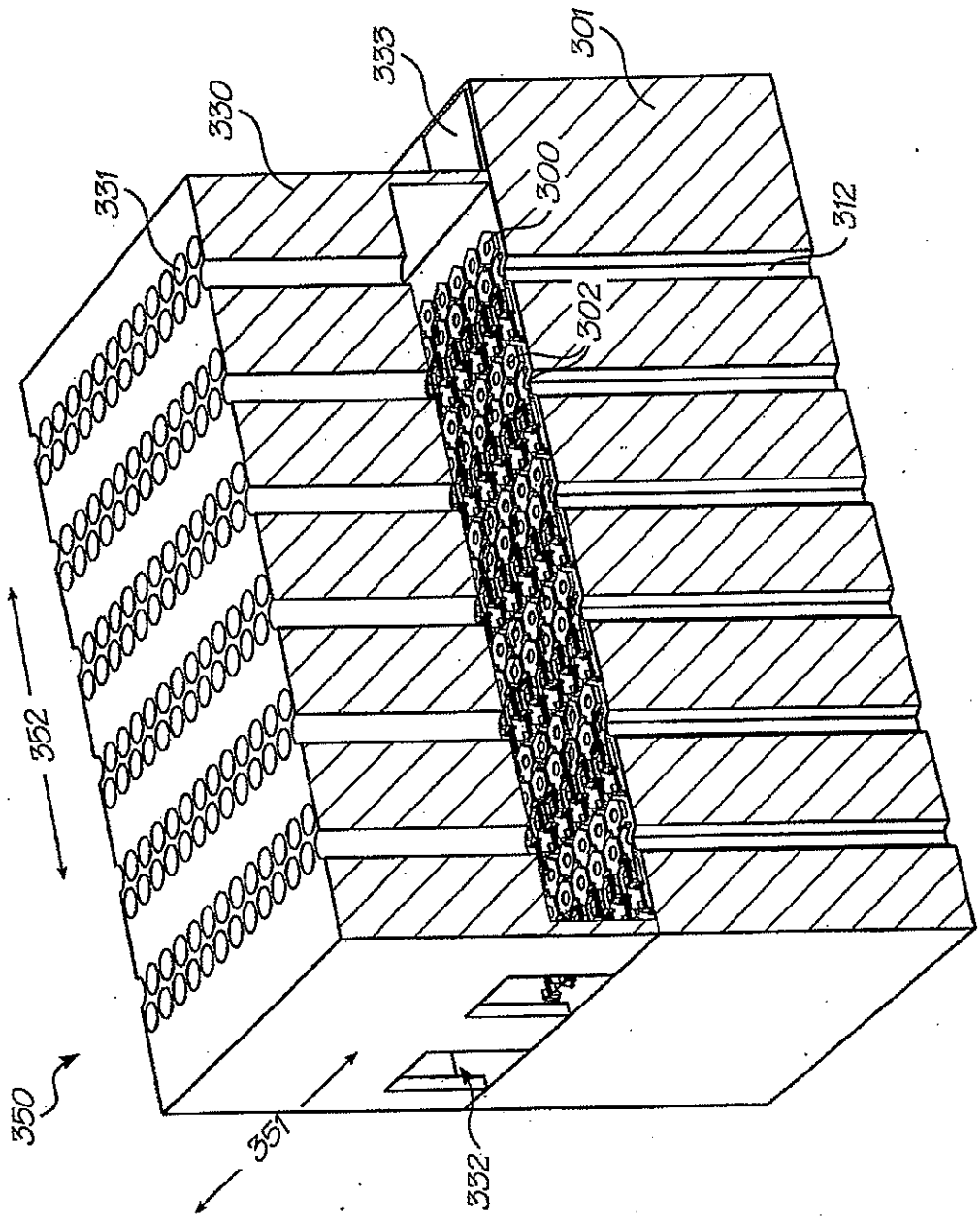


FIG. 20

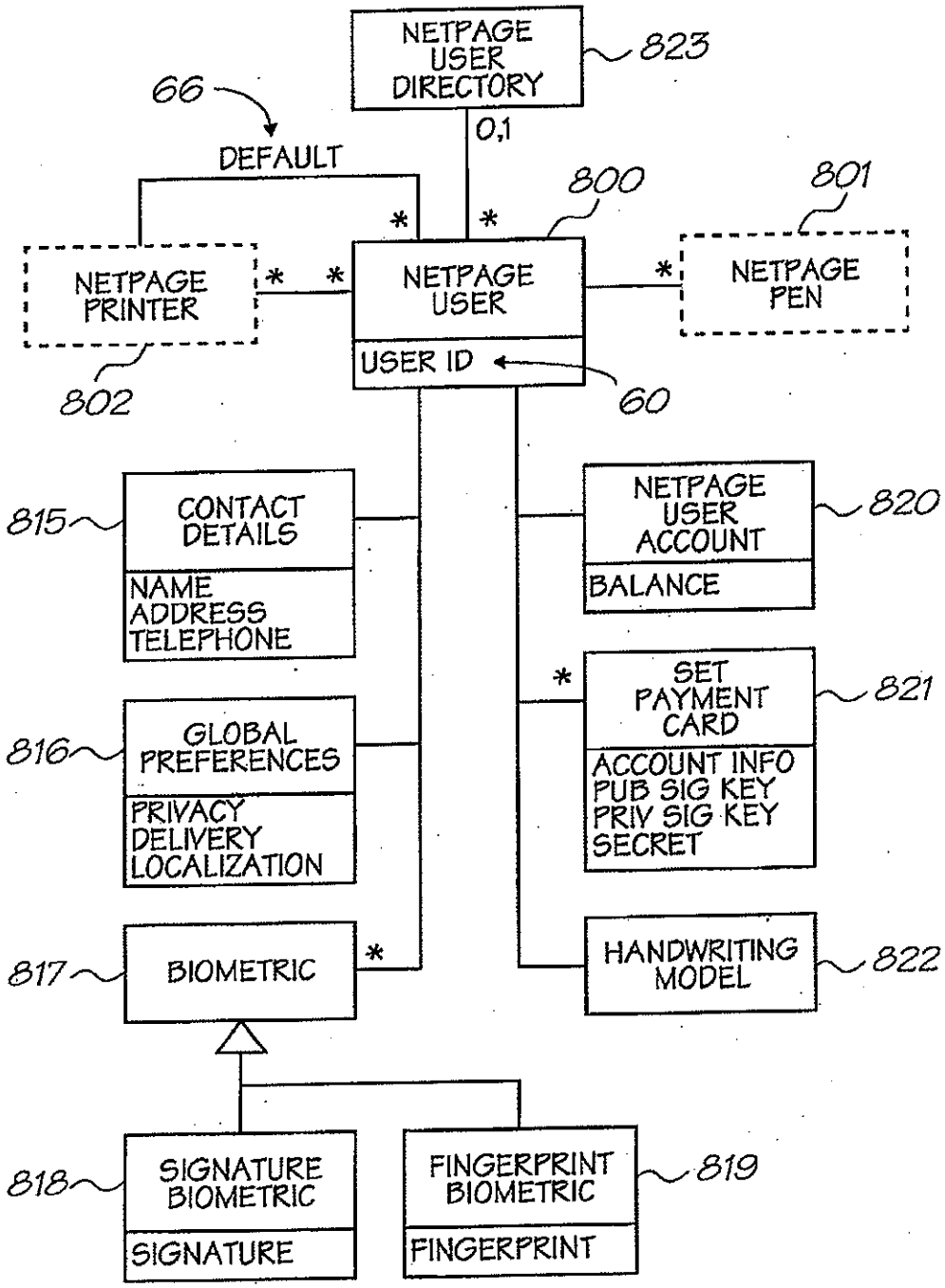

NETPAGE USER DIRECTORY
823
66
DEFAULT
0,1
800
801
NETPAGE PRINTER
NETPAGE USER
NETPAGE PEN
USER ID
60
802
815
CONTACT DETAILS
NAME
ADDRESS
TELEPHONE
NETPAGE USER ACCOUNT
820
BALANCE
816
GLOBAL PREFERENCES
PRIVACY
DELIVERY
LOCALIZATION
SET PAYMENT CARD
821
ACCOUNT INFO
PUB SIG KEY
PRIV SIG KEY
SECRET
817
BIOMETRIC
HANDWRITING MODEL
822
818
SIGNATURE BIOMETRIC
SIGNATURE
FINGERPRINT BIOMETRIC
819
FINGERPRINT

FIG. 21

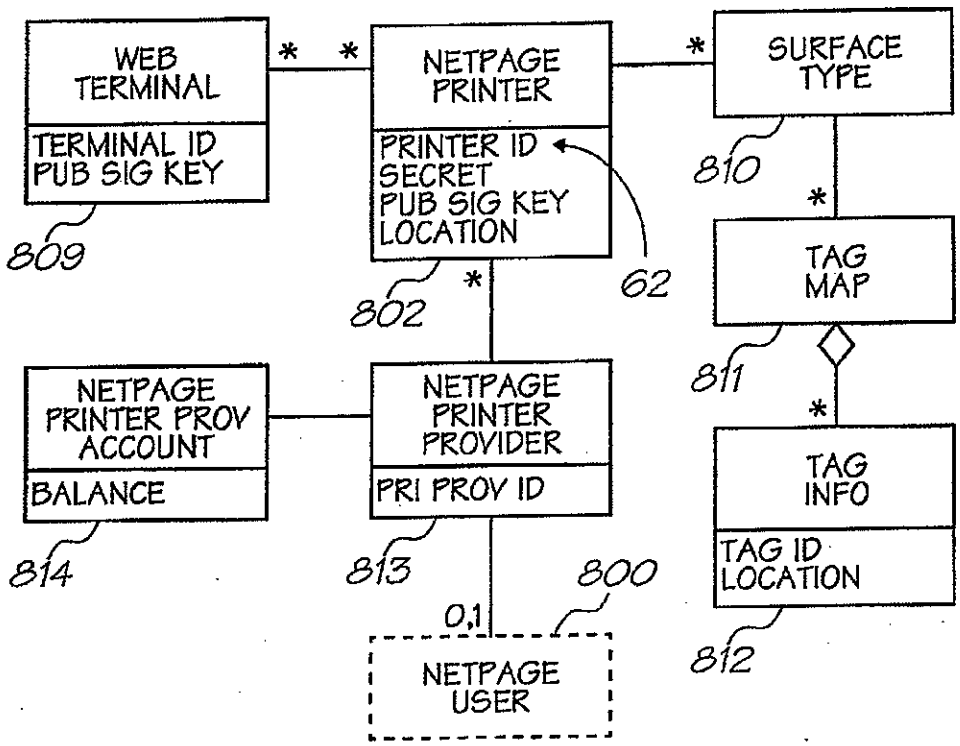

WEB TERMINAL
TERMINAL ID
PUB SIG KEY
809
NETPAGE PRINTER
PRINTER ID
SECRET
PUB SIG KEY
LOCATION
802
62
SURFACE TYPE
810
TAG MAP
811
TAG INFO
TAG ID
LOCATION
812
NETPAGE PRINTER PROV ACCOUNT
BALANCE
814
NETPAGE PRINTER PROVIDER
PRI PROV ID
813
800
0,1
NETPAGE USER

FIG. 22

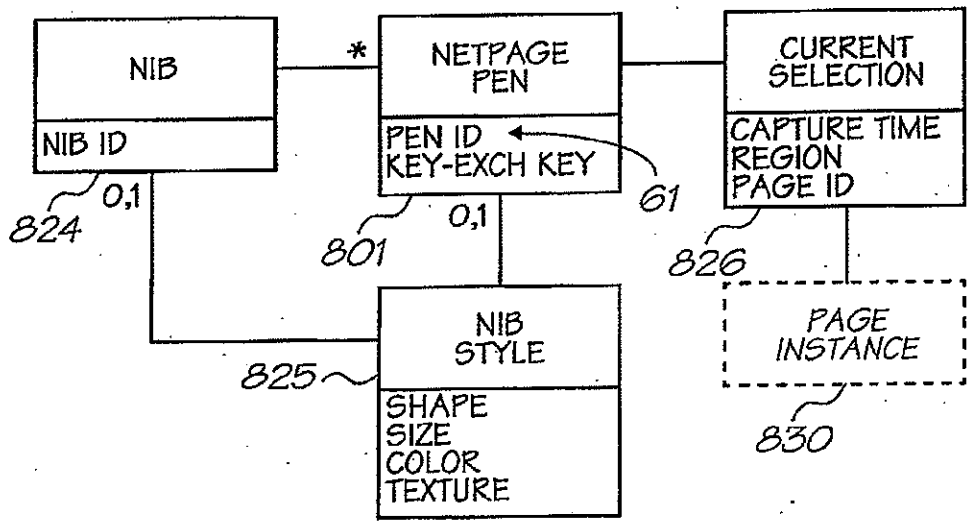

NIB
NIB ID
824
0,1
NETPAGE PEN
PEN ID
KEY-EXCH KEY
61
801
0,1
CURRENT SELECTION
CAPTURE TIME
REGION
PAGE ID
826
NIB STYLE
825
SHAPE
SIZE
COLOR
TEXTURE
PAGE INSTANCE
830

FIG. 23

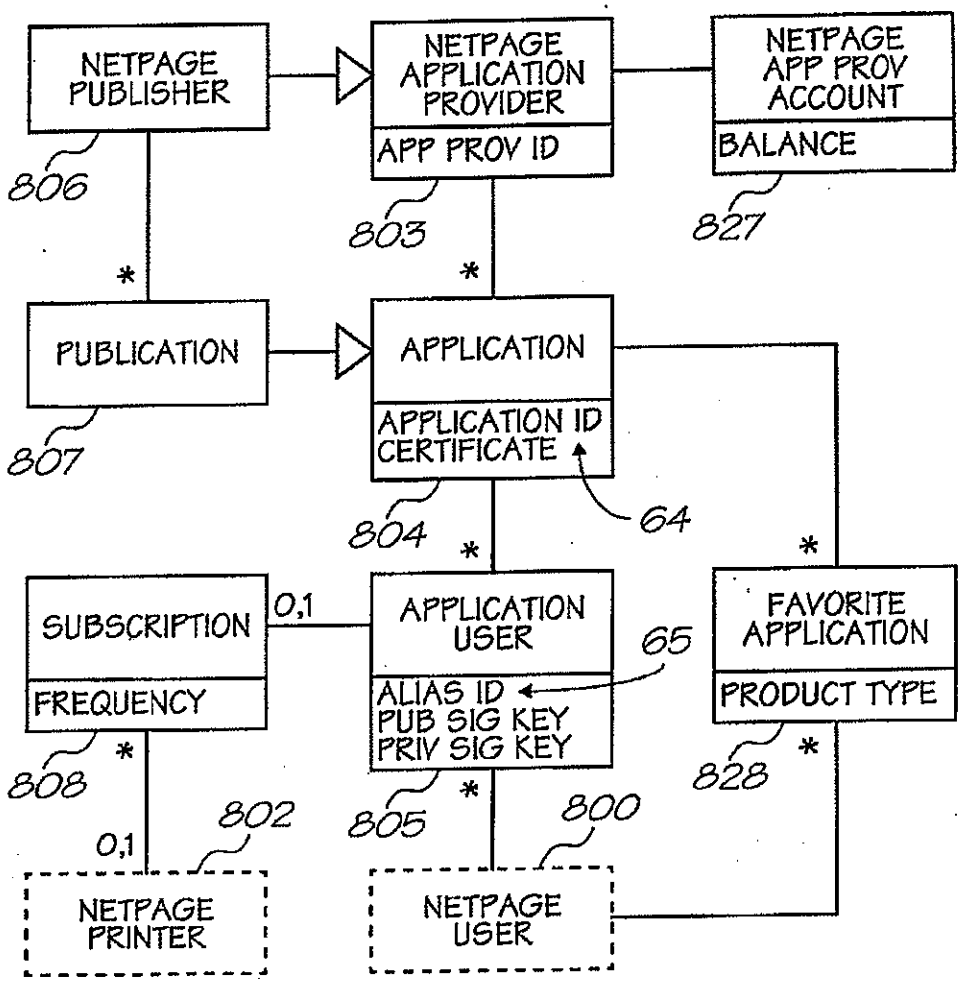

NETPAGE PUBLISHER
NETPAGE APPLICATION PROVIDER
APP PROV ID
NETPAGE APP PROV ACCOUNT
BALANCE
806
803
827
*
*
PUBLICATION
APPLICATION
APPLICATION ID
CERTIFICATE
807
804
64
*
*
SUBSCRIPTION
FREQUENCY
0,1
APPLICATION USER
ALIAS ID
PUB SIG KEY
PRIV SIG KEY
65
FAVORITE APPLICATION
PRODUCT TYPE
808
805
828
*
*
*
0,1
802
800
NETPAGE PRINTER
NETPAGE USER

FIG. 24

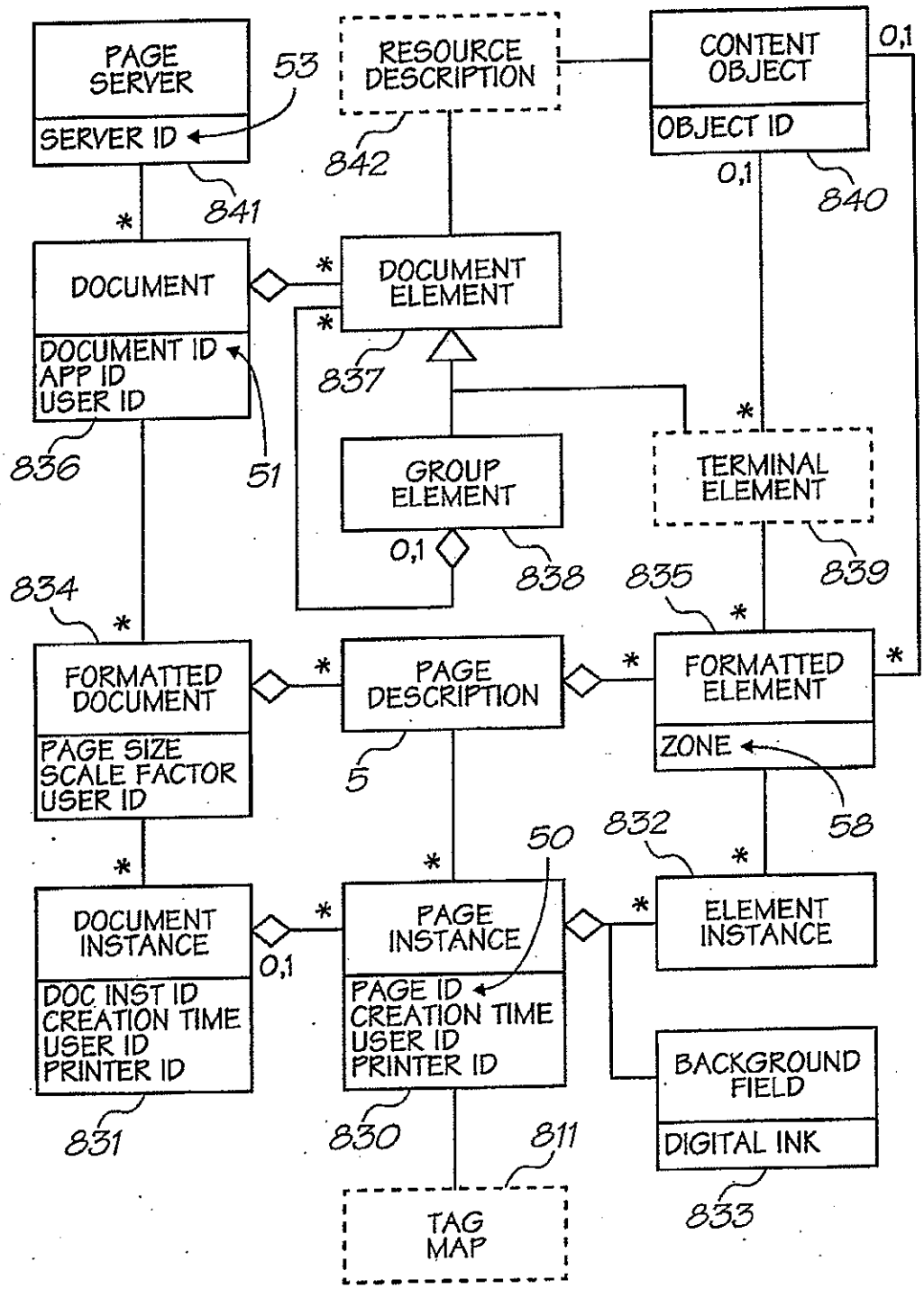

PAGE SERVER
SERVER ID
53
RESOURCE DESCRIPTION
CONTENT OBJECT
OBJECT ID
0,1
842
841
840
0,1
DOCUMENT
DOCUMENT ID
APP ID
USER ID
DOCUMENT ELEMENT
837
836
51
GROUP ELEMENT
0,1
838
TERMINAL ELEMENT
839
834
835
FORMATTED DOCUMENT
PAGE SIZE
SCALE FACTOR
USER ID
PAGE DESCRIPTION
5
FORMATTED ELEMENT
ZONE
58
50
832
DOCUMENT INSTANCE
DOC INST ID
CREATION TIME
USER ID
PRINTER ID
0,1
PAGE INSTANCE
PAGE ID
CREATION TIME
USER ID
PRINTER ID
ELEMENT INSTANCE
BACKGROUND FIELD
DIGITAL INK
831
830
811
833
TAG MAP

FIG. 25

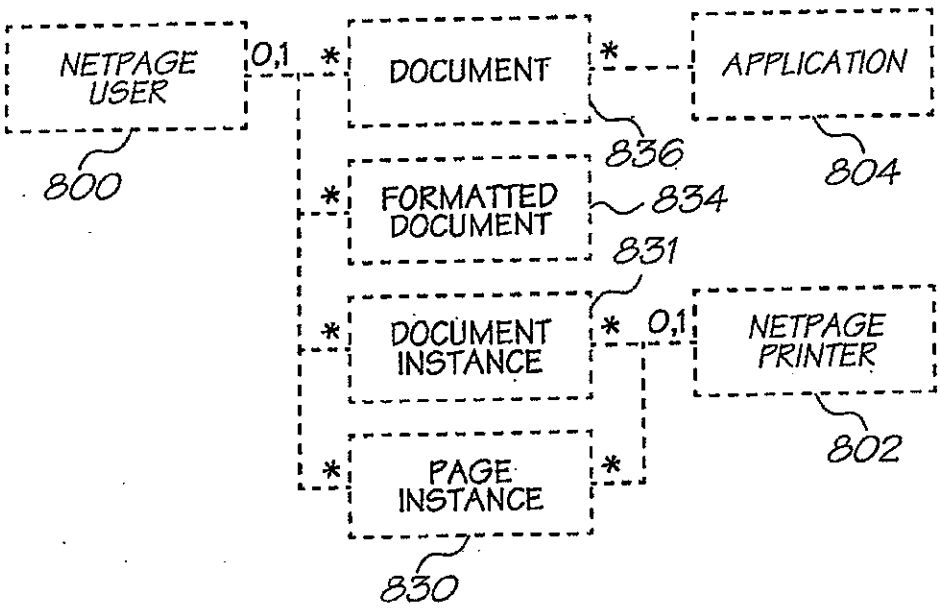

NETPAGE USER
0,1
*
DOCUMENT
*
APPLICATION
800
836
804
*
FORMATTED DOCUMENT
834
831
*
DOCUMENT INSTANCE
*
0,1
NETPAGE PRINTER
802
*
PAGE INSTANCE
*
830

FIG. 26

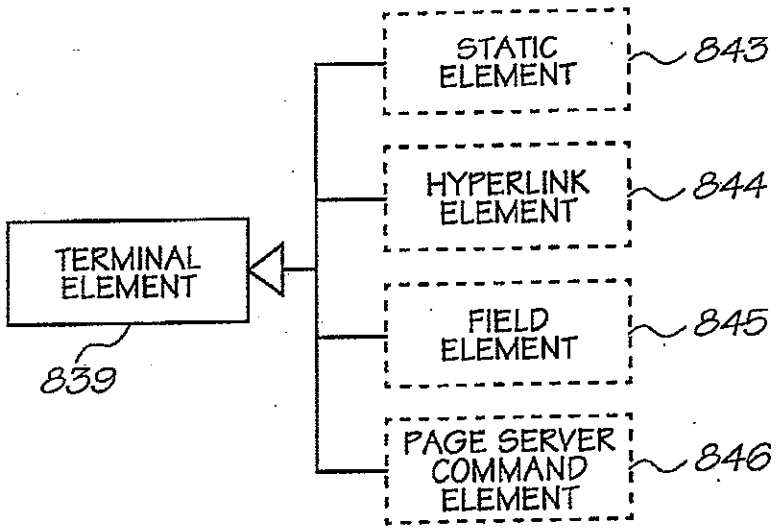

STATIC ELEMENT
843
HYPERLINK ELEMENT
844
TERMINAL ELEMENT
FIELD ELEMENT
845
839
PAGE SERVER COMMAND ELEMENT
846

FIG. 27

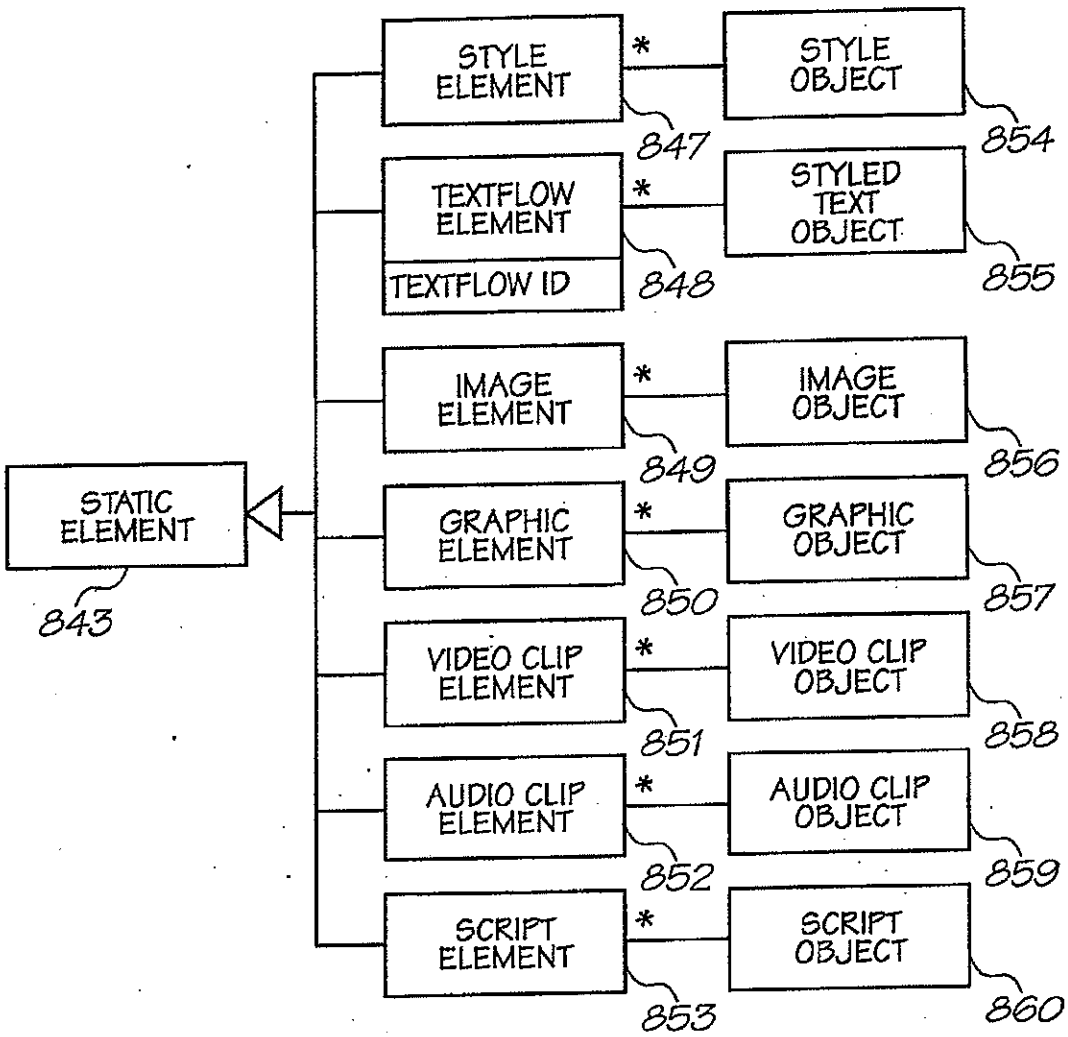

STATIC ELEMENT
843
STYLE ELEMENT
847
STYLE OBJECT
854
TEXTFLOW ELEMENT
TEXTFLOW ID
848
STYLED TEXT OBJECT
855
IMAGE ELEMENT
849
IMAGE OBJECT
856
GRAPHIC ELEMENT
850
GRAPHIC OBJECT
857
VIDEO CLIP ELEMENT
851
VIDEO CLIP OBJECT
858
AUDIO CLIP ELEMENT
852
AUDIO CLIP OBJECT
859
SCRIPT ELEMENT
853
SCRIPT OBJECT
860
*

FIG. 28

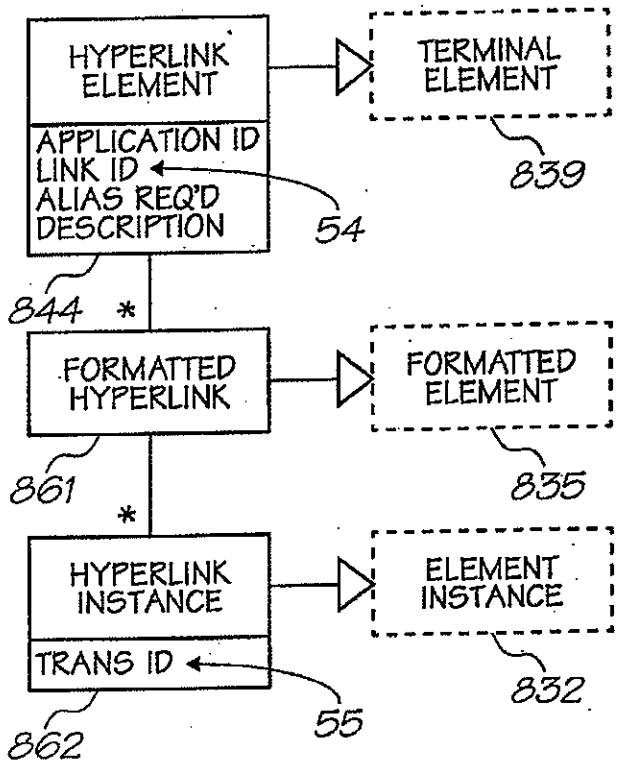

HYPERLINK ELEMENT
APPLICATION ID
LINK ID
ALIAS REQ'D
DESCRIPTION
TERMINAL ELEMENT
839
54
844
*
FORMATTED HYPERLINK
FORMATTED ELEMENT
861
835
*
HYPERLINK INSTANCE
TRANS ID
ELEMENT INSTANCE
832
862
55

FIG. 29

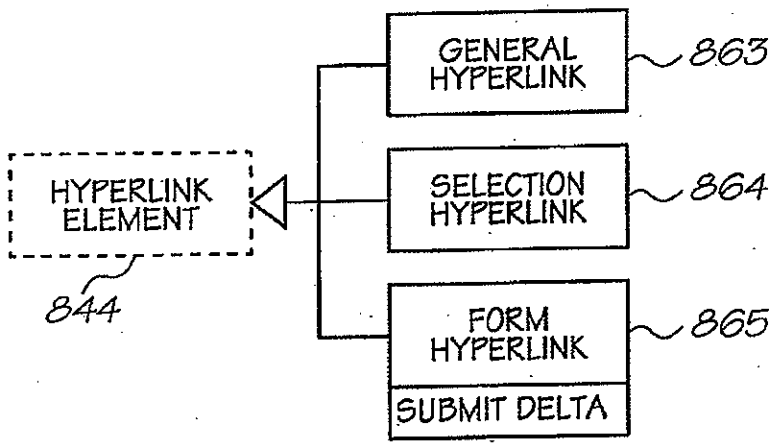

GENERAL HYPERLINK
863
HYPERLINK ELEMENT
SELECTION HYPERLINK
864
844
FORM HYPERLINK
865
SUBMIT DELTA

FIG. 30


GROUP ELEMENT
HYPERLINKED GROUP
HYPERLINK ELEMENT
838
866
844

FIG. 31

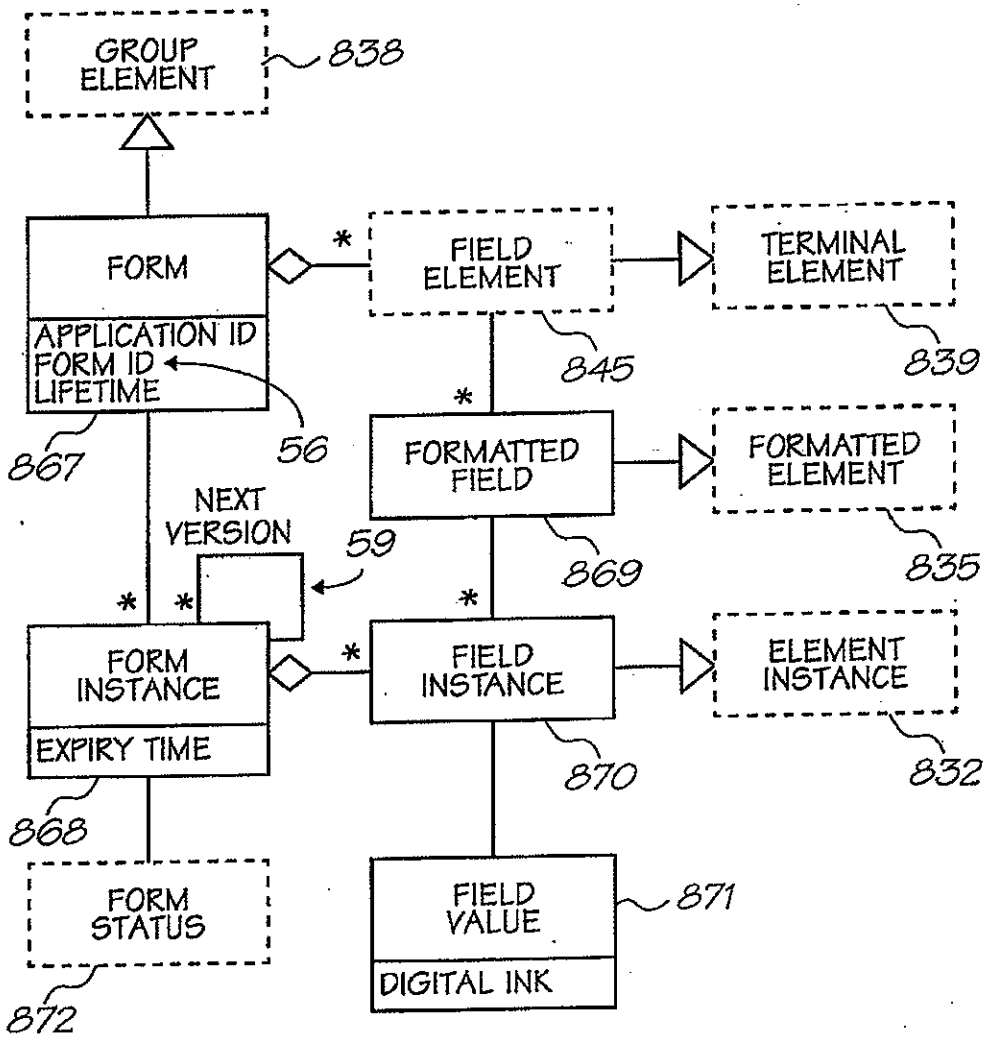

GROUP ELEMENT
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FORM
APPLICATION ID
FORM ID
LIFETIME
867
56
FIELD ELEMENT
845
TERMINAL ELEMENT
839
FORMATTED FIELD
869
FORMATTED ELEMENT
835
NEXT VERSION
59
FORM INSTANCE
EXPIRY TIME
868
FIELD INSTANCE
870
ELEMENT INSTANCE
832
FORM STATUS
872
FIELD VALUE
DIGITAL INK
871

FIG. 32

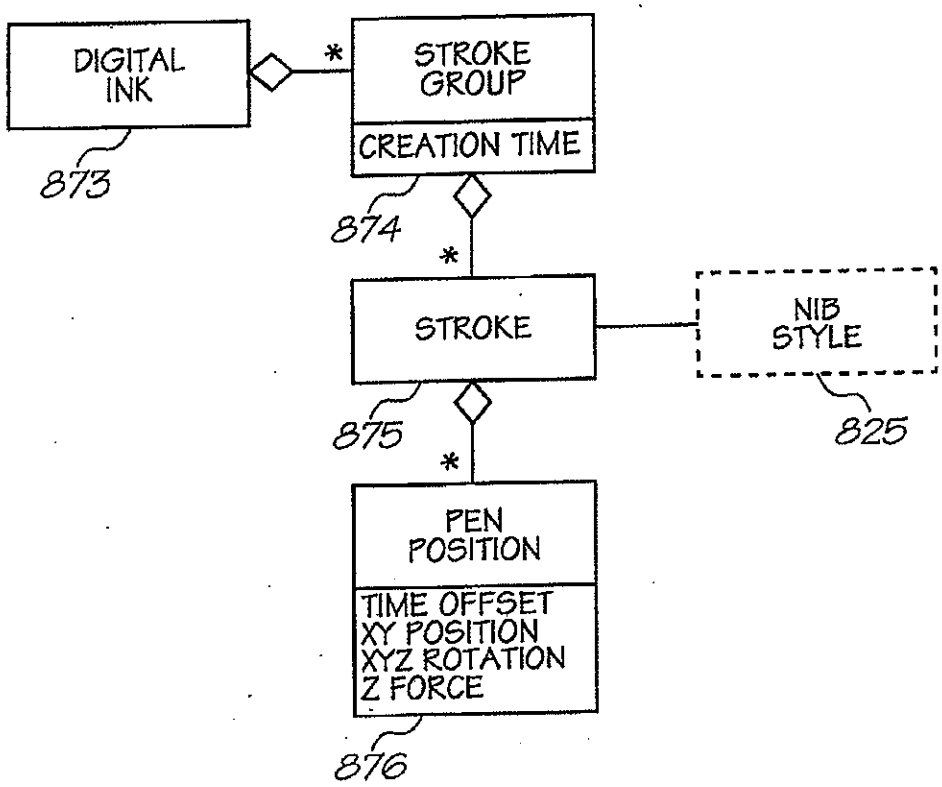

DIGITAL INK
*
STROKE GROUP
CREATION TIME
873
874
*
STROKE
NIB STYLE
875
825
*
PEN POSITION
TIME OFFSET
XY POSITION
XYZ ROTATION
Z FORCE
876

FIG. 33

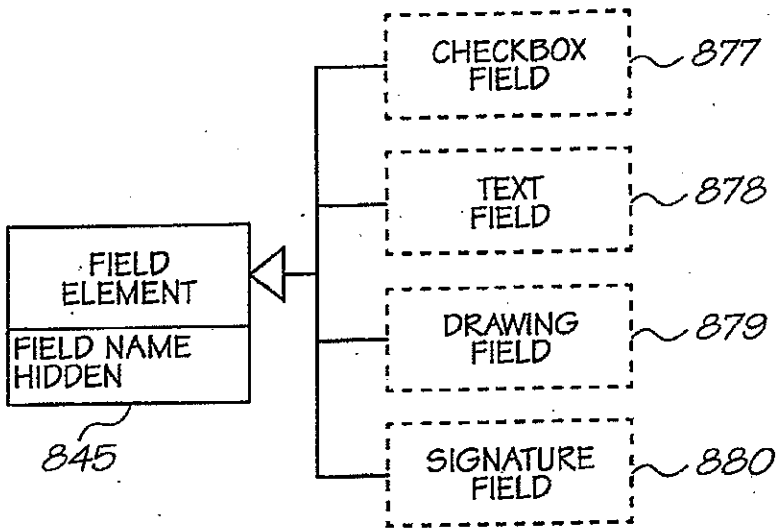

CHECKBOX FIELD
877
TEXT FIELD
878
FIELD ELEMENT
FIELD NAME
HIDDEN
DRAWING FIELD
879
SIGNATURE FIELD
880
845

FIG. 34

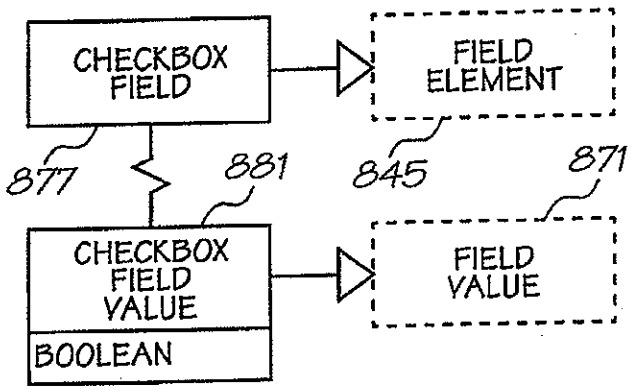


FIG. 35

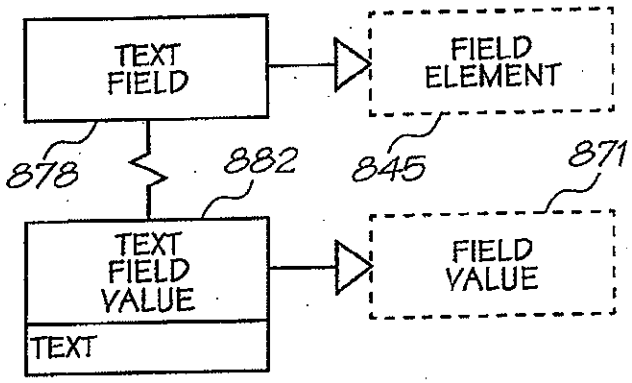


FIG. 36

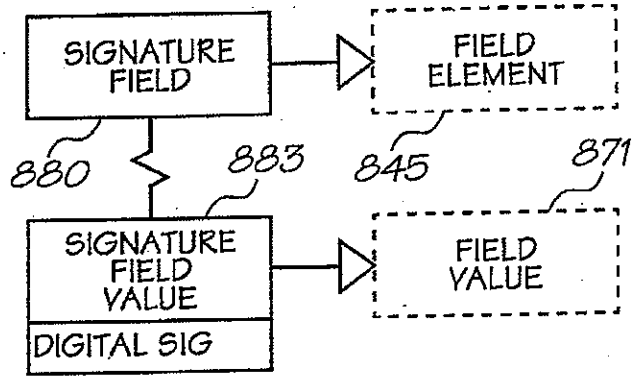


FIG. 37

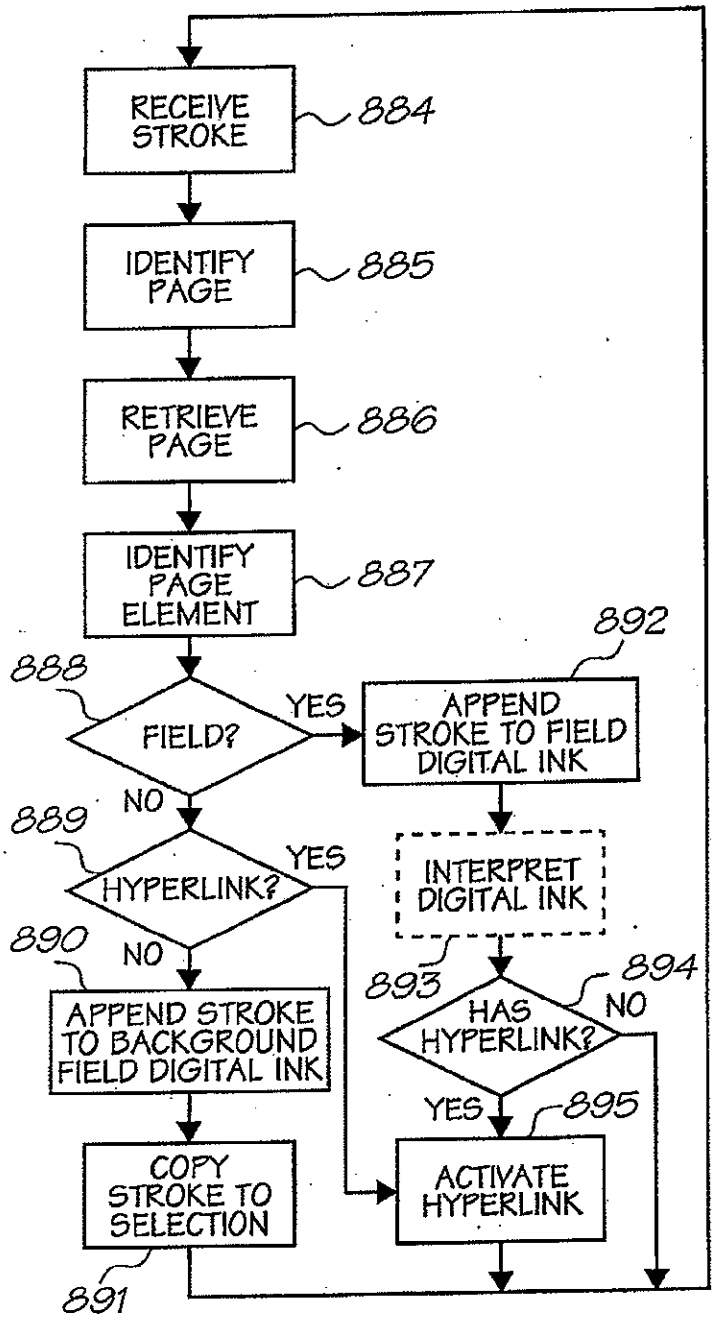

RECEIVE STROKE
884
IDENTIFY PAGE
885
RETRIEVE PAGE
886
IDENTIFY PAGE ELEMENT
887
888
FIELD?
YES
892
APPEND STROKE TO FIELD DIGITAL INK
NO
889
HYPERLINK?
YES
INTERPRET DIGITAL INK
890
NO
893
894
HAS HYPERLINK?
NO
APPEND STROKE TO BACKGROUND FIELD DIGITAL INK
YES
895
COPY STROKE TO SELECTION
ACTIVATE HYPERLINK
891

FIG. 38

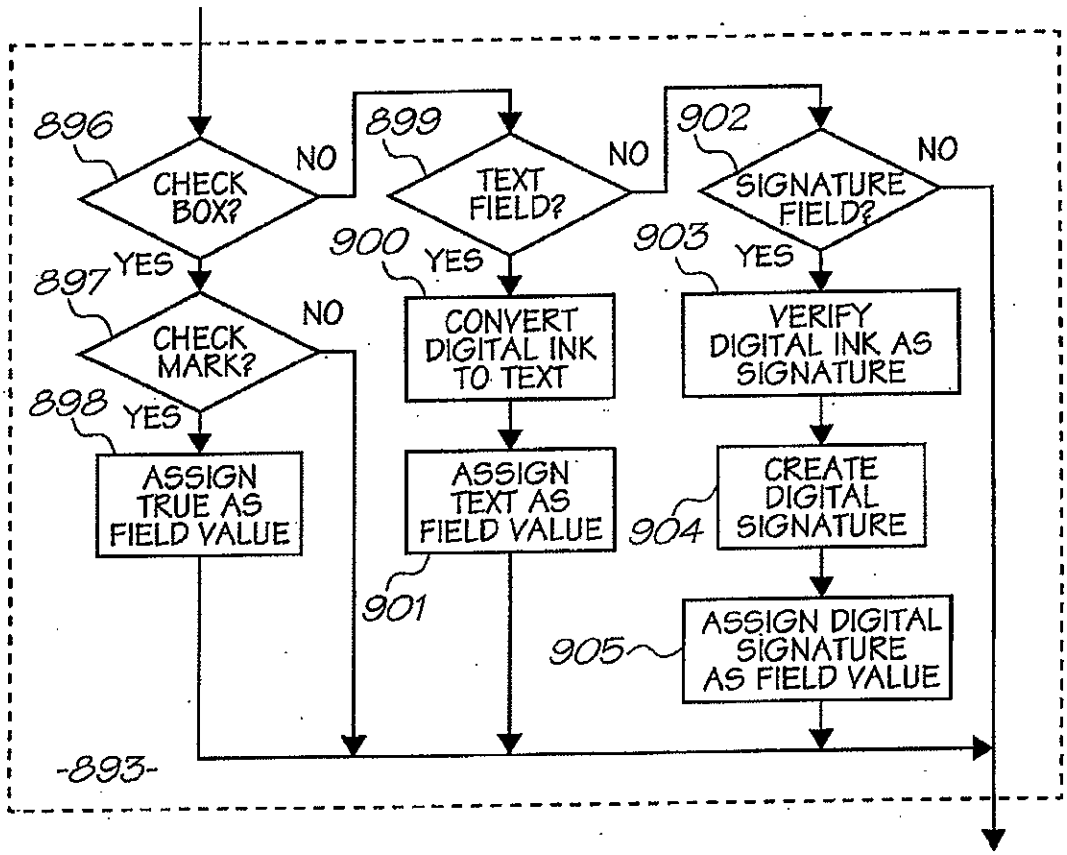

896
CHECK BOX?
NO
899
TEXT FIELD?
NO
902
SIGNATURE FIELD?
NO
897
YES
CHECK MARK?
NO
900
YES
CONVERT DIGITAL INK TO TEXT
903
YES
VERIFY DIGITAL INK AS SIGNATURE
898
YES
ASSIGN TRUE AS FIELD VALUE
ASSIGN TEXT AS FIELD VALUE
901
904
CREATE DIGITAL SIGNATURE
905
ASSIGN DIGITAL SIGNATURE AS FIELD VALUE
-893-

FIG. 38a

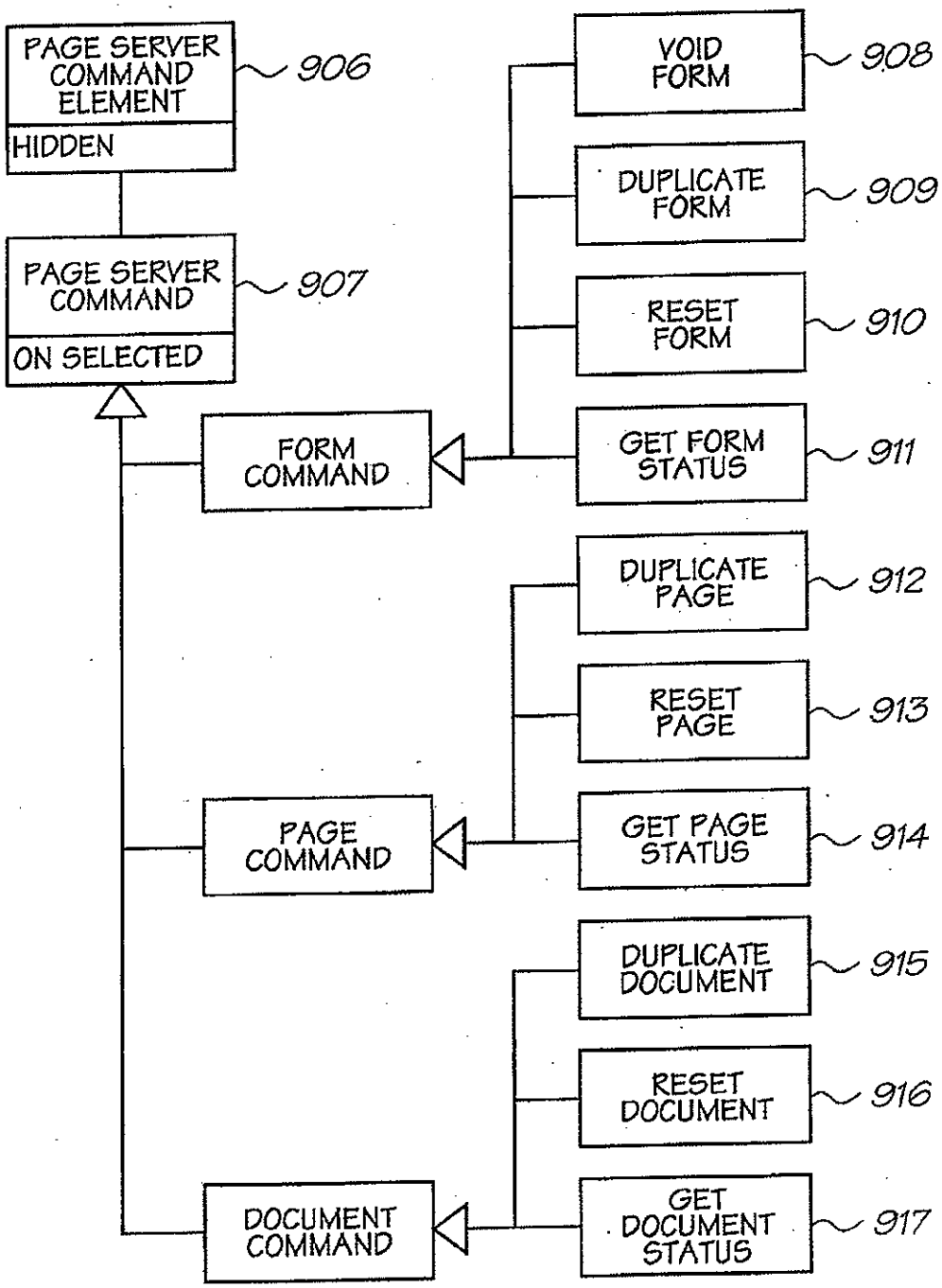

PAGE SERVER COMMAND ELEMENT
HIDDEN
906
PAGE SERVER COMMAND
ON SELECTED
907
FORM COMMAND
PAGE COMMAND
DOCUMENT COMMAND
VOID FORM
908
DUPLICATE FORM
909
RESET FORM
910
GET FORM STATUS
911
DUPLICATE PAGE
912
RESET PAGE
913
GET PAGE STATUS
914
DUPLICATE DOCUMENT
915
RESET DOCUMENT
916
GET DOCUMENT STATUS
917

FIG. 39

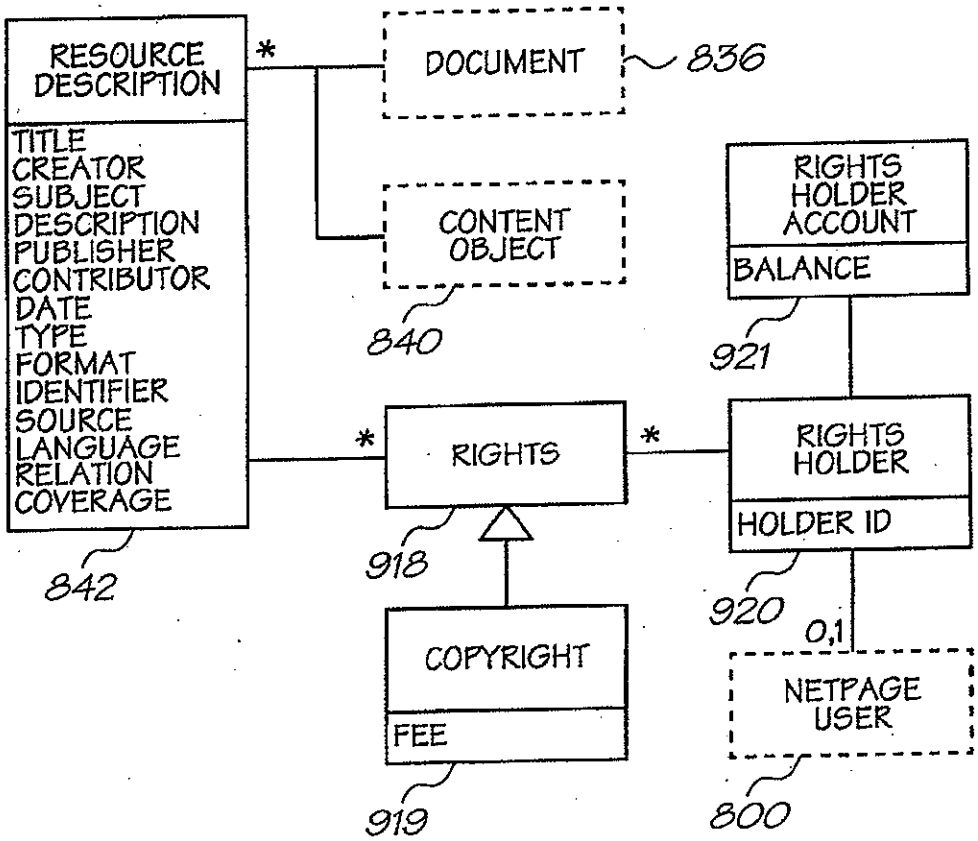

RESOURCE DESCRIPTION
TITLE
CREATOR
SUBJECT
DESCRIPTION
PUBLISHER
CONTRIBUTOR
DATE
TYPE
FORMAT
IDENTIFIER
SOURCE
LANGUAGE
RELATION
COVERAGE
842
*
DOCUMENT
836
CONTENT OBJECT
840
RIGHTS HOLDER ACCOUNT
BALANCE
921
*
RIGHTS
918
*
RIGHTS HOLDER
HOLDER ID
920
0,1
COPYRIGHT
FEE
919
NETPAGE USER
800

FIG. 40

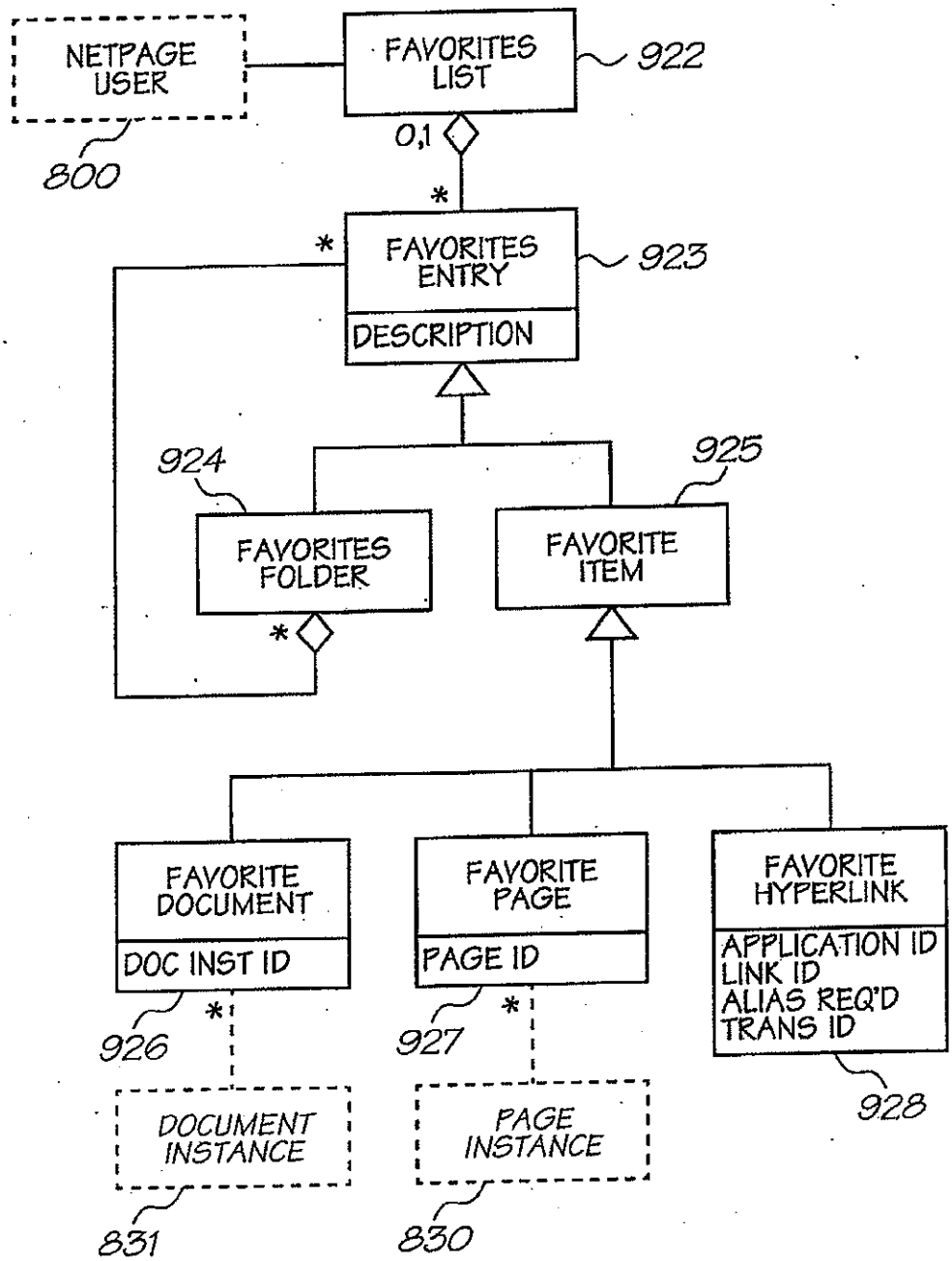

NETPAGE USER
800
FAVORITES LIST
922
0,1
*
*
FAVORITES ENTRY
923
DESCRIPTION
924
925
FAVORITES FOLDER
FAVORITE ITEM
*
FAVORITE DOCUMENT
DOC INST ID
926
*
DOCUMENT INSTANCE
831
FAVORITE PAGE
PAGE ID
927
*
PAGE INSTANCE
830
FAVORITE HYPERLINK
APPLICATION ID
LINK ID
ALIAS REQ'D
TRANS ID
928

FIG. 41

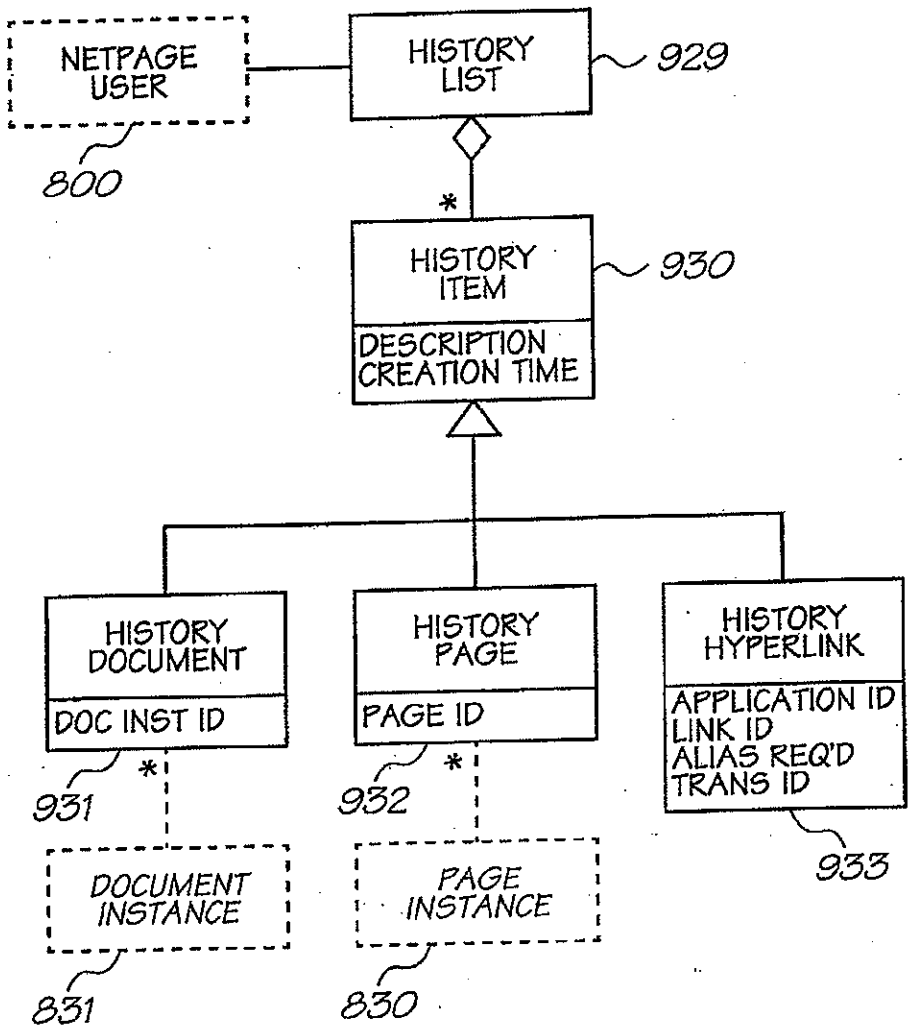

NETPAGE USER
800
HISTORY LIST
929
*
HISTORY ITEM
930
DESCRIPTION
CREATION TIME
HISTORY DOCUMENT
DOC INST ID
931
*
DOCUMENT INSTANCE
831
HISTORY PAGE
PAGE ID
932
*
PAGE INSTANCE
830
HISTORY HYPERLINK
APPLICATION ID
LINK ID
ALIAS REQ'D
TRANS ID
933

FIG. 42

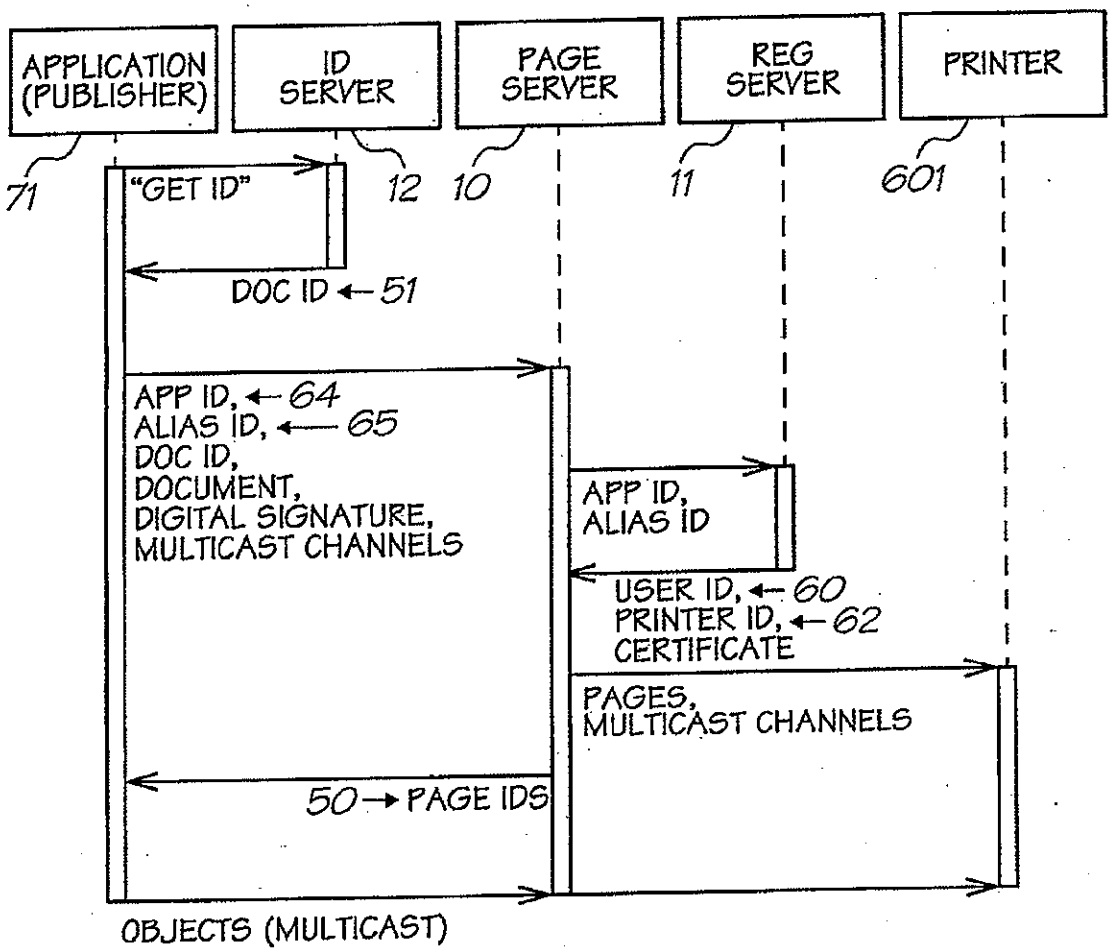

APPLICATION (PUBLISHER)
ID SERVER
PAGE SERVER
REG SERVER
PRINTER
71
12
10
11
601
"GET ID"
DOC ID ← 51
APP ID, ← 64
ALIAS ID, ← 65
DOC ID,
DOCUMENT,
DIGITAL SIGNATURE,
MULTICAST CHANNELS
APP ID,
ALIAS ID
USER ID, ← 60
PRINTER ID, ← 62
CERTIFICATE
PAGES,
MULTICAST CHANNELS
50 → PAGE IDS
OBJECTS (MULTICAST)

FIG. 43

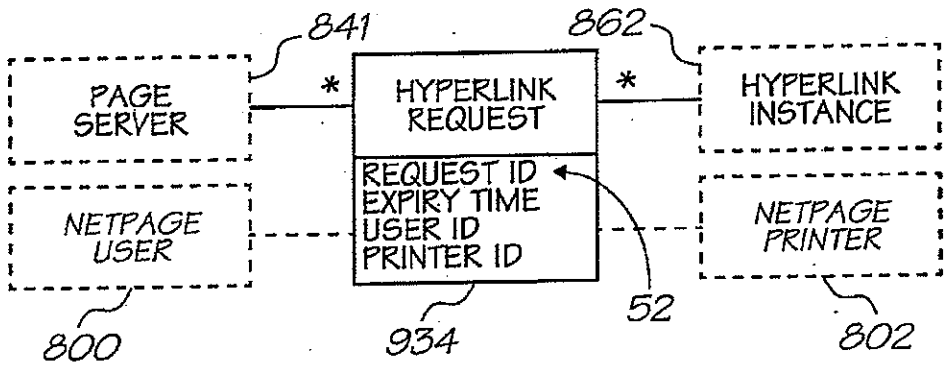

841
862
PAGE SERVER
*
HYPERLINK REQUEST
*
HYPERLINK INSTANCE
REQUEST ID
EXPIRY TIME
USER ID
PRINTER ID
NETPAGE USER
NETPAGE PRINTER
800
934
52
802

FIG. 44

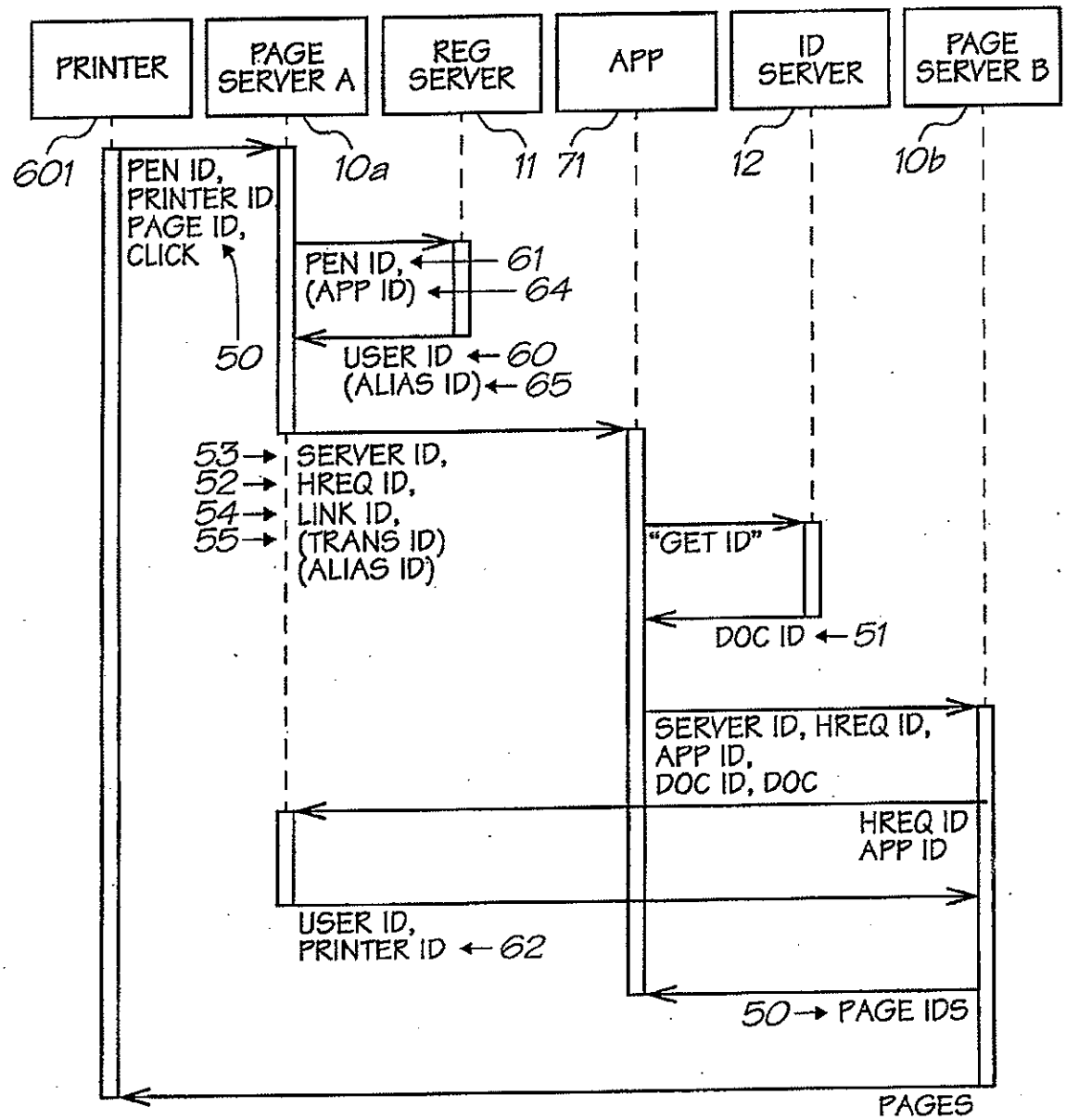

PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID,
PAGE ID,
CLICK
50
PEN ID,
(APP ID)
61
64
USER ID
(ALIAS ID)
60
65
53
52
54
55
SERVER ID,
HREQ ID,
LINK ID,
(TRANS ID)
(ALIAS ID)
"GET ID"
DOC ID
51
SERVER ID, HREQ ID,
APP ID,
DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID
62
50
PAGE IDS
PAGES

FIG. 45

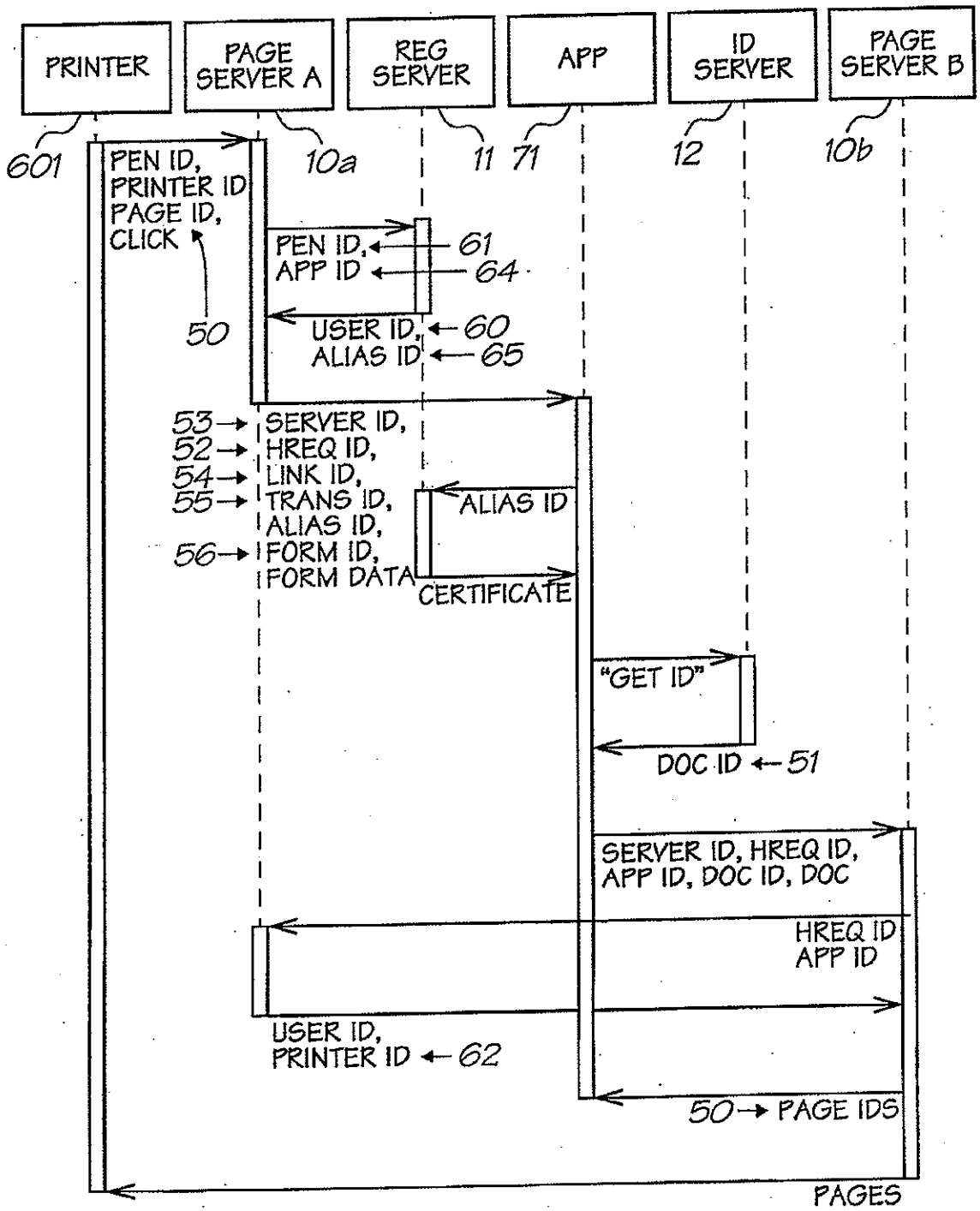

PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID, 61
APP ID 64
USER ID, 60
ALIAS ID 65
53 SERVER ID,
52 HREQ ID,
54 LINK ID,
55 TRANS ID,
ALIAS ID,
56 FORM ID,
FORM DATA
ALIAS ID
CERTIFICATE
"GET ID"
DOC ID 51
SERVER ID, HREQ ID,
APP ID, DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID 62
50 PAGE IDS
PAGES

FIG. 46

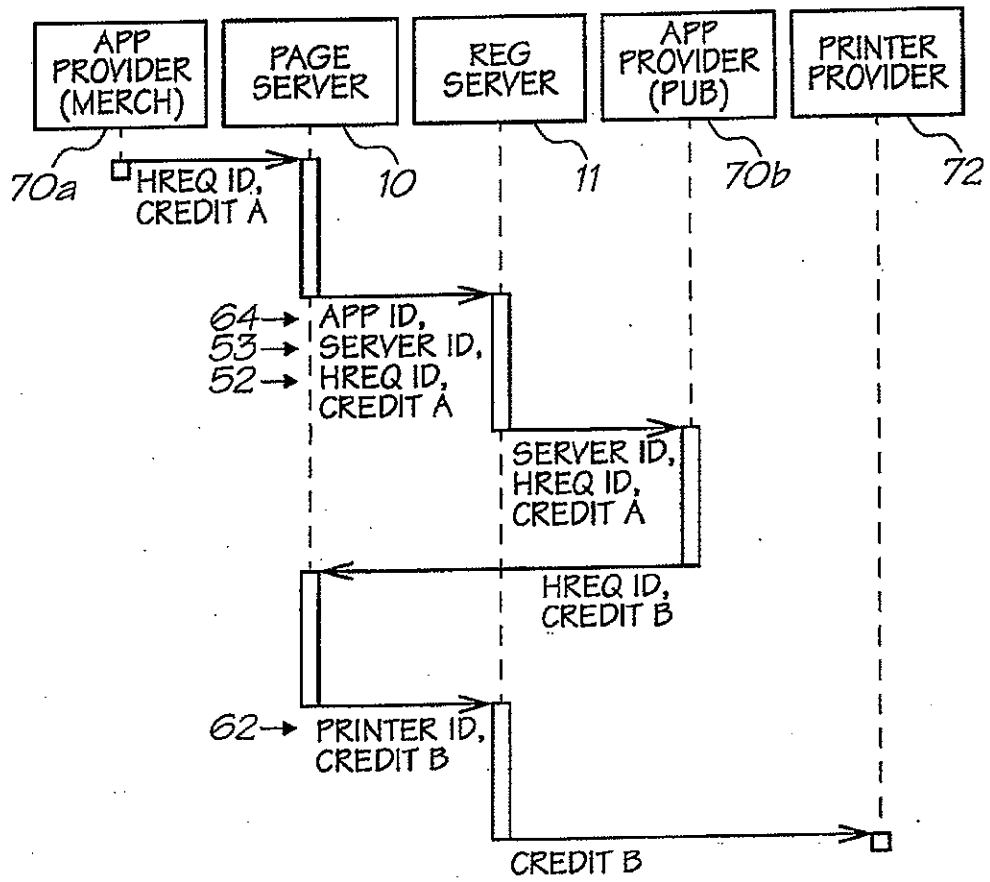

APP PROVIDER (MERCH)
PAGE SERVER
REG SERVER
APP PROVIDER (PUB)
PRINTER PROVIDER
70a
10
11
70b
72
HREQ ID, CREDIT A
64
53
52
APP ID, SERVER ID, HREQ ID, CREDIT A
SERVER ID, HREQ ID, CREDIT A
HREQ ID, CREDIT B
62
PRINTER ID, CREDIT B
CREDIT B

FIG. 47

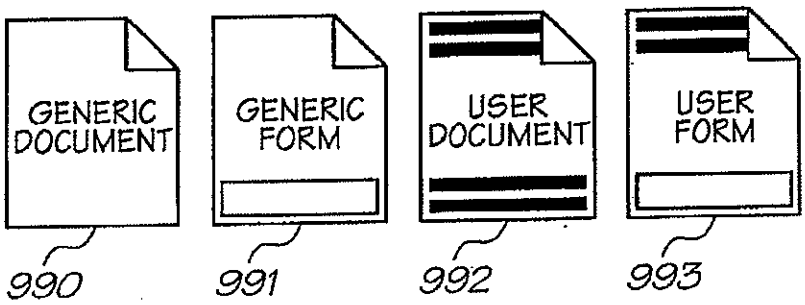

GENERIC DOCUMENT
GENERIC FORM
USER DOCUMENT
USER FORM
990
991
992
993

FIG. 48

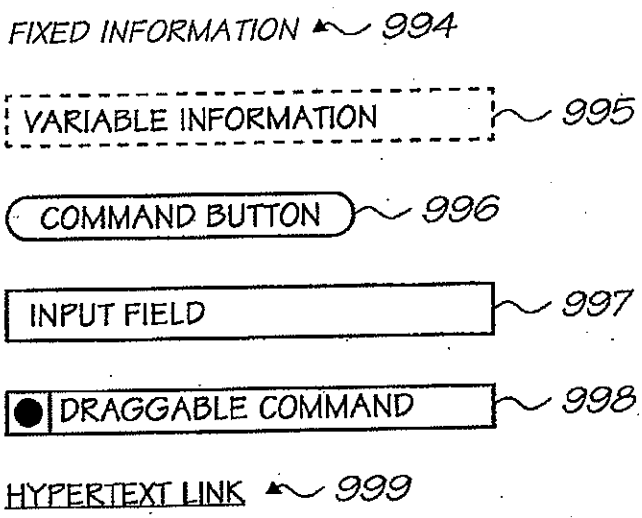

FIXED INFORMATION
994
VARIABLE INFORMATION
995
COMMAND BUTTON
996
INPUT FIELD
997
DRAGGABLE COMMAND
998
HYPERTEXT LINK
999

FIG. 49

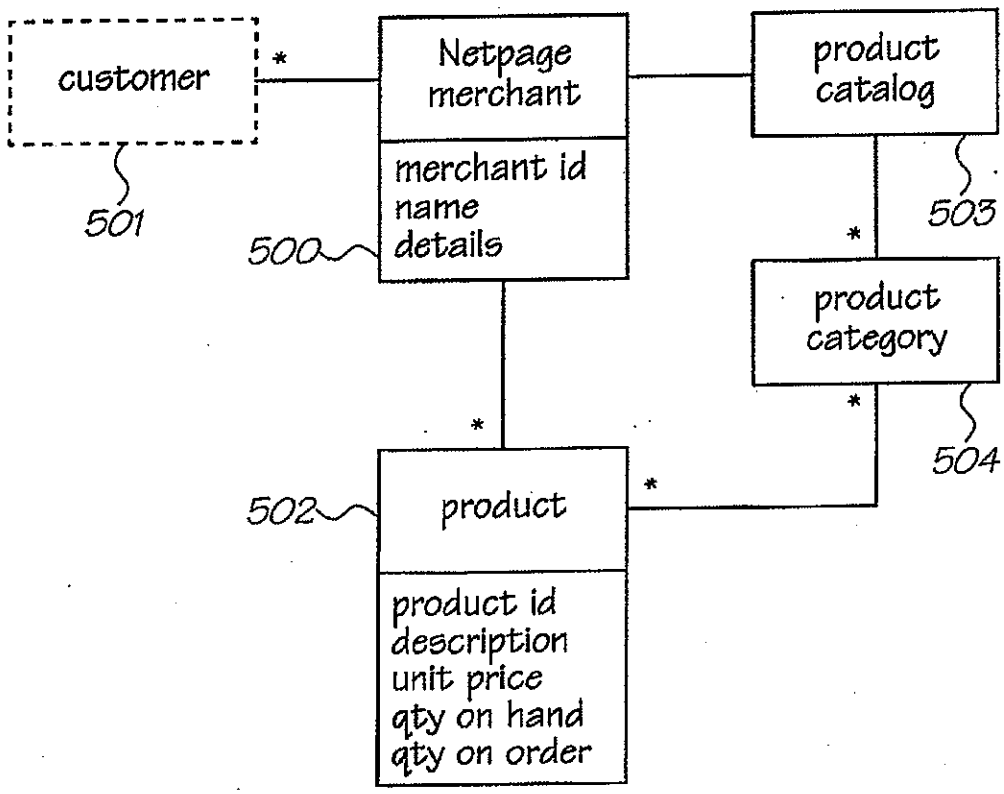

customer
*
Netpage merchant
merchant id
name
details
500
501
product catalog
503
*
product category
*
504
*
*
502
product
product id
description
unit price
qty on hand
qty on order

FIG. 50

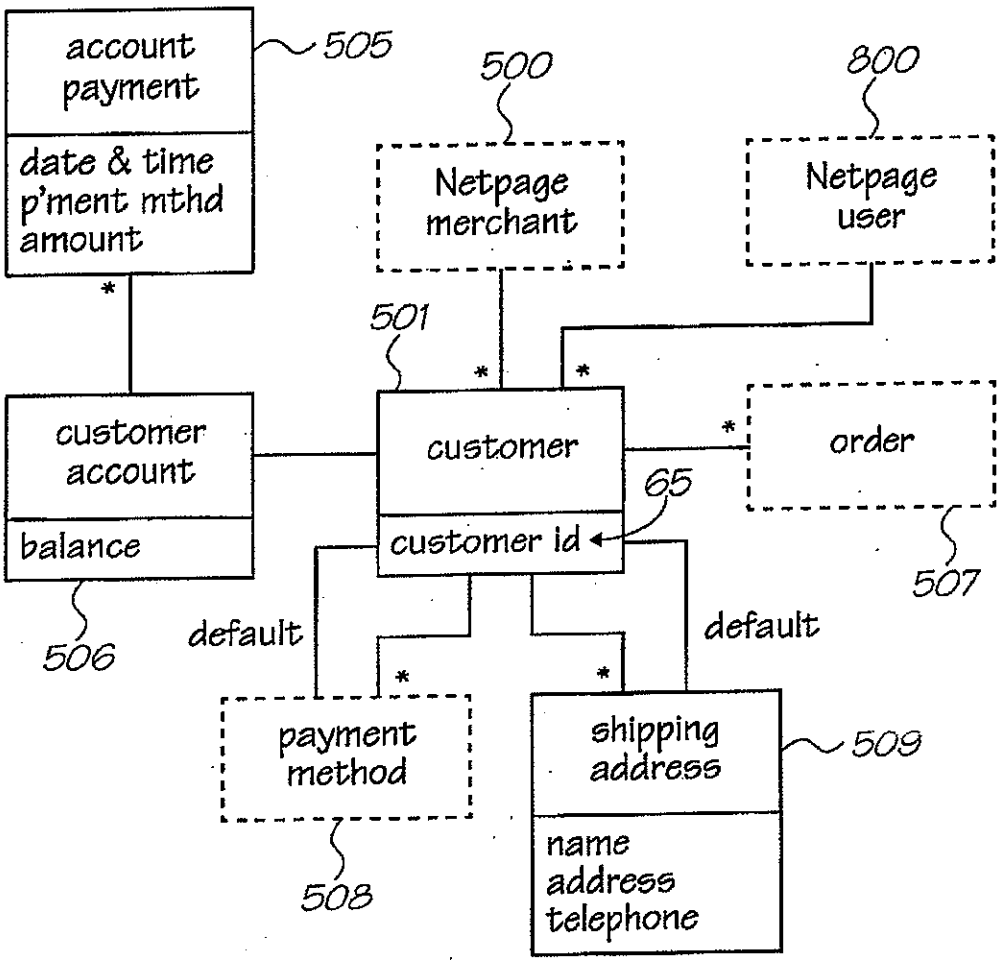

account payment
date & time
p'ment mthd
amount
505
500
Netpage merchant
800
Netpage user
501
customer account
balance
506
customer
customer id
65
order
507
default
default
payment method
508
shipping address
name
address
telephone
509

FIG. 51

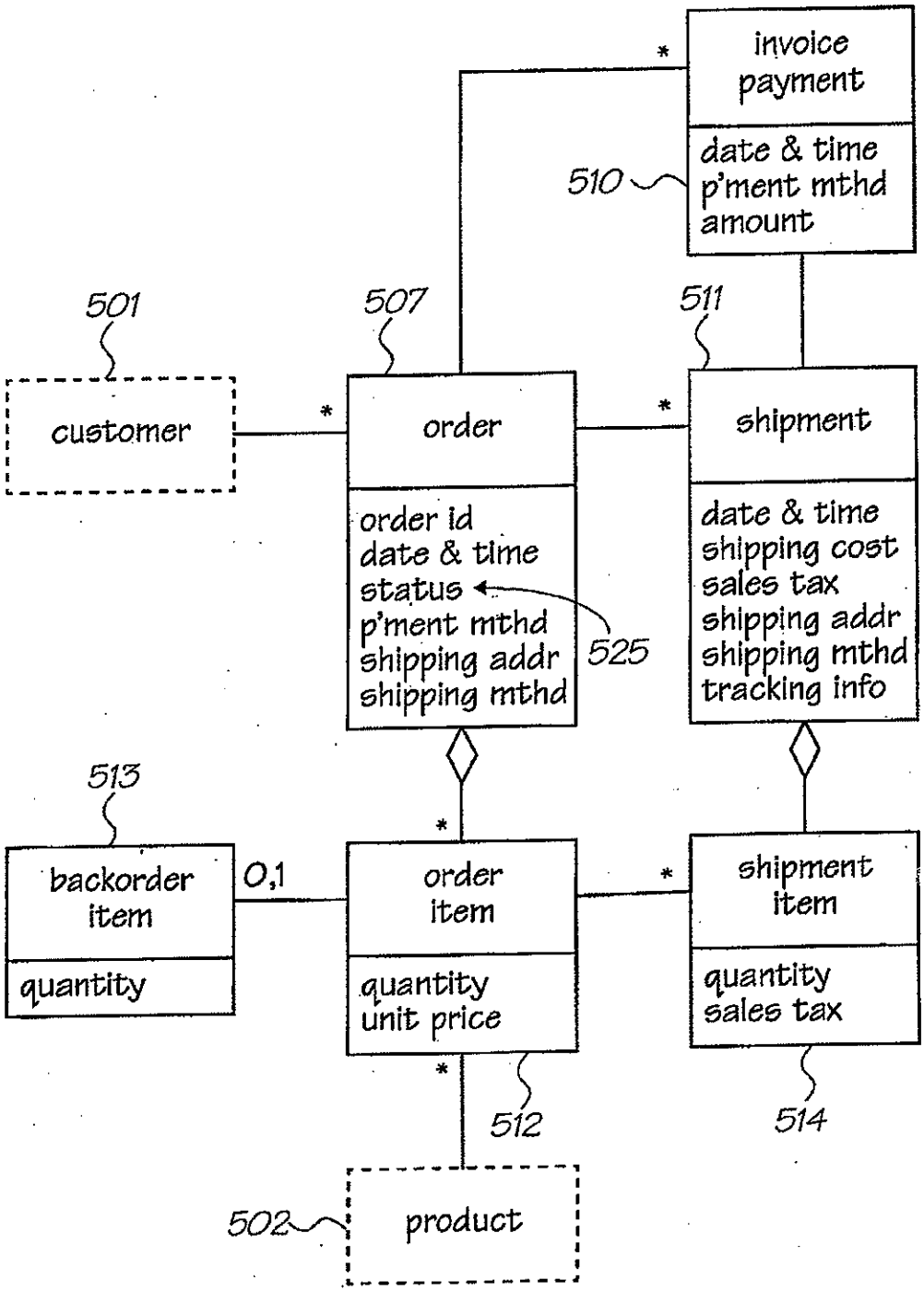

invoice
payment
date & time
p'ment mthd
amount
510
501
507
511
customer
order
shipment
order id
date & time
status
p'ment mthd
shipping addr
shipping mthd
525
date & time
shipping cost
sales tax
shipping addr
shipping mthd
tracking info
513
backorder
item
quantity
0,1
order
item
quantity
unit price
shipment
item
quantity
sales tax
512
514
502
product

FIG. 52

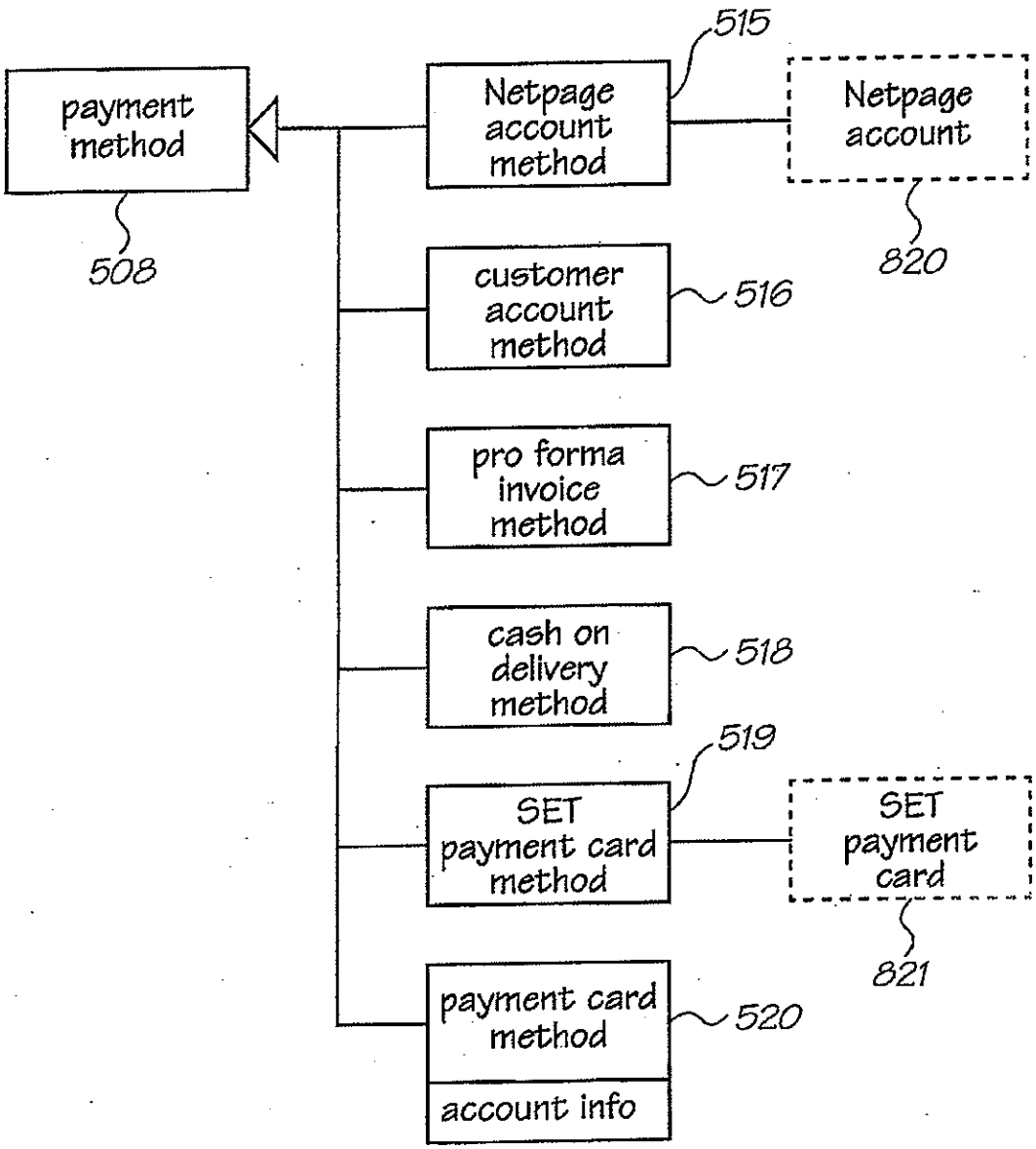

payment method
508
Netpage account method
515
Netpage account
820
customer account method
516
pro forma invoice method
517
cash on delivery method
518
SET payment card method
519
SET payment card
821
payment card method
520
account info

FIG. 53

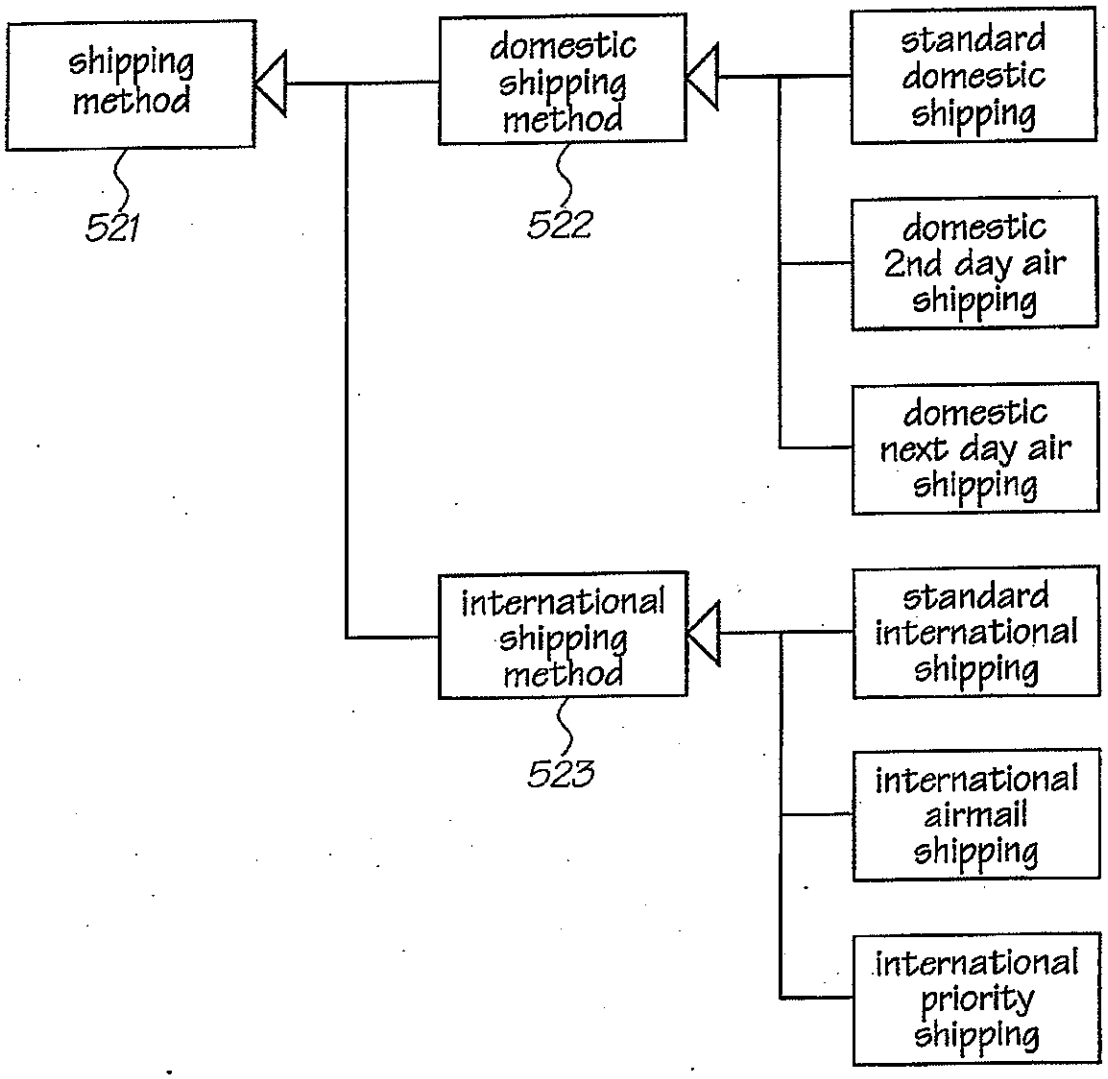

shipping method
521
domestic shipping method
522
standard domestic shipping
domestic 2nd day air shipping
domestic next day air shipping
international shipping method
523
standard international shipping
international airmail shipping
international priority shipping

FIG. 54

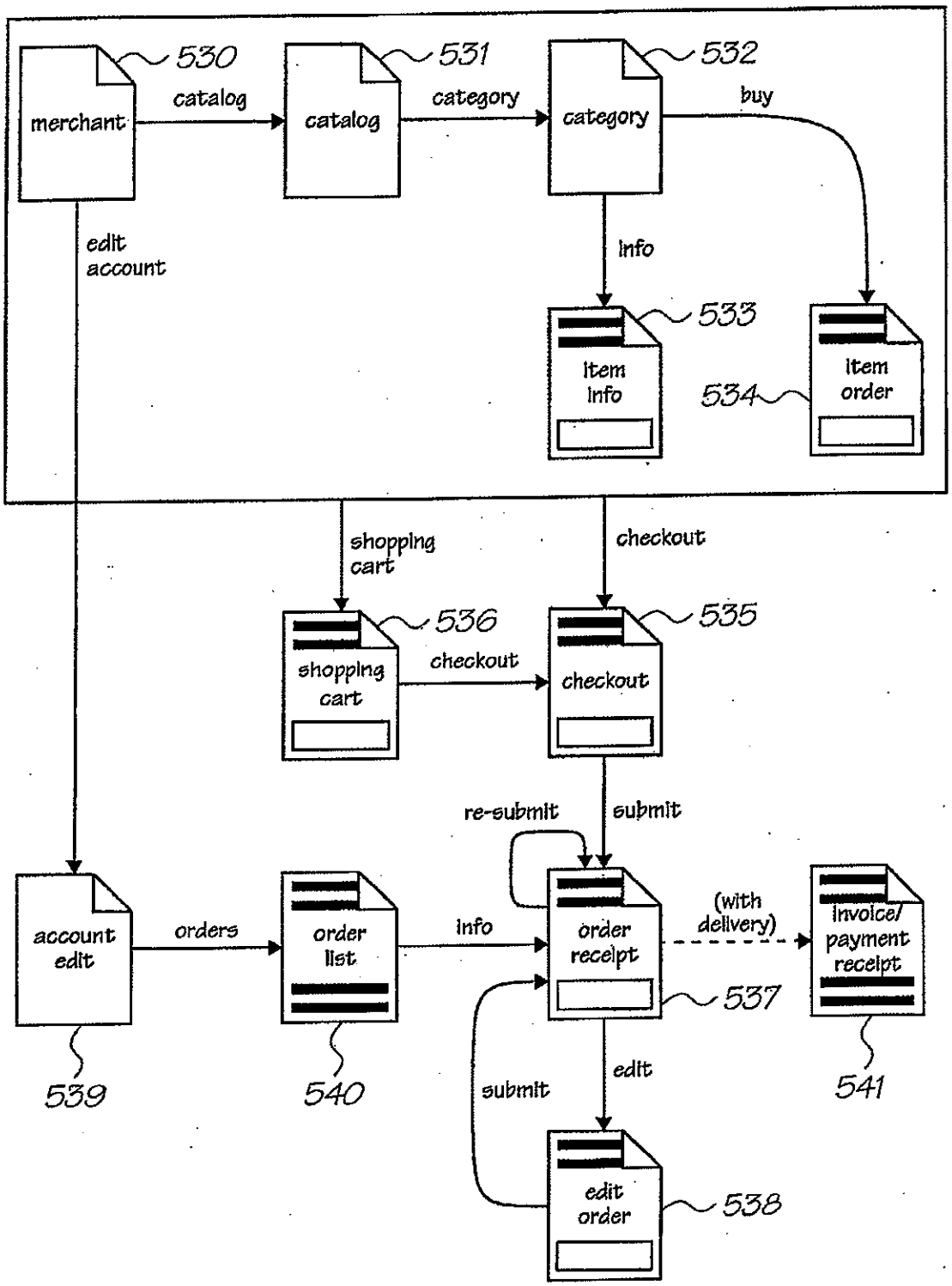

530
merchant
catalog
531
catalog
category
532
category
buy
edit
account
info
533
item
info
534
item
order
shopping
cart
checkout
536
shopping
cart
checkout
535
checkout
re-submit
submit
account
edit
orders
order
list
info
order
receipt
(with
delivery)
invoice/
payment
receipt
537
edit
submit
edit
order
538
539
540
541

FIG. 55

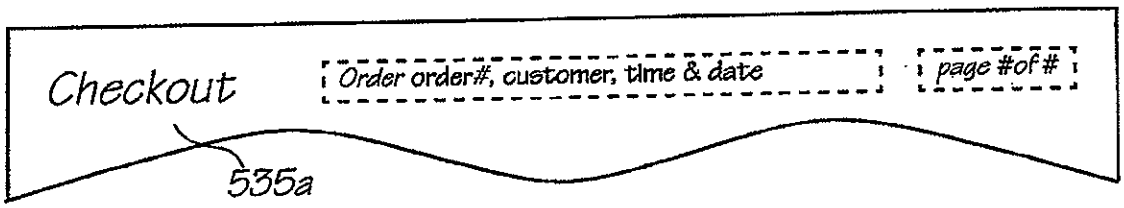

Checkout
Order order#, customer, time & date
page #of #
535a

FIG. 56

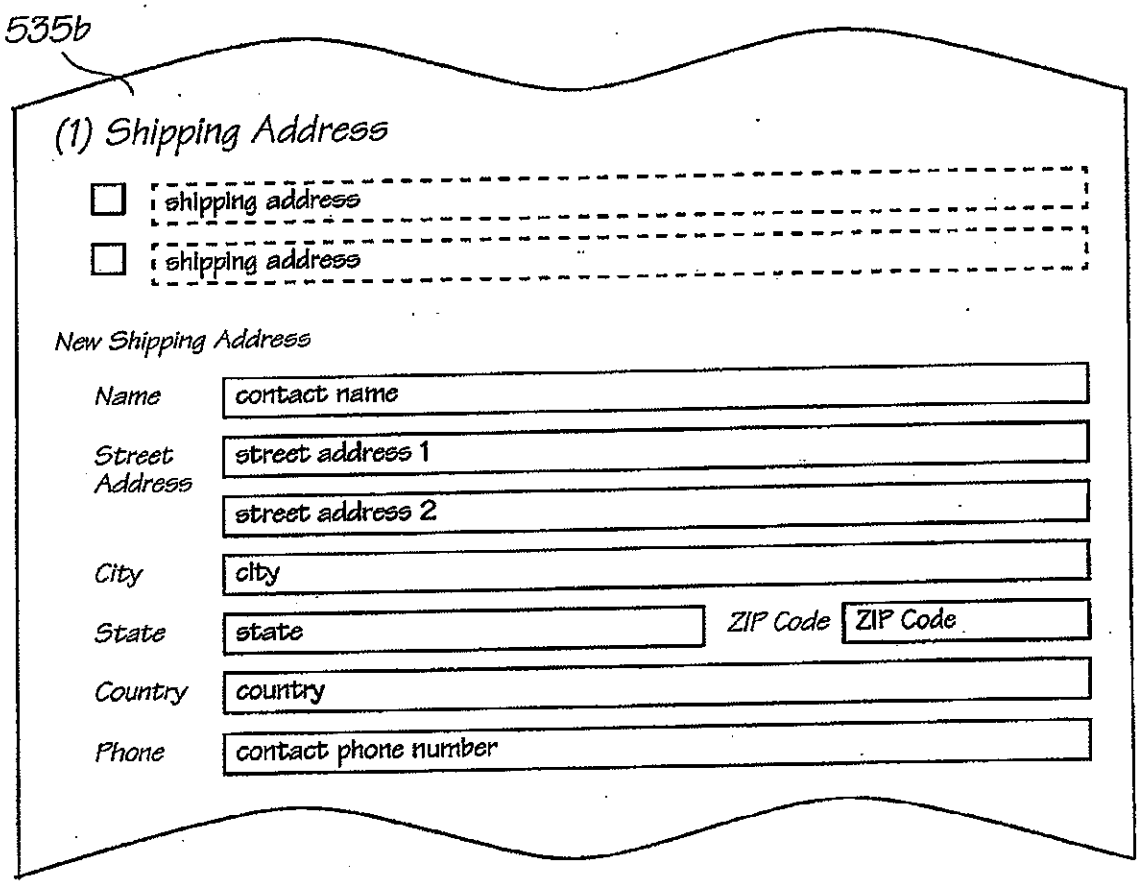

535b
(1) Shipping Address
shipping address
shipping address
New Shipping Address
Name
contact name
Street Address
street address 1
street address 2
City
city
State
state
ZIP Code
ZIP Code
Country
country
Phone
contact phone number

FIG. 57

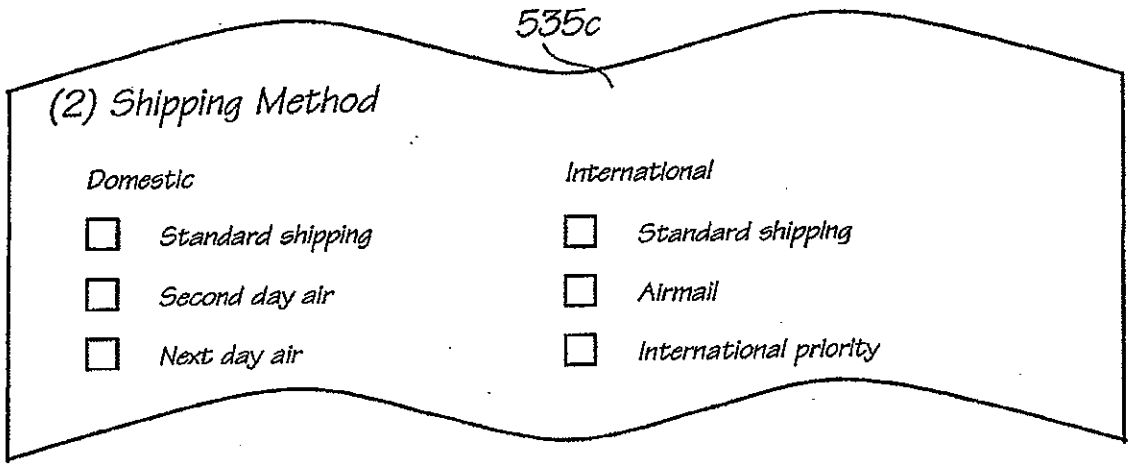

535c
(2) Shipping Method
Domestic
Standard shipping
Second day air
Next day air
International
Standard shipping
Airmail
International priority

FIG. 58

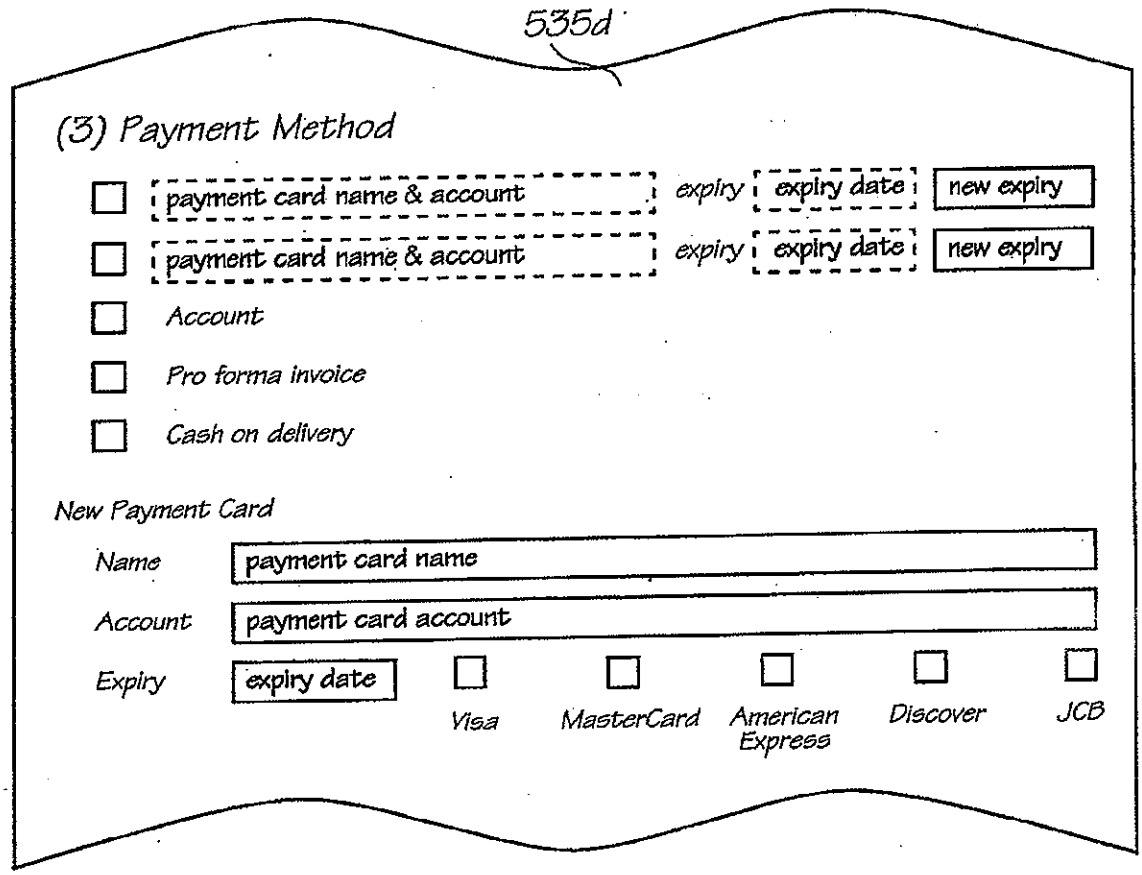

535d
(3) Payment Method
payment card name & account
expiry
expiry date
new expiry
payment card name & account
expiry
expiry date
new expiry
Account
Pro forma invoice
Cash on delivery
New Payment Card
Name
payment card name
Account
payment card account
Expiry
expiry date
Visa
MasterCard
American Express
Discover
JCB

FIG. 59

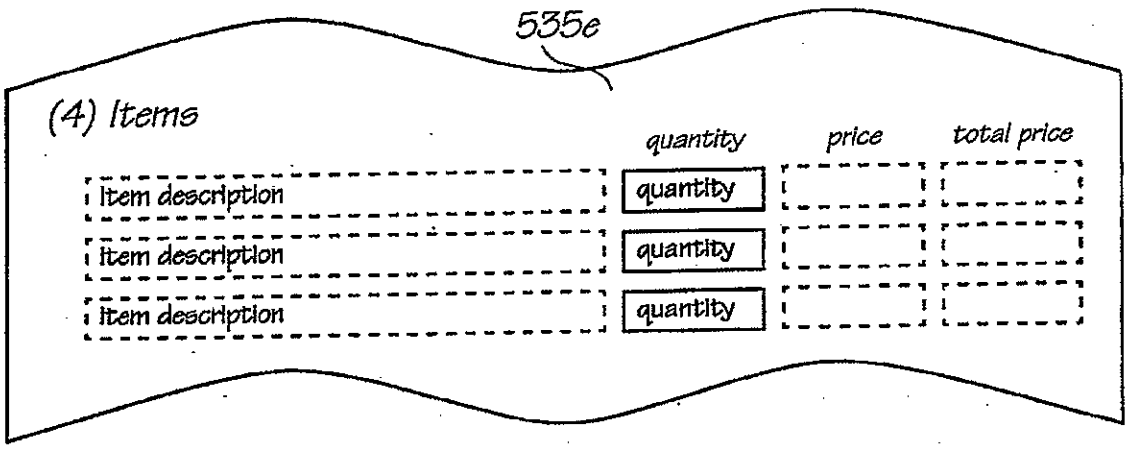

535e
(4) Items
quantity
price
total price
item description
quantity
item description
quantity
item description
quantity

FIG. 60

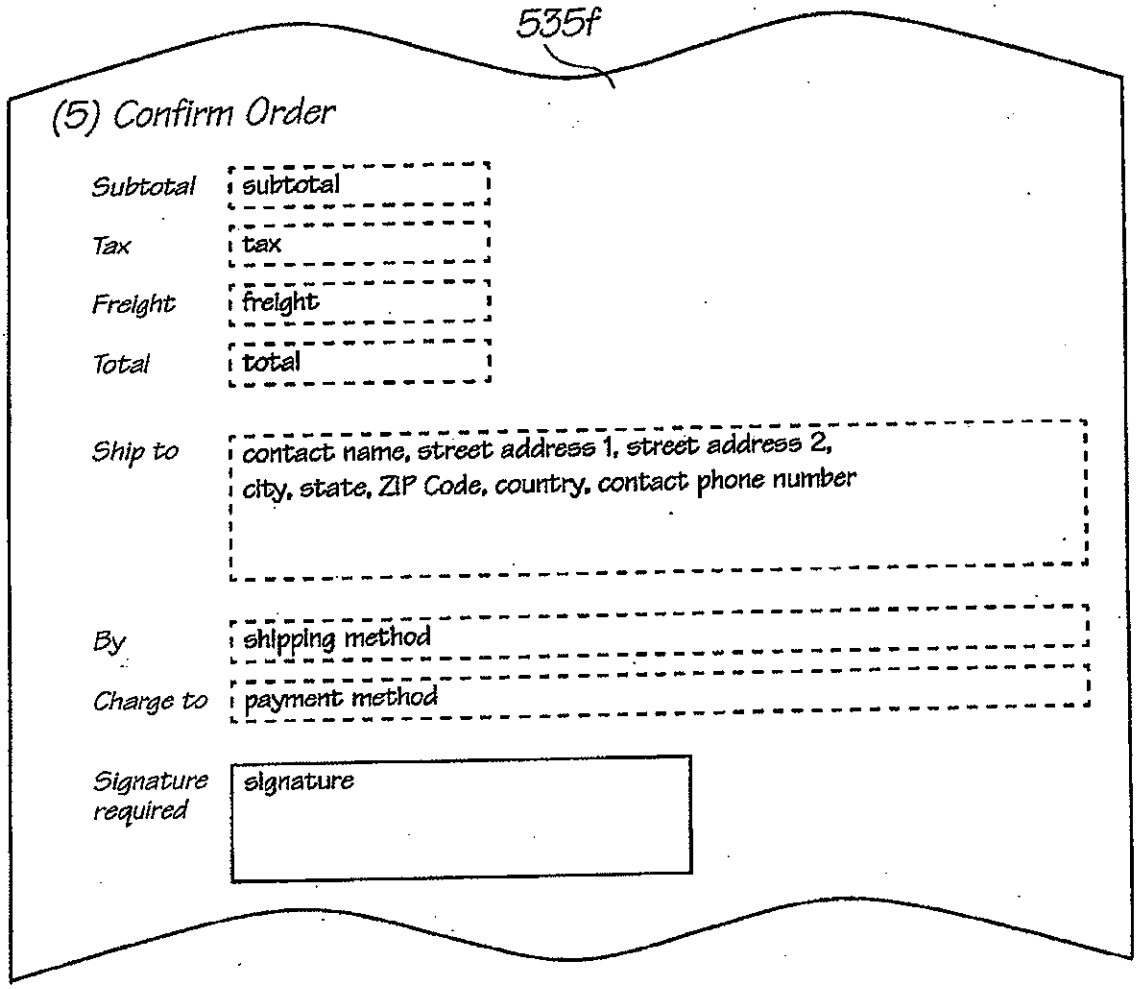

535f
(5) Confirm Order
Subtotal
subtotal
Tax
tax
Freight
freight
Total
total
Ship to
contact name, street address 1, street address 2,
city, state, ZIP Code, country, contact phone number
By
shipping method
Charge to
payment method
Signature required
signature

FIG. 61

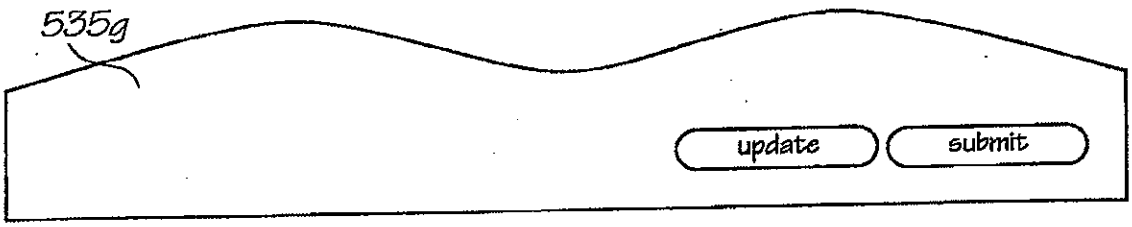

535g
update
submit

FIG. 62