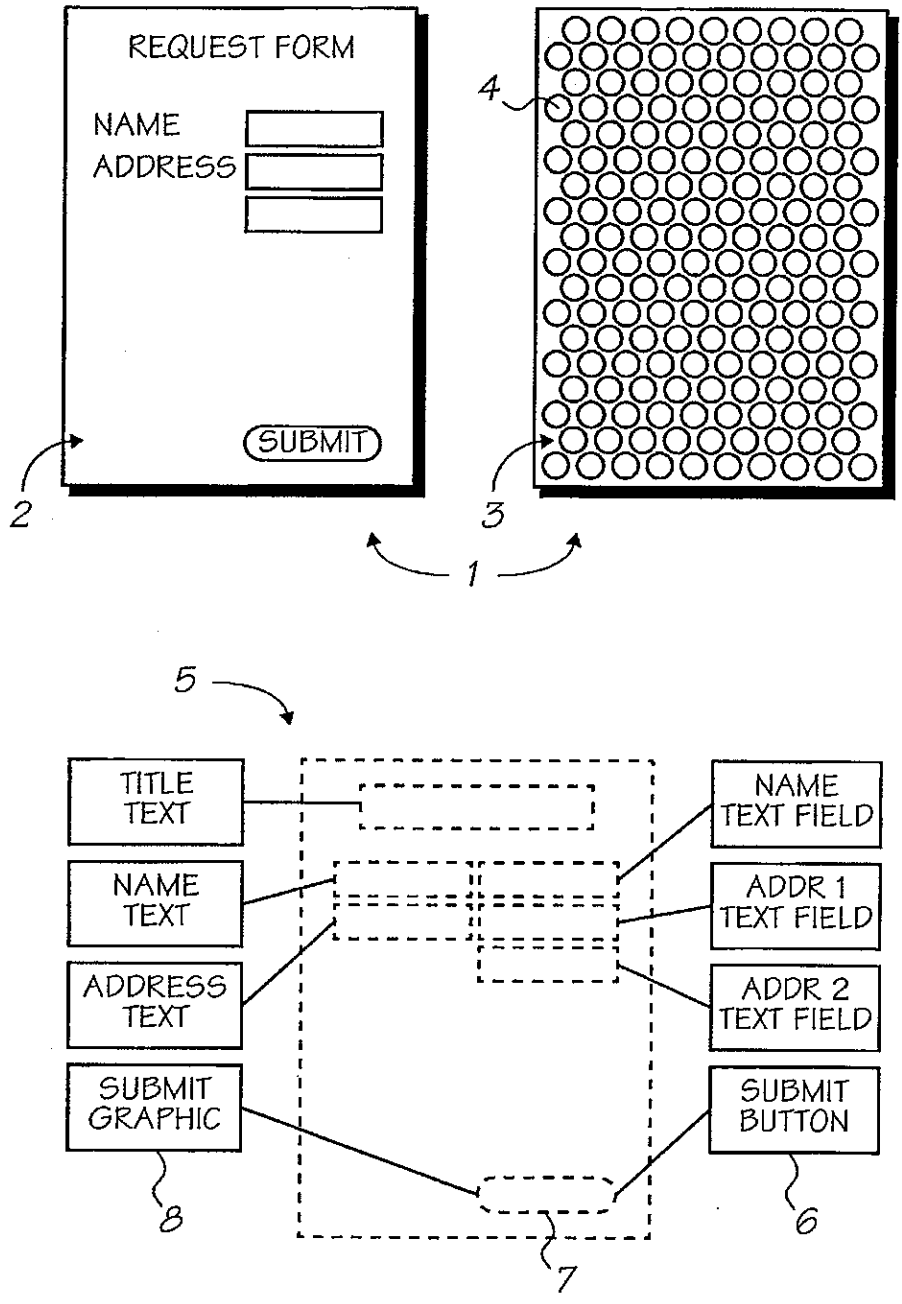
REQUEST FORM
NAME
ADDRESS
SUBMIT
2
4
3
1
5
TITLE TEXT
NAME TEXT
ADDRESS TEXT
SUBMIT GRAPHIC
NAME TEXT FIELD
ADDR 1 TEXT FIELD
ADDR 2 TEXT FIELD
SUBMIT BUTTON
8
6
7

FIG. 1

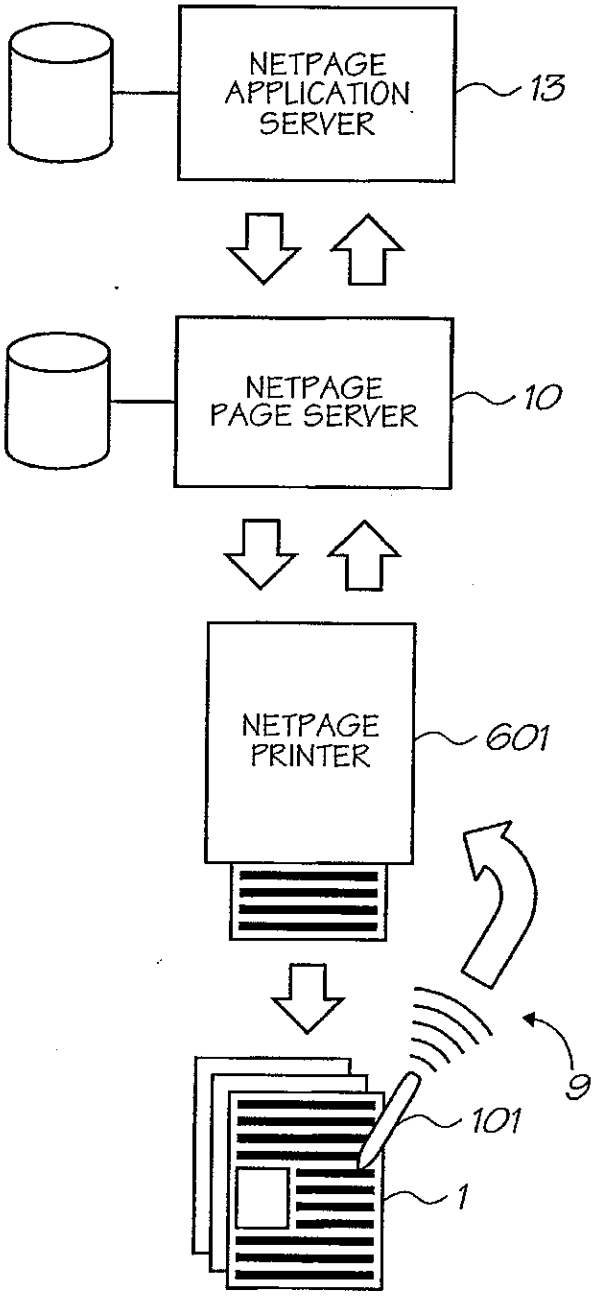
NETPAGE
APPLICATION
SERVER
13
NETPAGE
PAGE SERVER
10
NETPAGE
PRINTER
601
9
101
1

FIG. 2

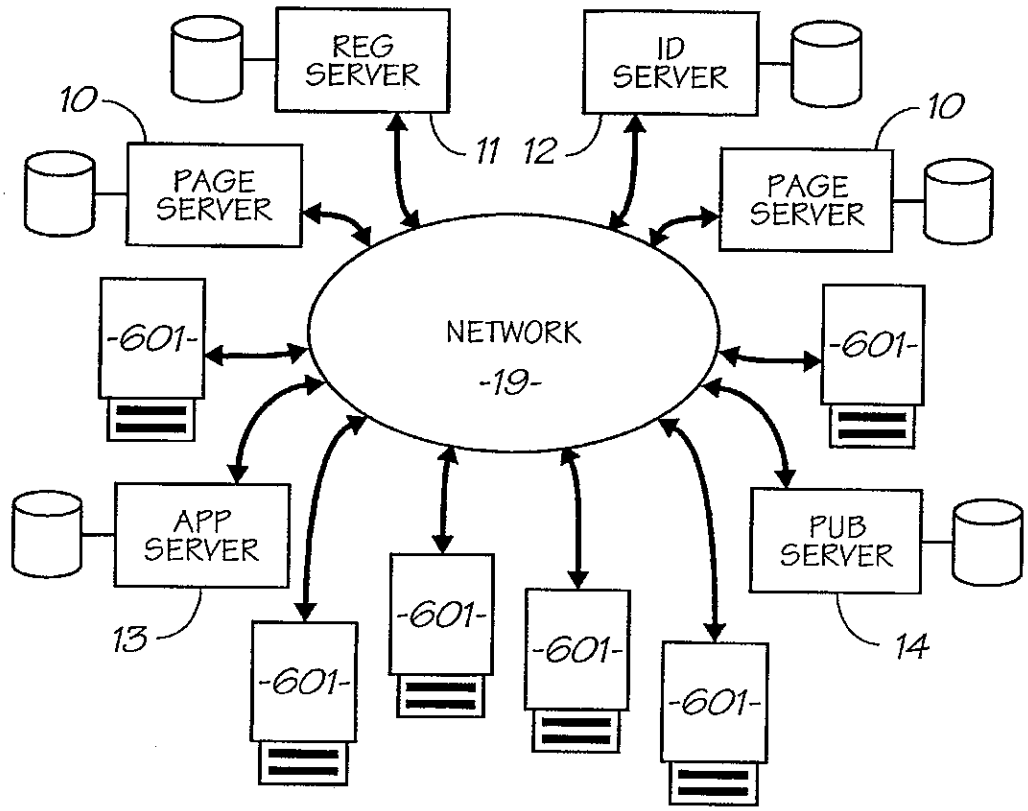
REG SERVER
ID SERVER
10
11
12
10
PAGE SERVER
PAGE SERVER
-601-
NETWORK
-19-
-601-
APP SERVER
PUB SERVER
13
14
-601-
-601-
-601-
-601-

FIG. 3

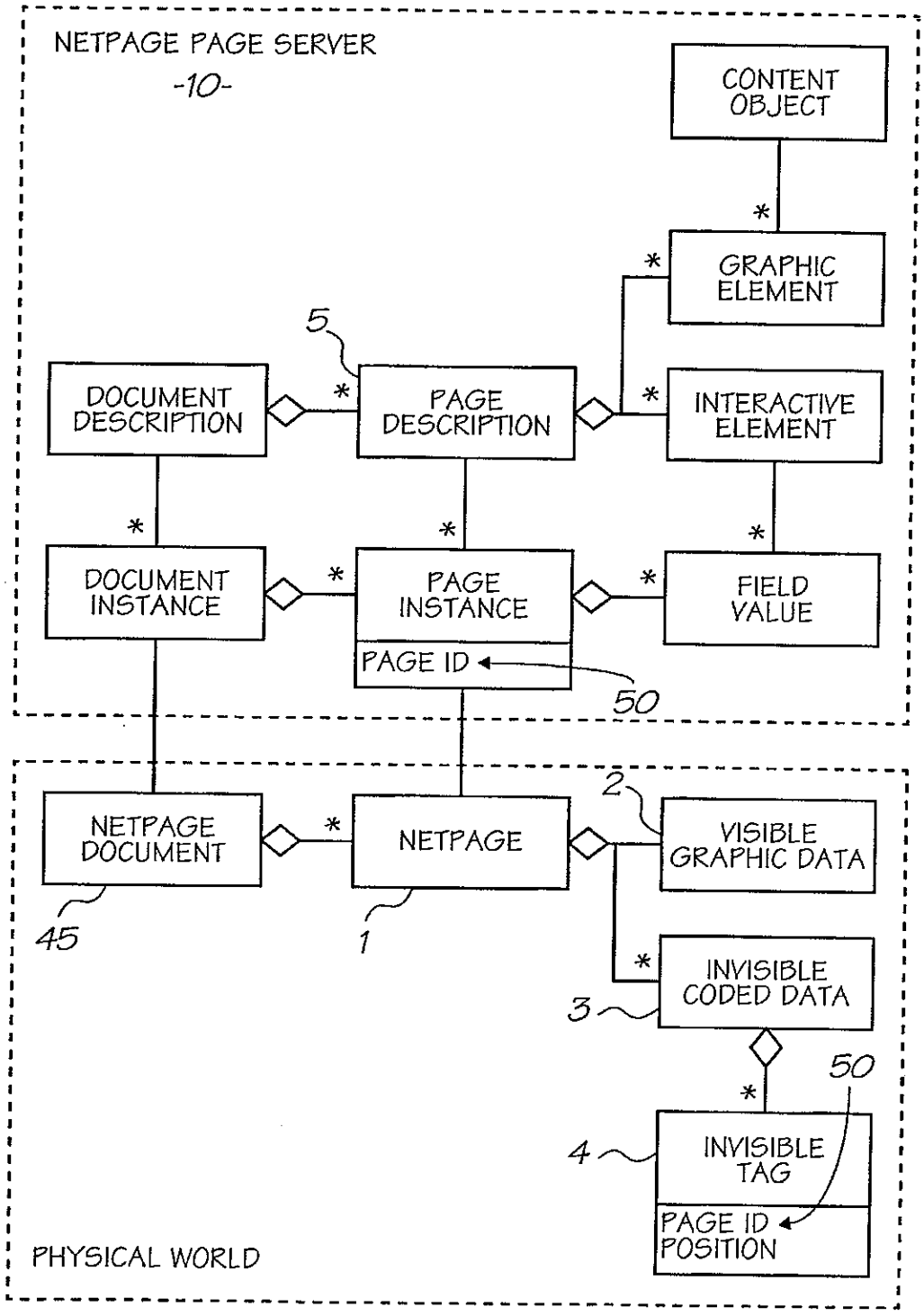
NETPAGE PAGE SERVER
-10-
CONTENT OBJECT
GRAPHIC ELEMENT
INTERACTIVE ELEMENT
FIELD VALUE
5
DOCUMENT DESCRIPTION
PAGE DESCRIPTION
DOCUMENT INSTANCE
PAGE INSTANCE
PAGE ID
50
NETPAGE DOCUMENT
NETPAGE
45
1
2
VISIBLE GRAPHIC DATA
INVISIBLE CODED DATA
3
50
4
INVISIBLE TAG
PAGE ID
POSITION
PHYSICAL WORLD

FIG. 4

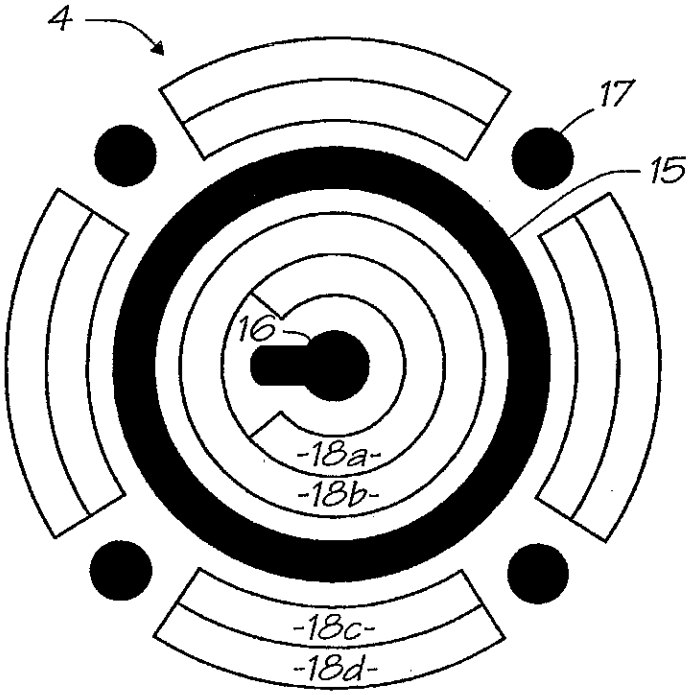

FIG. 5a

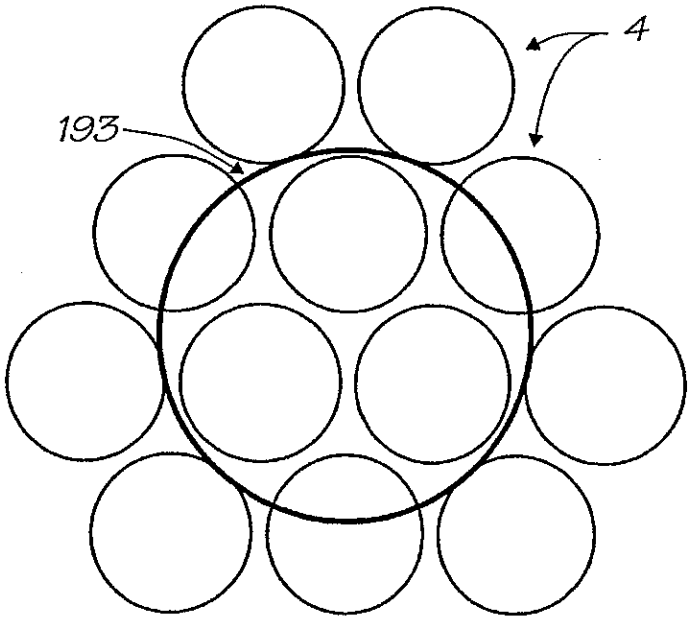

FIG. 5b

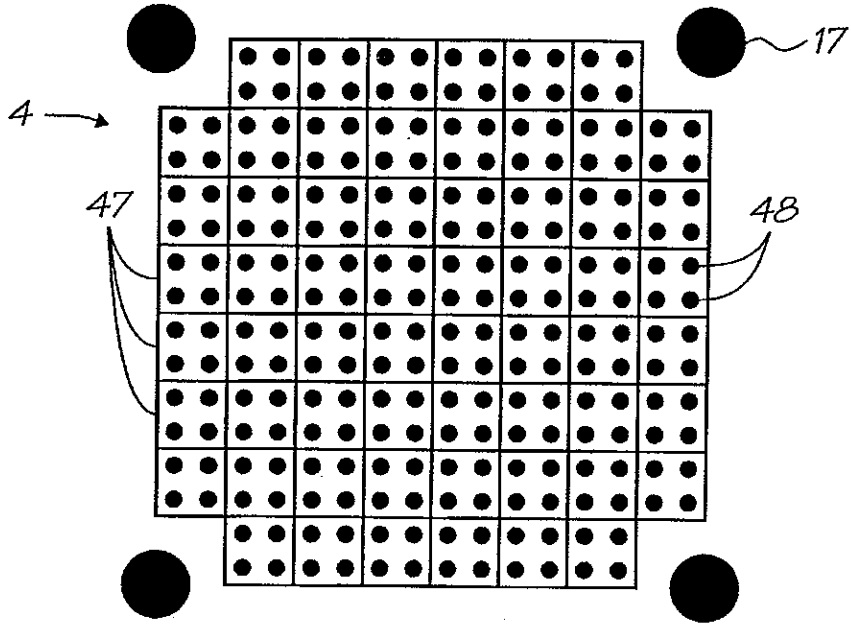

FIG. 6a

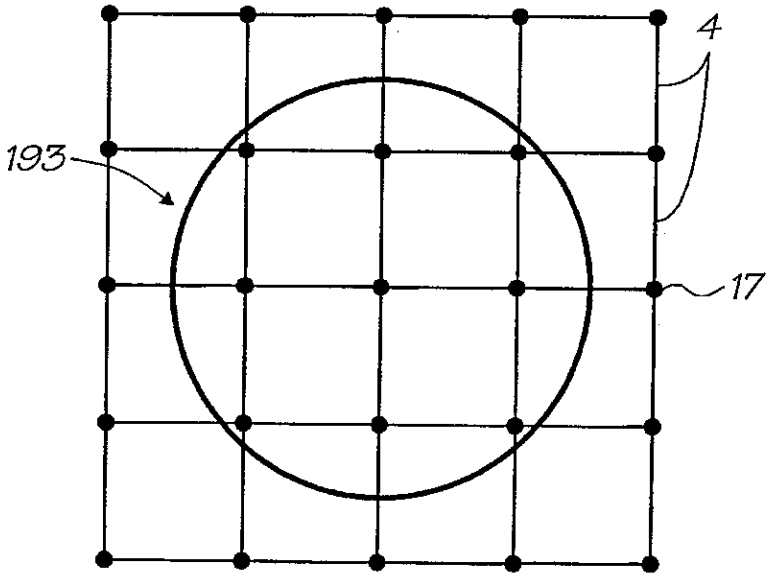

FIG. 6b

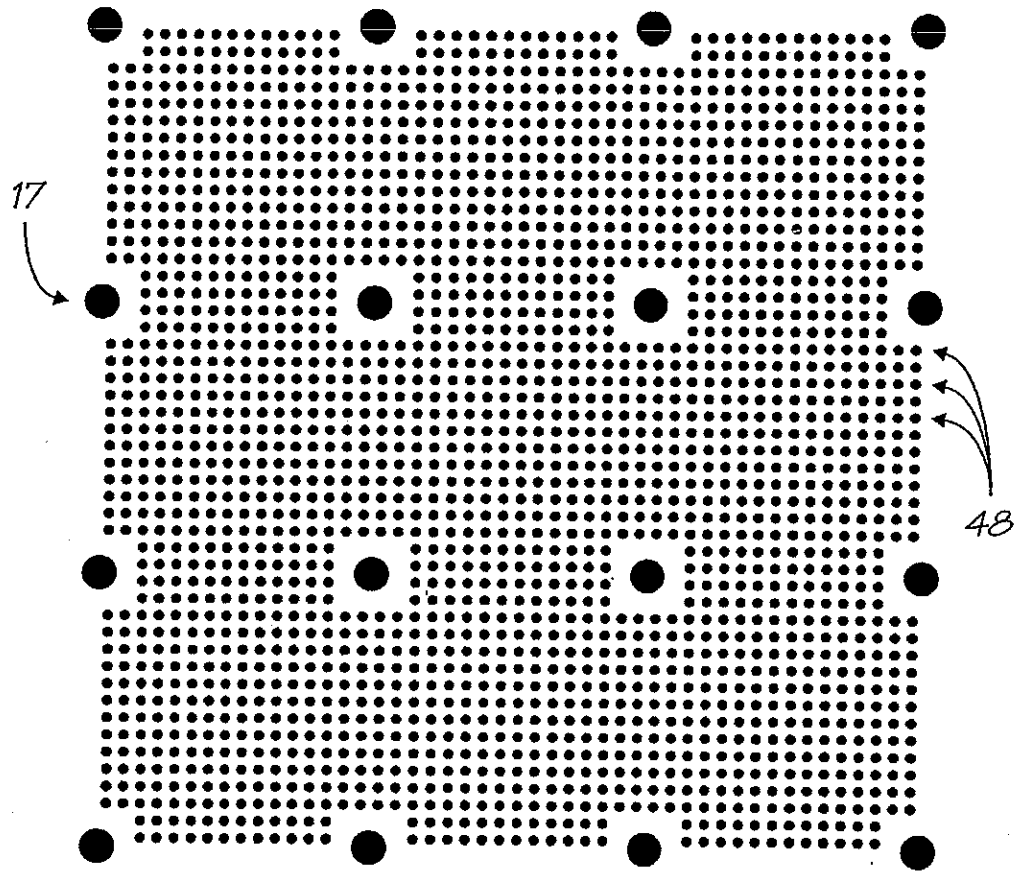
17
48

FIG. 6c

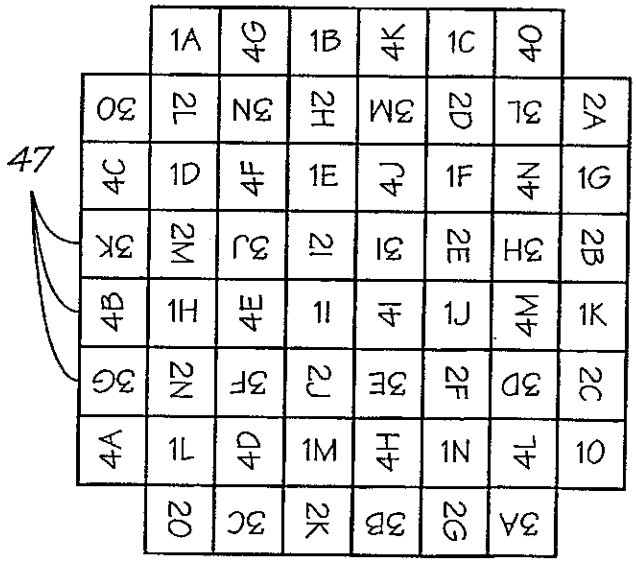
47
1A 4G 1B 4K 1C 4O
3O 2L 3N 2H 3M 2D 3L 2A
4C 1D 4F 1E 4J 1F 4N 1G
3K 2M 3J 2I 3I 2E 3H 2B
4B 1H 4E 1I 4I 1J 4M 1K
3G 2N 3F 2J 3E 2F 3D 2C
4A 1L 4D 1M 4H 1N 4L 1O
2O 3C 2K 3B 2G 3A

FIG. 6d

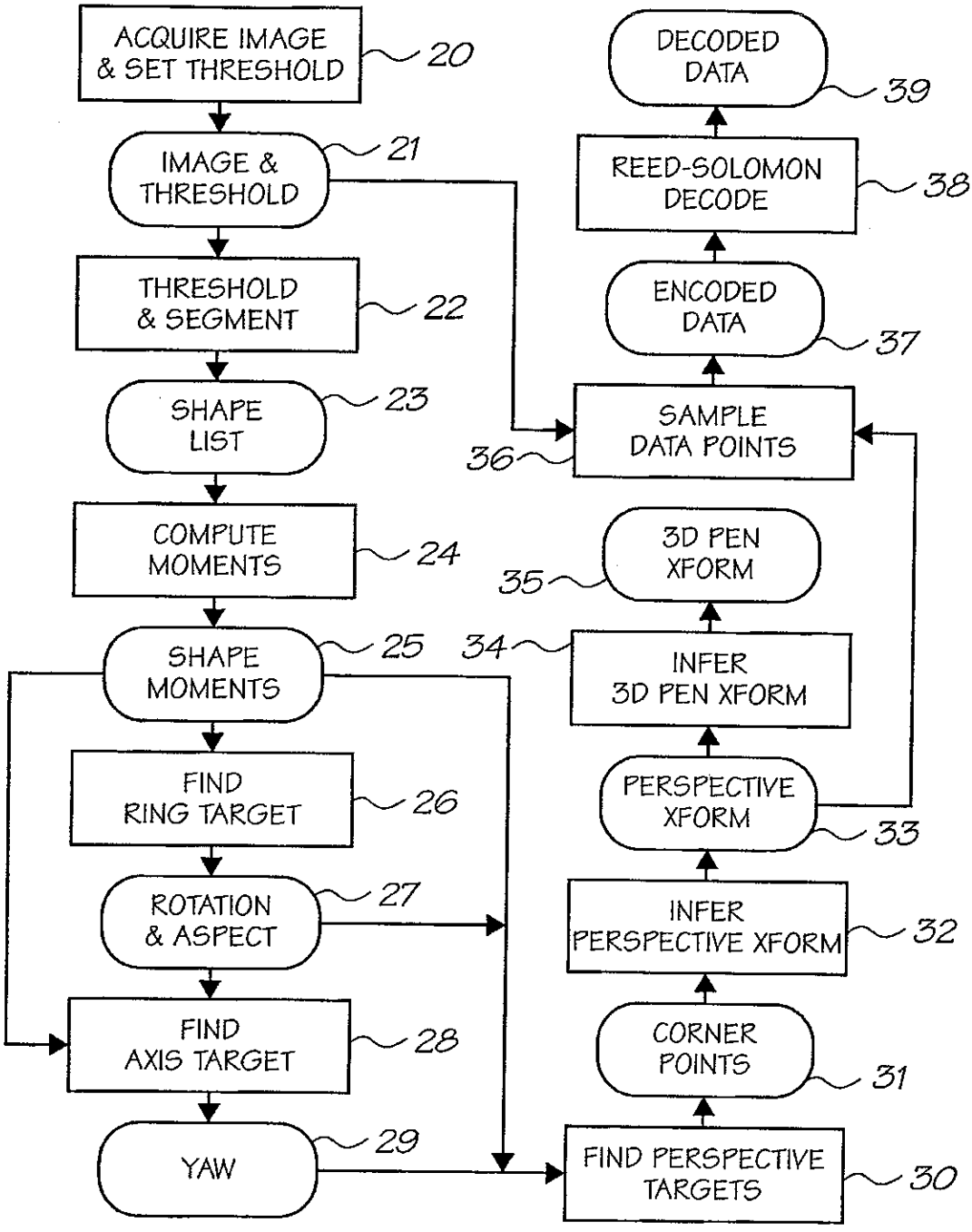
ACQUIRE IMAGE & SET THRESHOLD
20
IMAGE & THRESHOLD
21
THRESHOLD & SEGMENT
22
SHAPE LIST
23
COMPUTE MOMENTS
24
SHAPE MOMENTS
25
FIND RING TARGET
26
ROTATION & ASPECT
27
FIND AXIS TARGET
28
YAW
29
FIND PERSPECTIVE TARGETS
30
CORNER POINTS
31
INFER PERSPECTIVE XFORM
32
PERSPECTIVE XFORM
33
INFER 3D PEN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

FIG. 7

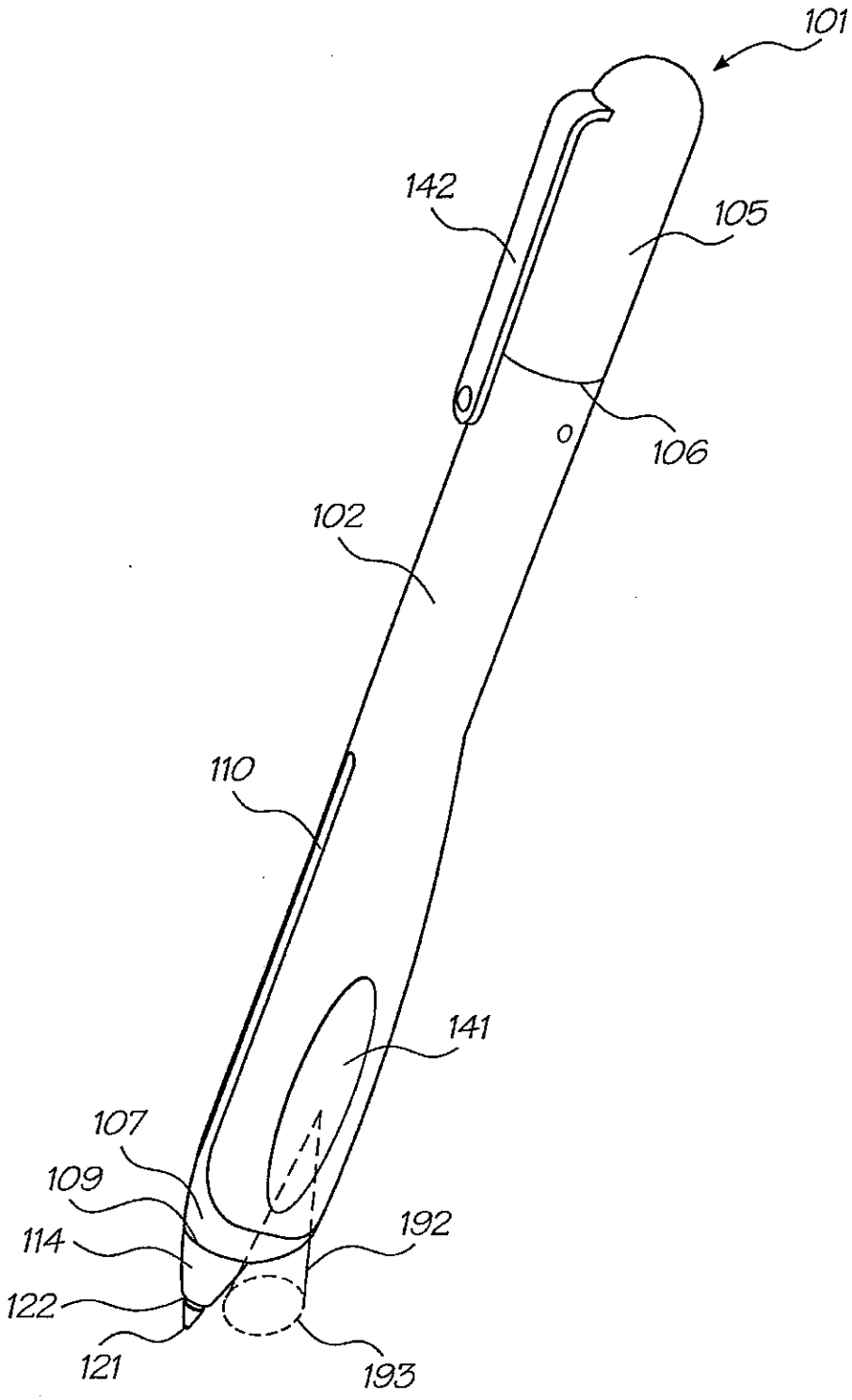

FIG. 8

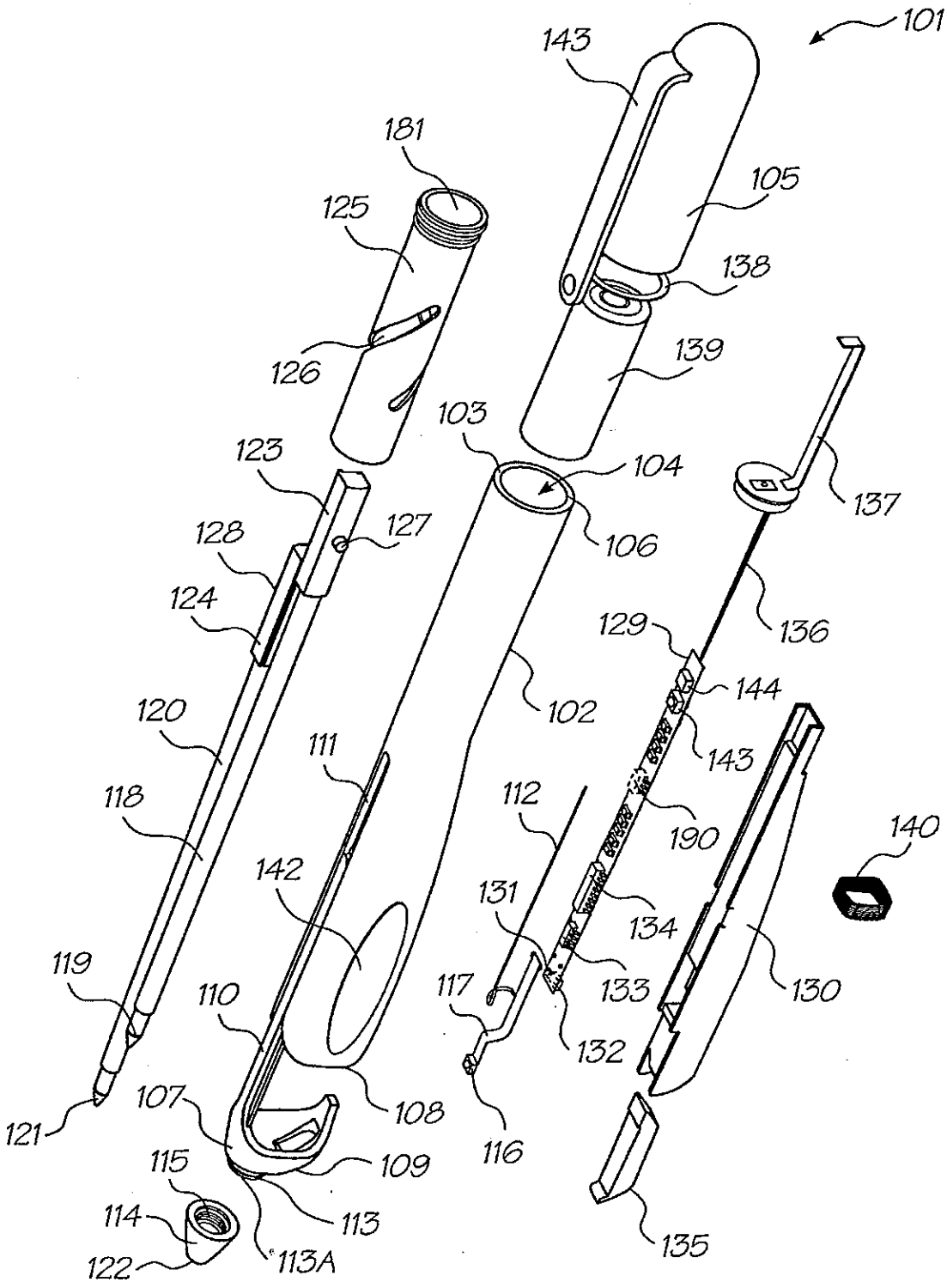
101
143
181
105
125
138
126
139
103
104
123
137
127
106
128
124
129
136
102
120
144
111
143
118
112
190
140
142
131
134
119
117
133
130
110
132
107
108
116
109
115
135
114
113
122
113A

FIG. 9

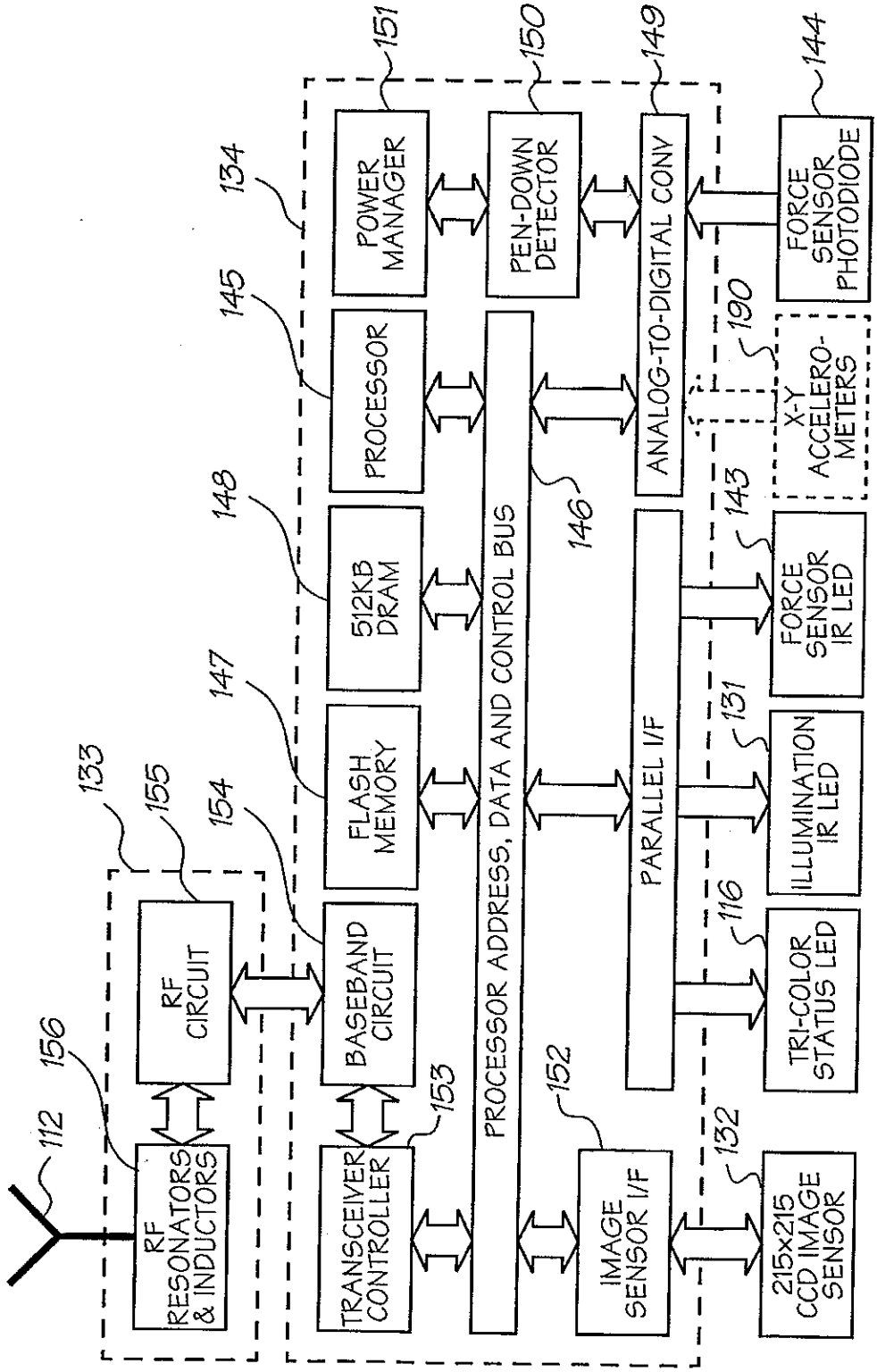
112
156
133
155
154
147
148
145
134
151
150
149
144
190
143
146
131
116
153
152
132
RF RESONATORS & INDUCTORS
RF CIRCUIT
BASEBAND CIRCUIT
FLASH MEMORY
512KB DRAM
PROCESSOR
POWER MANAGER
PEN-DOWN DETECTOR
ANALOG-TO-DIGITAL CONV
FORCE SENSOR PHOTODIODE
X-Y ACCELERO-METERS
FORCE SENSOR IR LED
ILLUMINATION IR LED
TRI-COLOR STATUS LED
PROCESSOR ADDRESS, DATA AND CONTROL BUS
PARALLEL I/F
TRANSCEIVER CONTROLLER
IMAGE SENSOR I/F
215x215 CCD IMAGE SENSOR

FIG. 10

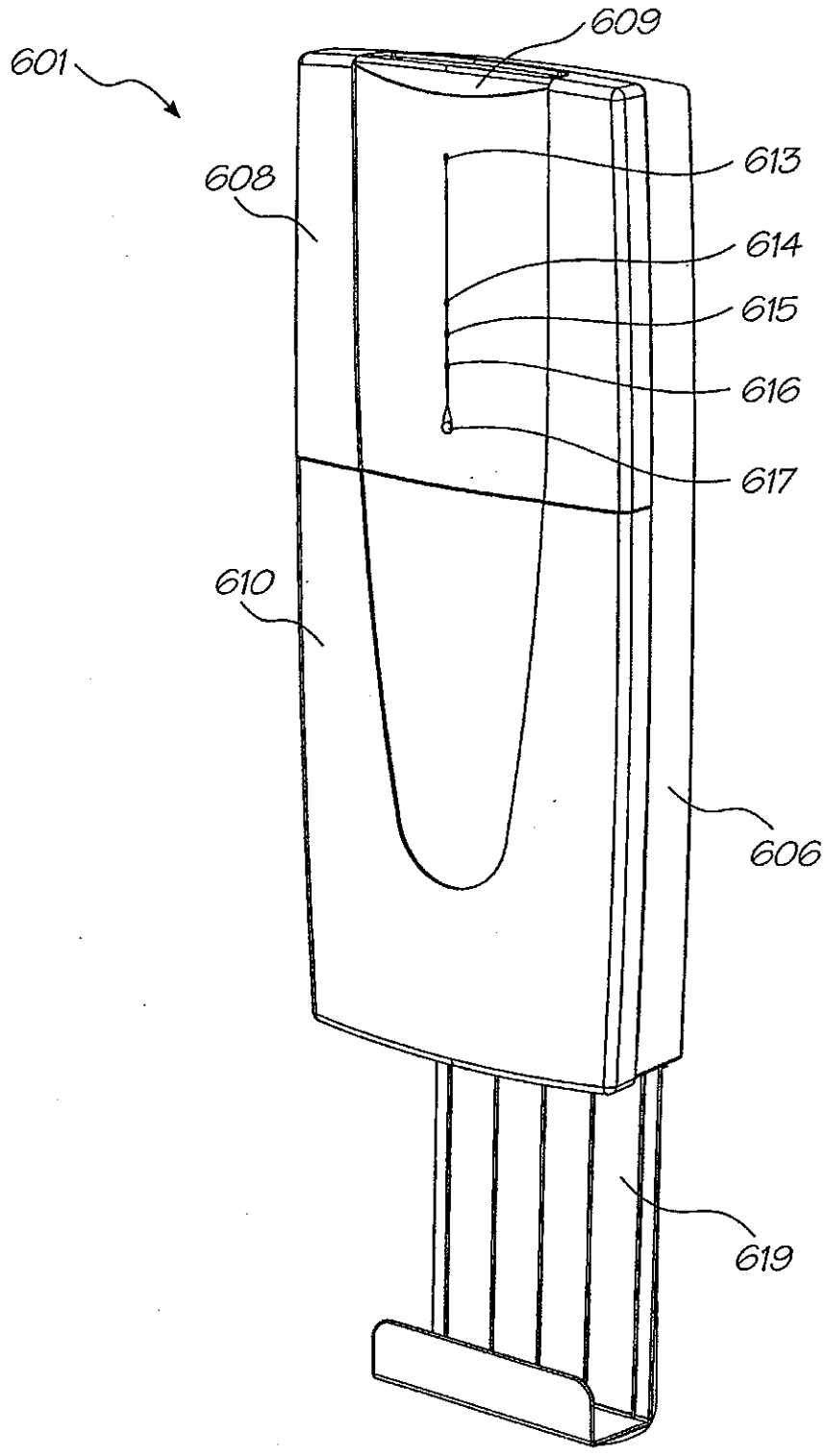

FIG. 11

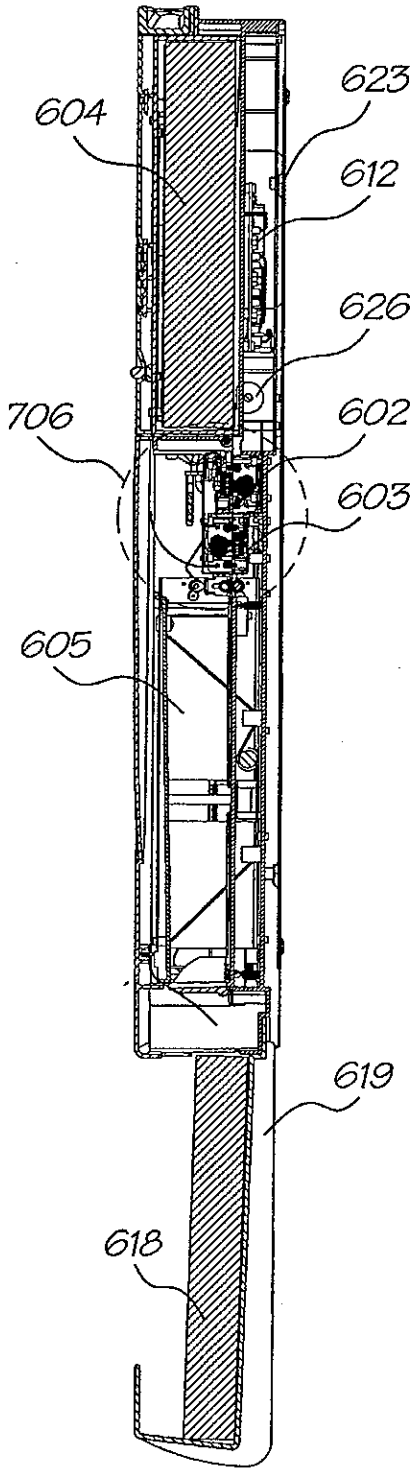

FIG. 12

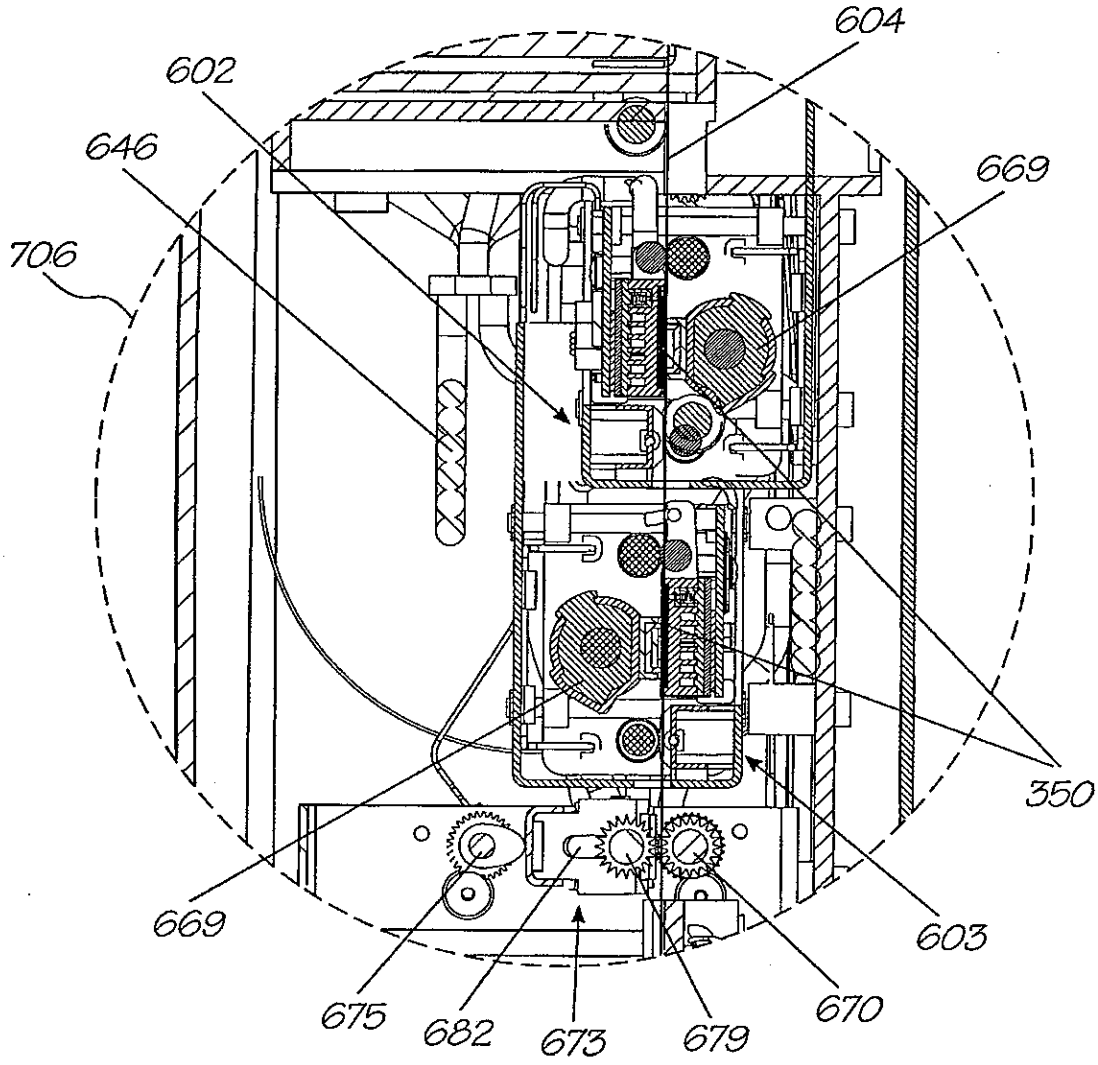

FIG. 12a

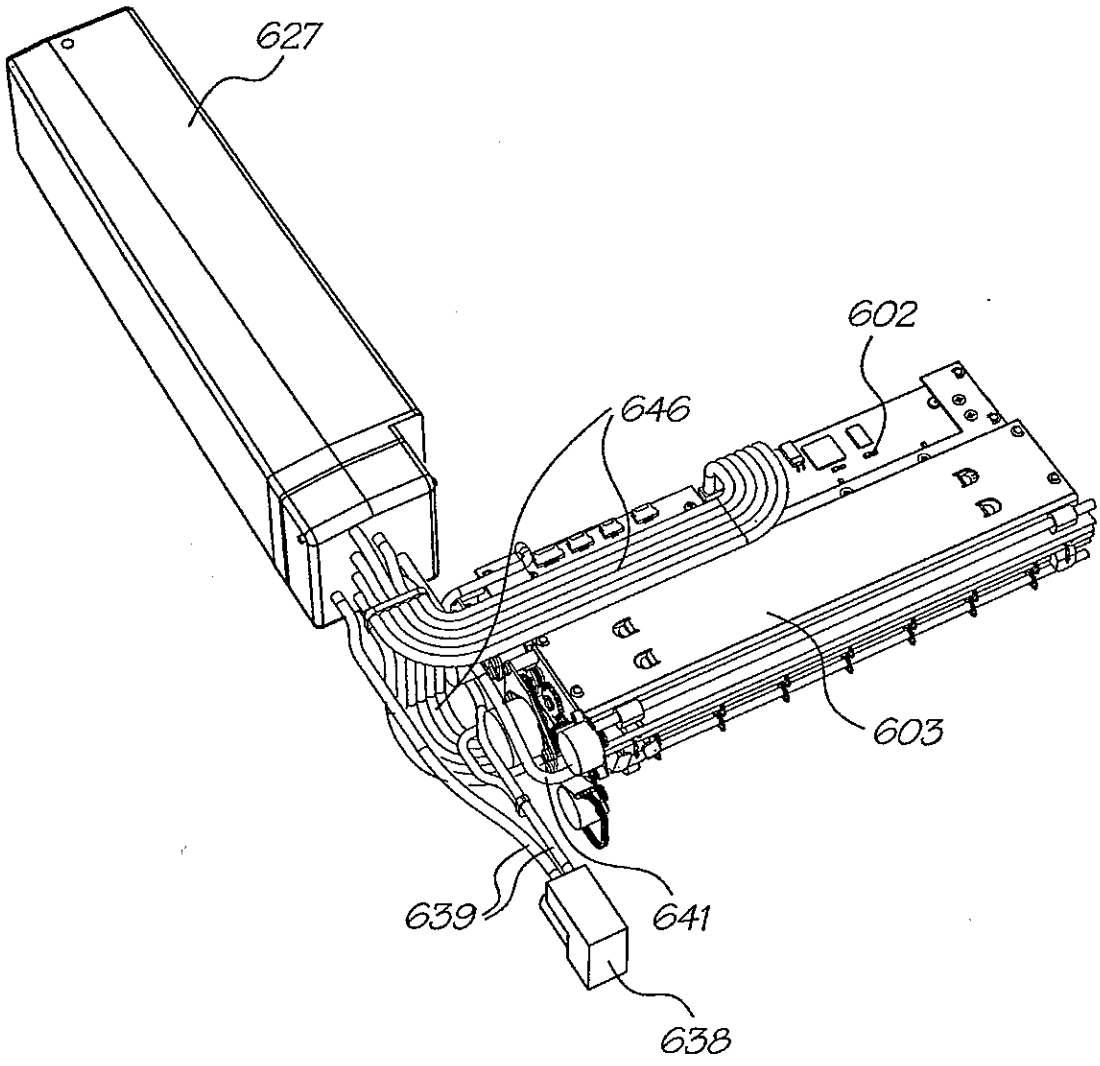

FIG. 13

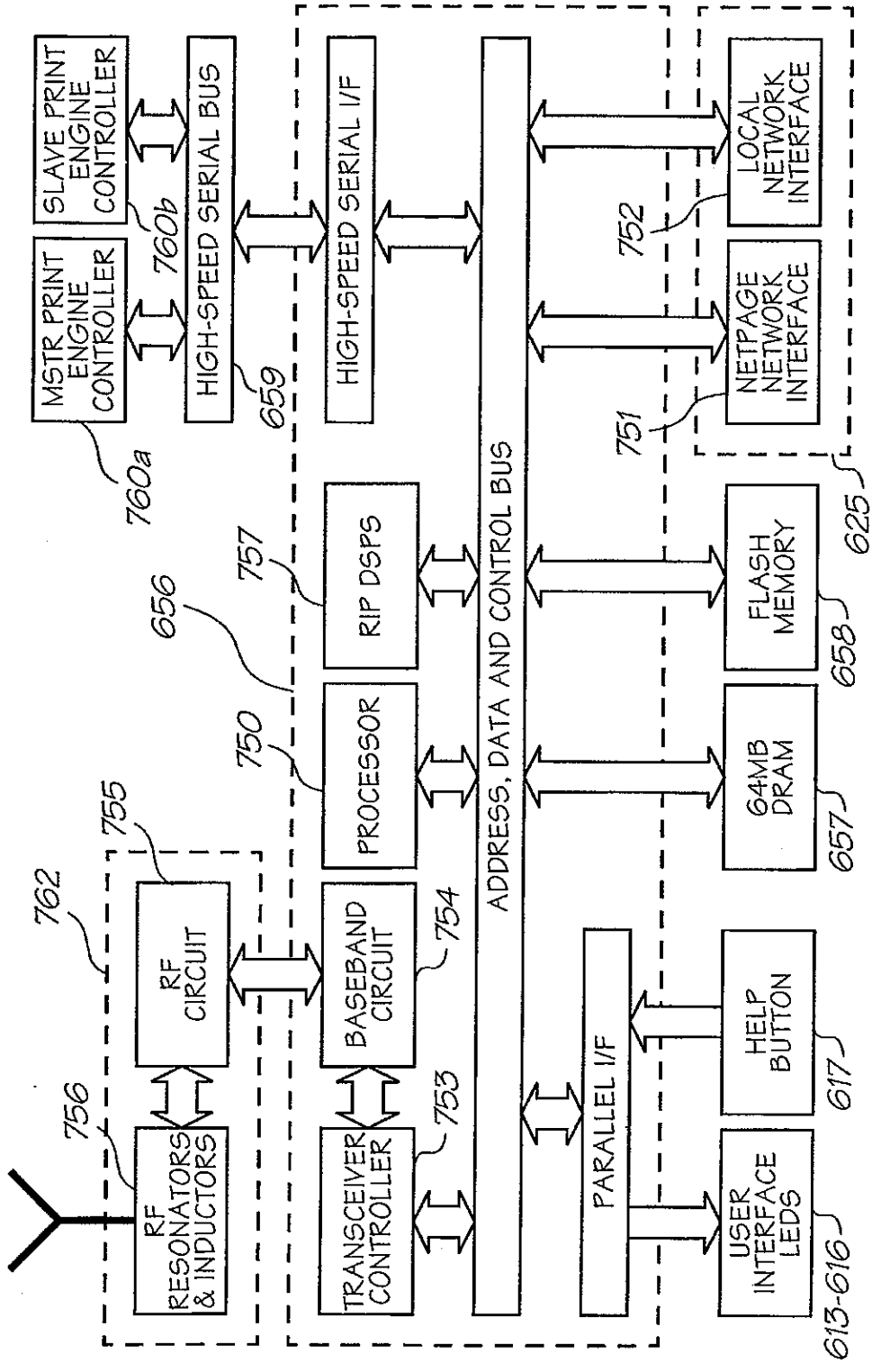
SLAVE PRINT ENGINE CONTROLLER
MSTR PRINT ENGINE CONTROLLER
760b
760a
HIGH-SPEED SERIAL BUS
659
HIGH-SPEED SERIAL I/F
752
LOCAL NETWORK INTERFACE
751
NETPAGE NETWORK INTERFACE
625
757
RIP DSPS
656
750
PROCESSOR
ADDRESS, DATA AND CONTROL BUS
FLASH MEMORY
658
64MB DRAM
657
762
755
RF CIRCUIT
BASEBAND CIRCUIT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

FIG. 14

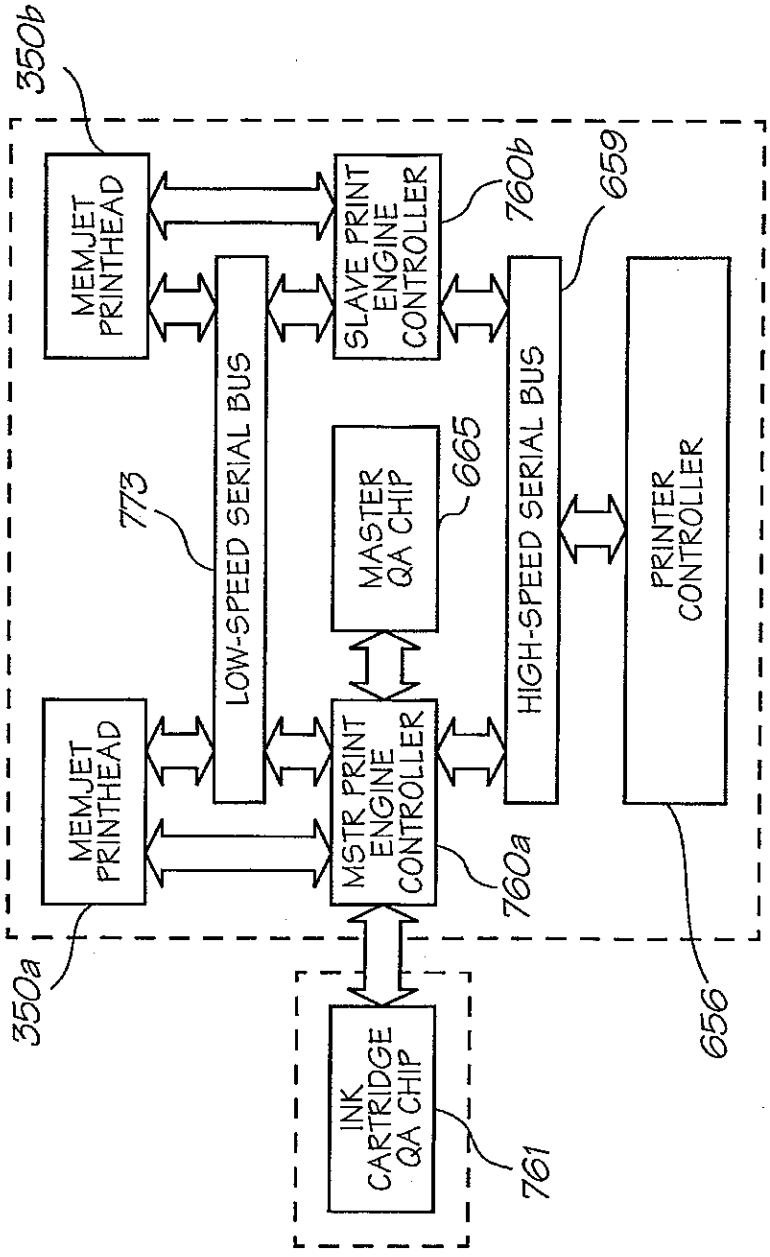
350b
MEMJET PRINTHEAD
SLAVE PRINT ENGINE CONTROLLER
760b
659
773
LOW-SPEED SERIAL BUS
MASTER QA CHIP
665
HIGH-SPEED SERIAL BUS
PRINTER CONTROLLER
MEMJET PRINTHEAD
MSTR PRINT ENGINE CONTROLLER
760a
350a
656
INK CARTRIDGE QA CHIP
761

FIG. 15

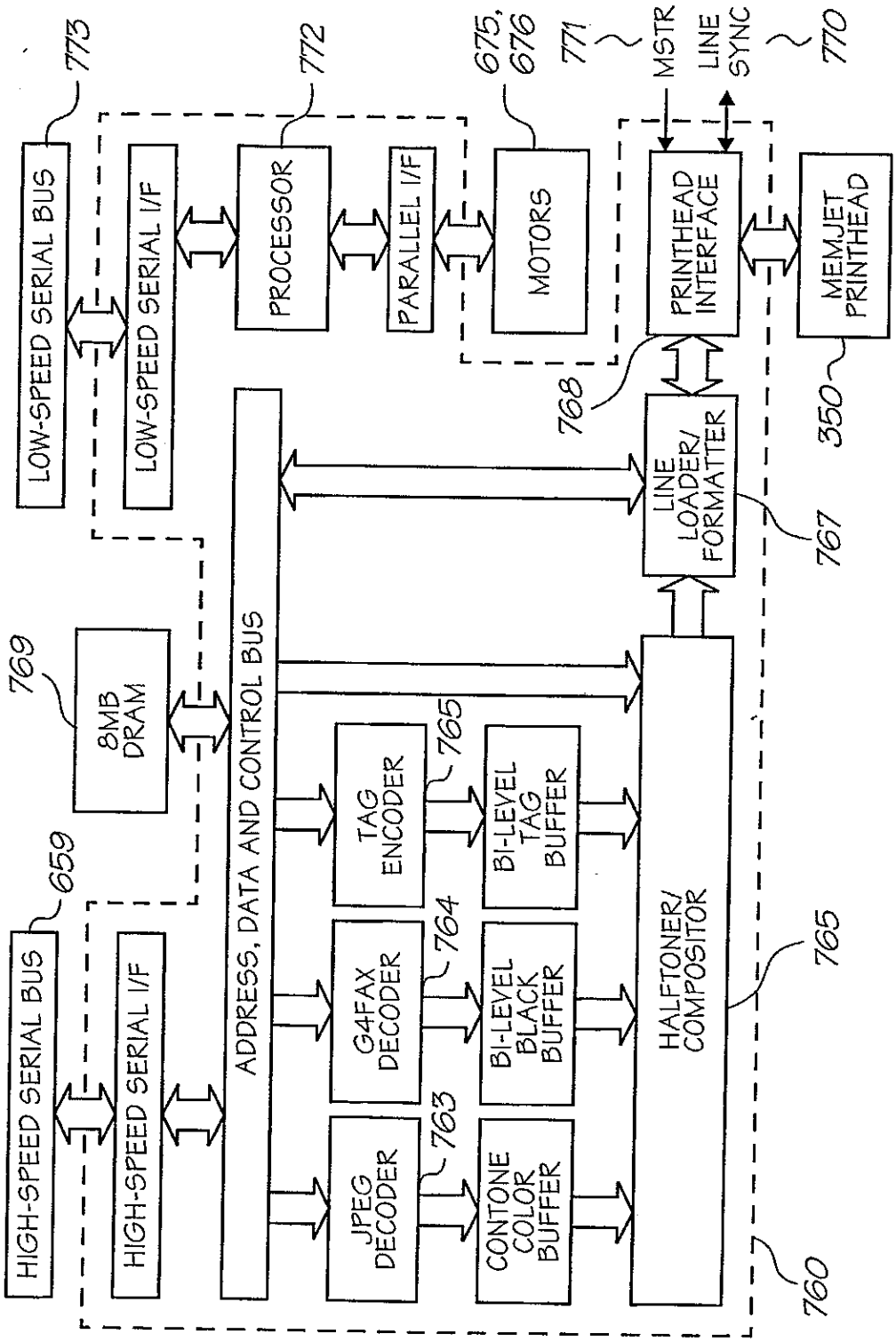
HIGH-SPEED SERIAL BUS
659
HIGH-SPEED SERIAL I/F
ADDRESS, DATA AND CONTROL BUS
8MB DRAM
769
LOW-SPEED SERIAL BUS
773
LOW-SPEED SERIAL I/F
PROCESSOR
772
PARALLEL I/F
675, 676
MOTORS
771
MSTR
LINE SYNC
770
PRINTHEAD INTERFACE
MEMJET PRINTHEAD
350
768
LINE LOADER/ FORMATTER
767
JPEG DECODER
763
G4FAX DECODER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

FIG. 16

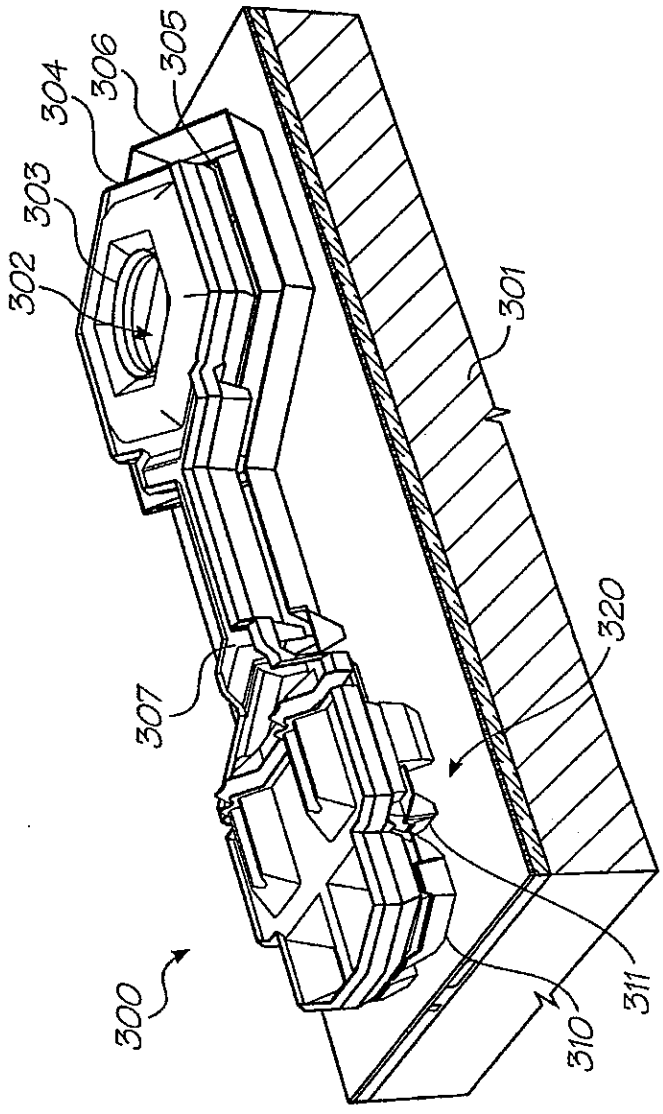

FIG. 17

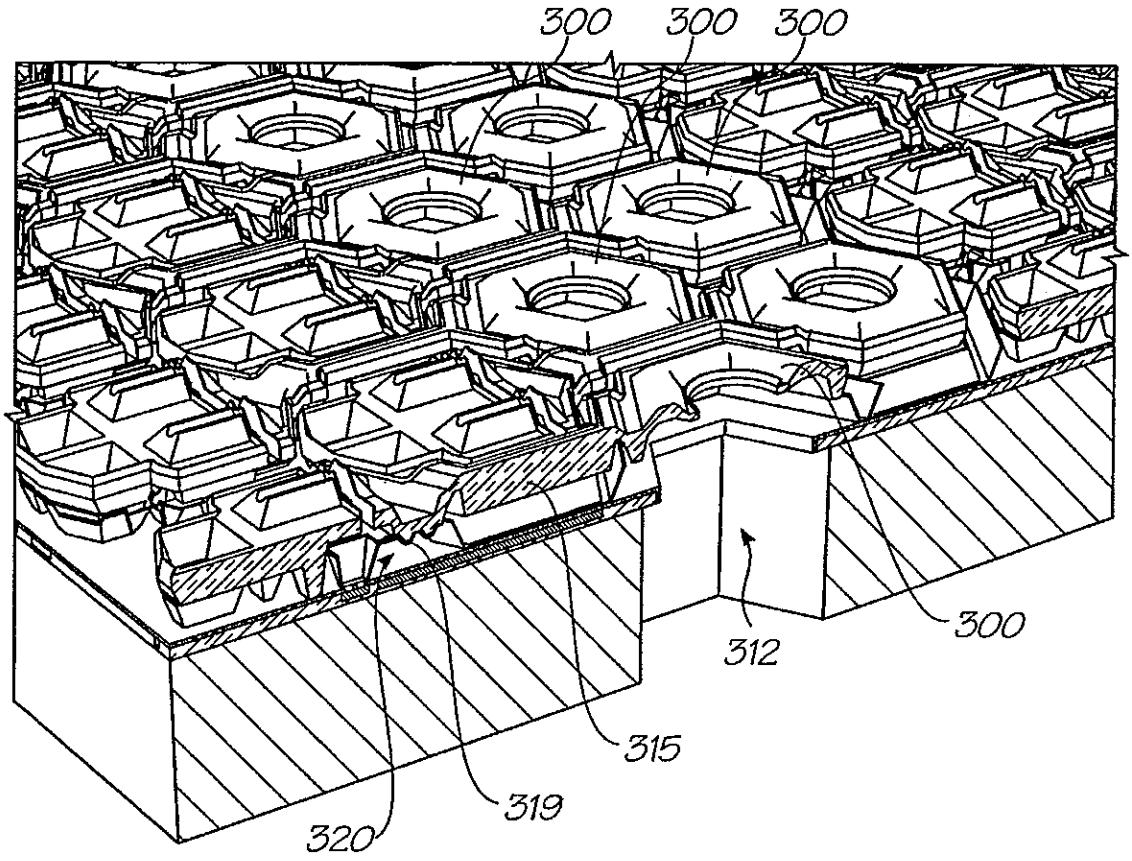

FIG. 18

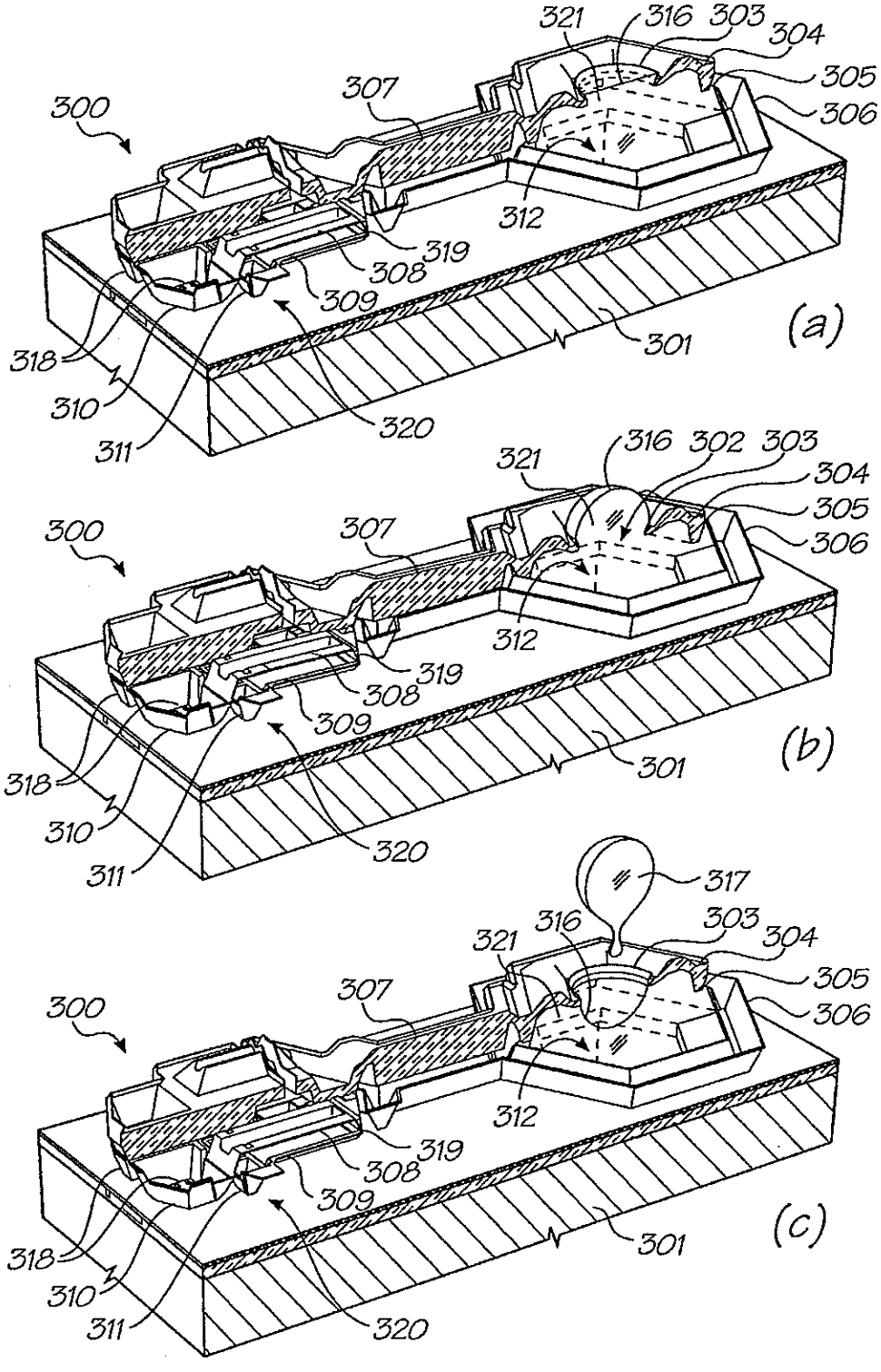
321
316
303
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(a)
316
302
303
321
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(b)
317
316
303
321
304
305
307
306
300
312
319
308
309
318
310
311
320
301
(c)

FIG. 19

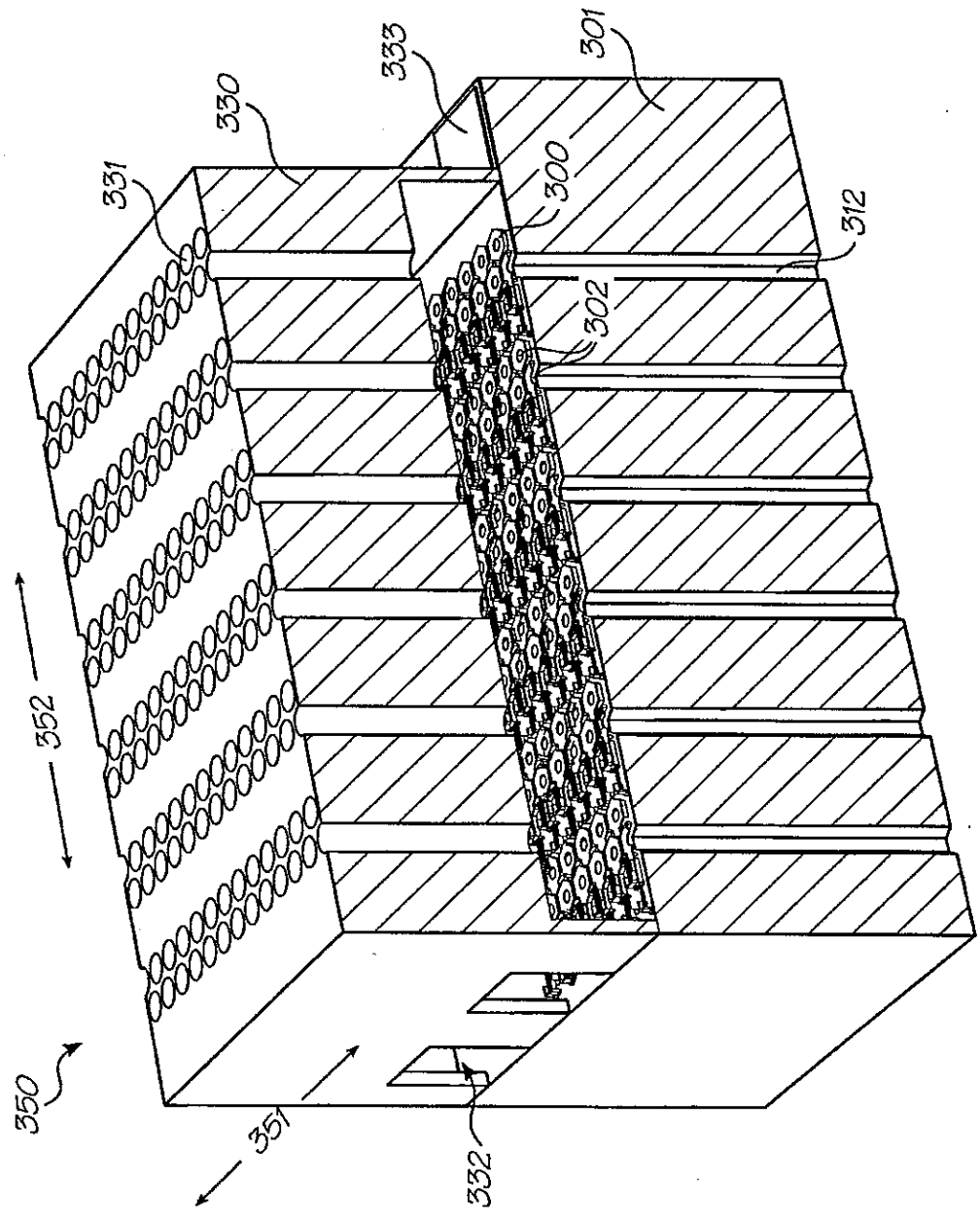

FIG. 20

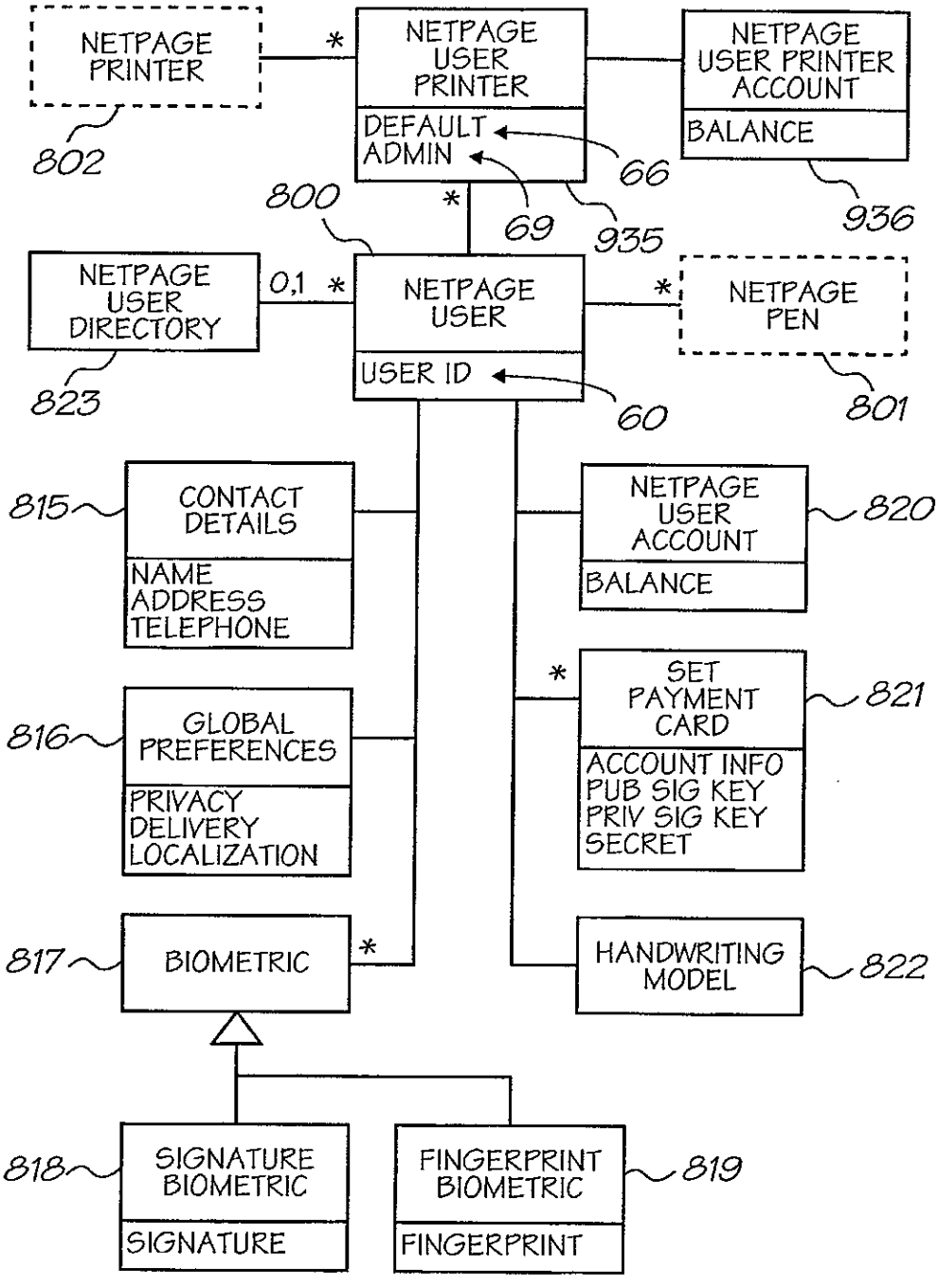
NETPAGE PRINTER
802
*
NETPAGE USER PRINTER
DEFAULT
ADMIN
66
69
NETPAGE USER PRINTER ACCOUNT
BALANCE
936
935
800
*
NETPAGE USER DIRECTORY
823
0,1 *
NETPAGE USER
USER ID
60
*
NETPAGE PEN
801
815
CONTACT DETAILS
NAME
ADDRESS
TELEPHONE
NETPAGE USER ACCOUNT
BALANCE
820
816
GLOBAL PREFERENCES
PRIVACY
DELIVERY
LOCALIZATION
*
SET PAYMENT CARD
ACCOUNT INFO
PUB SIG KEY
PRIV SIG KEY
SECRET
821
817
BIOMETRIC
*
HANDWRITING MODEL
822
818
SIGNATURE BIOMETRIC
SIGNATURE
FINGERPRINT BIOMETRIC
FINGERPRINT
819

FIG. 21

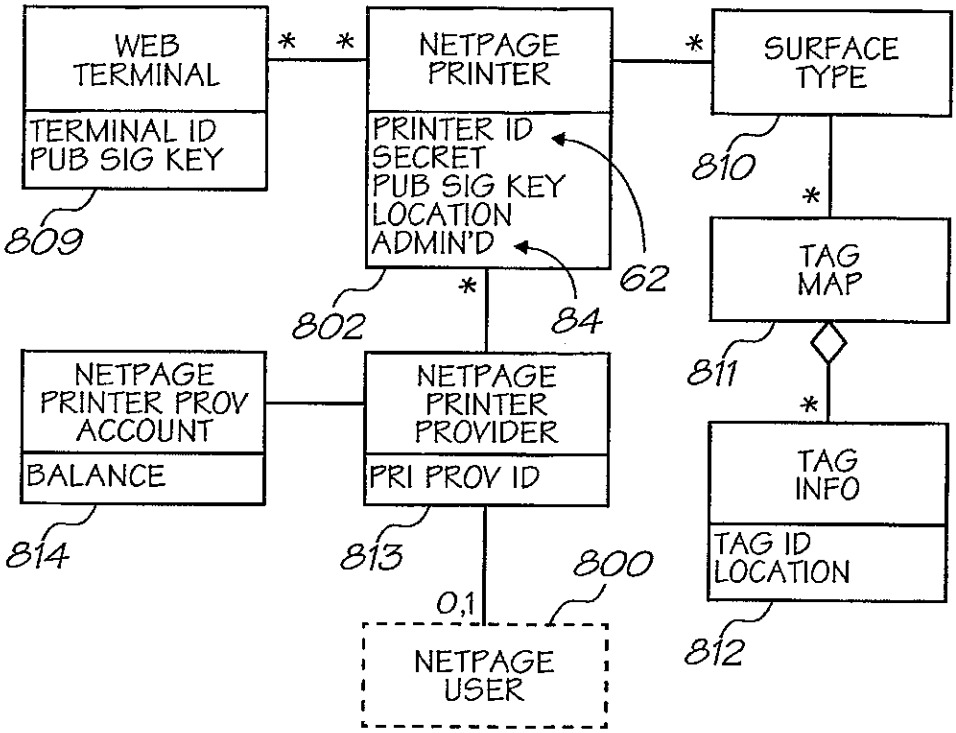
WEB TERMINAL
TERMINAL ID
PUB SIG KEY
809
NETPAGE PRINTER
PRINTER ID
SECRET
PUB SIG KEY
LOCATION
ADMIN'D
802
62
84
SURFACE TYPE
810
TAG MAP
811
TAG INFO
TAG ID
LOCATION
812
NETPAGE PRINTER PROV ACCOUNT
BALANCE
814
NETPAGE PRINTER PROVIDER
PRI PROV ID
813
800
0,1
NETPAGE USER
*

FIG. 22

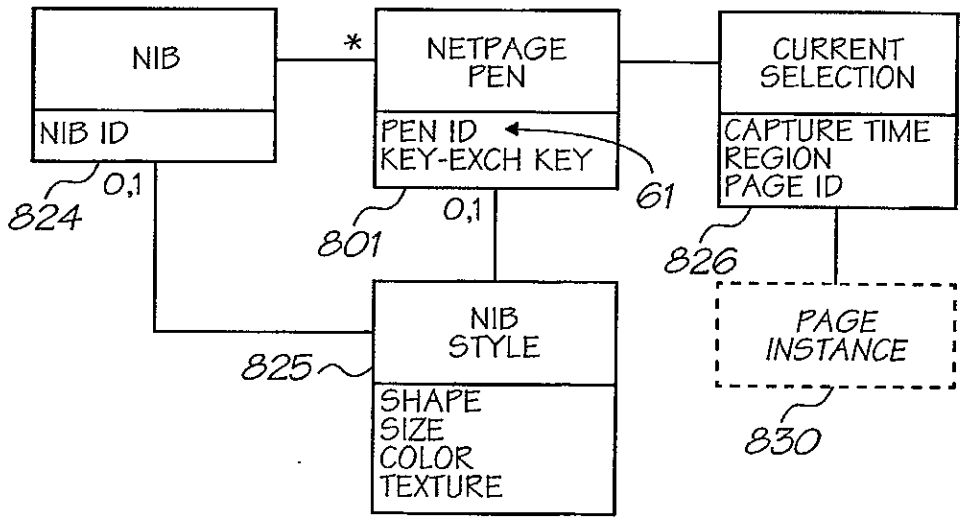
NIB
NIB ID
824
0,1
NETPAGE PEN
PEN ID
KEY-EXCH KEY
801
61
CURRENT SELECTION
CAPTURE TIME
REGION
PAGE ID
826
NIB STYLE
825
SHAPE
SIZE
COLOR
TEXTURE
PAGE INSTANCE
830
*

FIG. 23

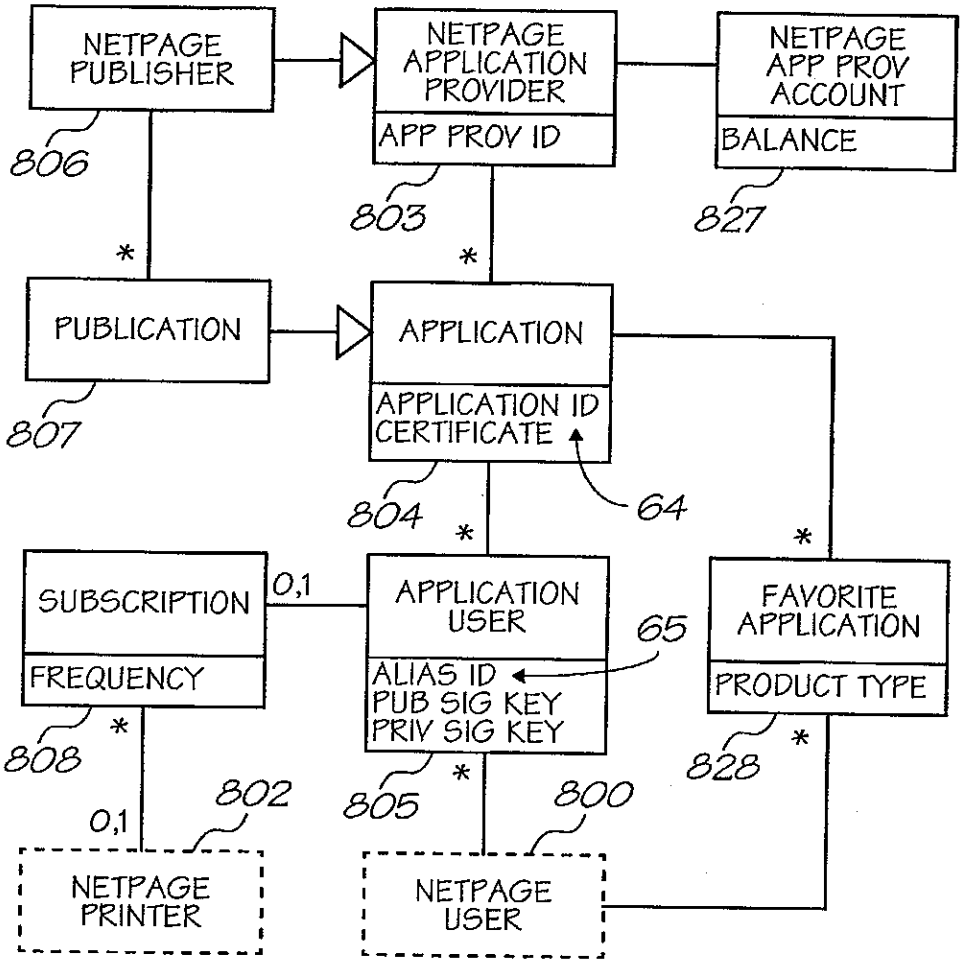
NETPAGE PUBLISHER
806
NETPAGE APPLICATION PROVIDER
APP PROV ID
803
NETPAGE APP PROV ACCOUNT
BALANCE
827
PUBLICATION
807
APPLICATION
APPLICATION ID
CERTIFICATE
804
64
SUBSCRIPTION
FREQUENCY
808
0,1
APPLICATION USER
ALIAS ID
PUB SIG KEY
PRIV SIG KEY
805
65
FAVORITE APPLICATION
PRODUCT TYPE
828
802
800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

FIG. 24

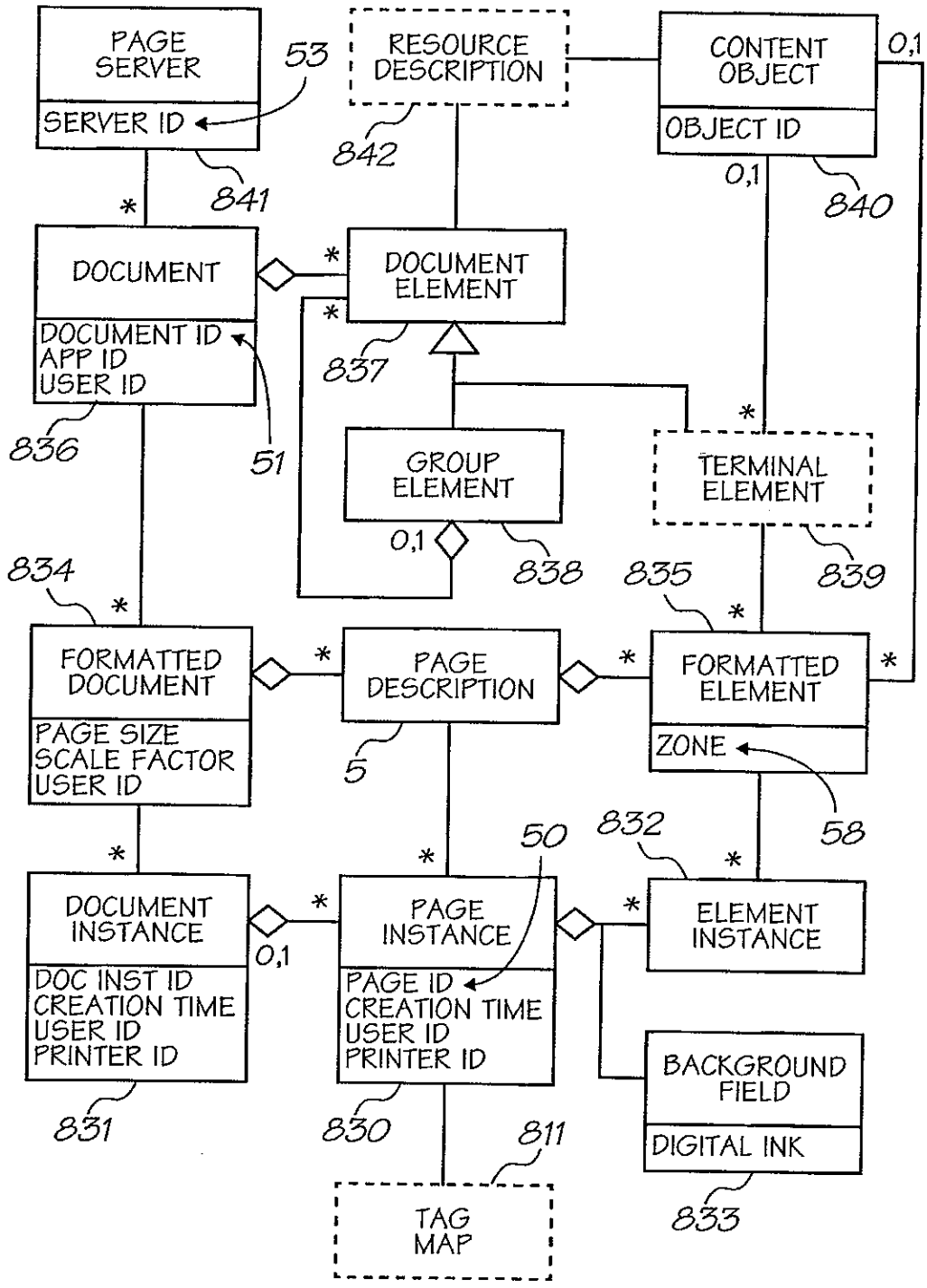
PAGE SERVER
SERVER ID
53
841
RESOURCE DESCRIPTION
842
CONTENT OBJECT
OBJECT ID
0,1
840
DOCUMENT
DOCUMENT ID
APP ID
USER ID
836
51
DOCUMENT ELEMENT
837
GROUP ELEMENT
0,1
838
TERMINAL ELEMENT
839
834
FORMATTED DOCUMENT
PAGE SIZE
SCALE FACTOR
USER ID
PAGE DESCRIPTION
5
835
FORMATTED ELEMENT
ZONE
58
832
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

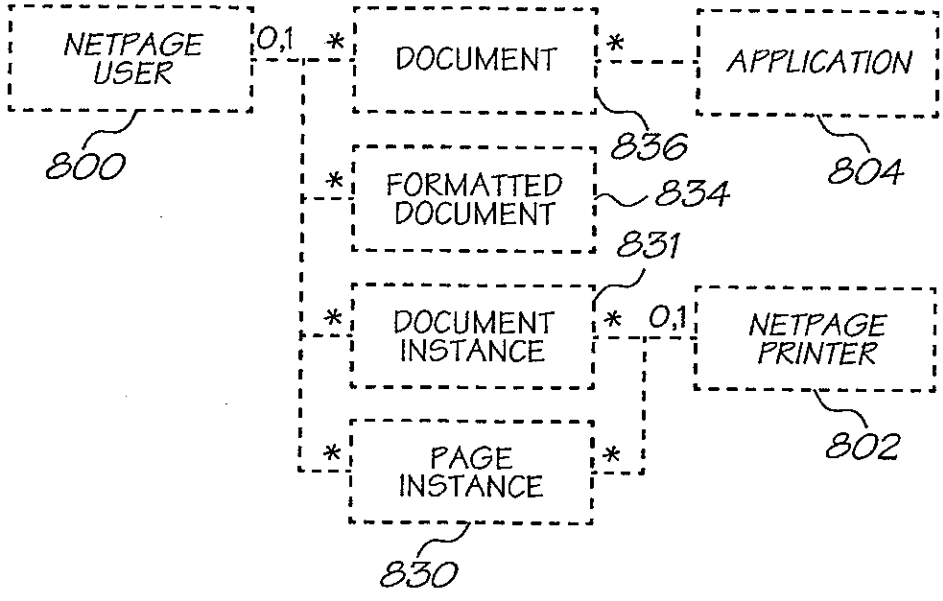
NETPAGE USER
0,1
*
DOCUMENT
*
APPLICATION
800
836
804
*
FORMATTED DOCUMENT
834
831
*
DOCUMENT INSTANCE
*
0,1
NETPAGE PRINTER
802
*
PAGE INSTANCE
*
830

FIG. 26

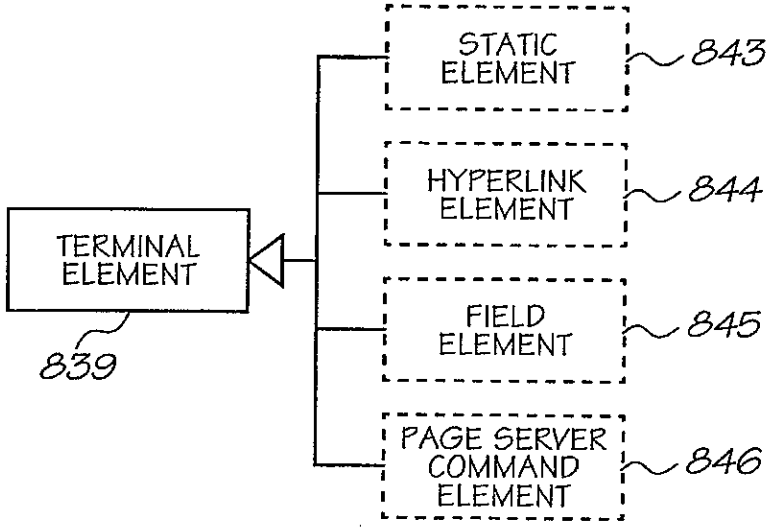
STATIC ELEMENT
843
HYPERLINK ELEMENT
844
TERMINAL ELEMENT
839
FIELD ELEMENT
845
PAGE SERVER COMMAND ELEMENT
846

FIG. 27

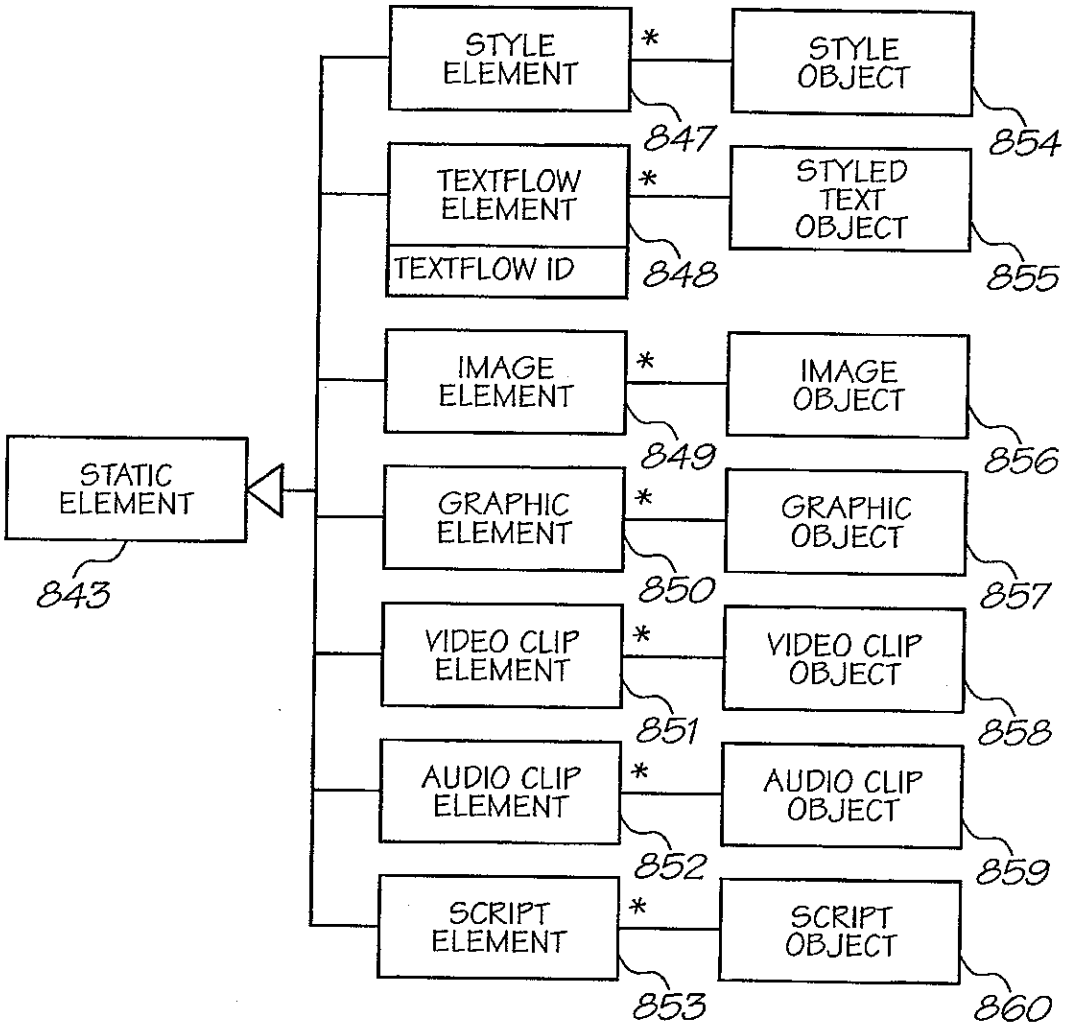
STYLE ELEMENT
*
STYLE OBJECT
847
854
TEXTFLOW ELEMENT
TEXTFLOW ID
*
STYLED TEXT OBJECT
848
855
IMAGE ELEMENT
*
IMAGE OBJECT
849
856
STATIC ELEMENT
843
GRAPHIC ELEMENT
*
GRAPHIC OBJECT
850
857
VIDEO CLIP ELEMENT
*
VIDEO CLIP OBJECT
851
858
AUDIO CLIP ELEMENT
*
AUDIO CLIP OBJECT
852
859
SCRIPT ELEMENT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

FIG. 28

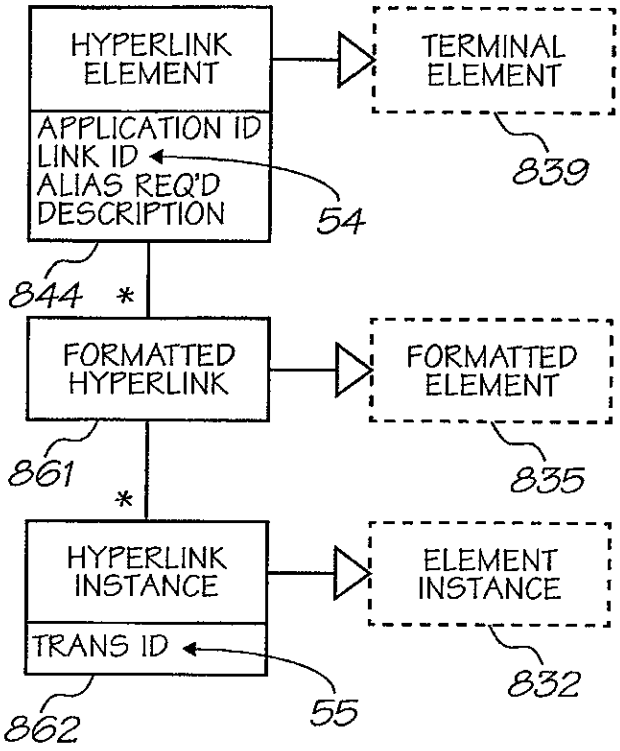
HYPERLINK ELEMENT
APPLICATION ID
LINK ID
ALIAS REQ'D
DESCRIPTION
54
844
*
TERMINAL ELEMENT
839
FORMATTED HYPERLINK
861
*
FORMATTED ELEMENT
835
HYPERLINK INSTANCE
TRANS ID
55
862
ELEMENT INSTANCE
832

FIG. 29

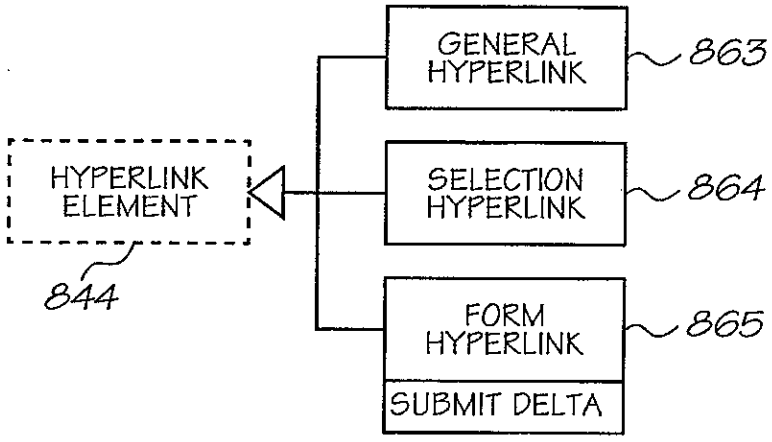
HYPERLINK ELEMENT
844
GENERAL HYPERLINK
863
SELECTION HYPERLINK
864
FORM HYPERLINK
SUBMIT DELTA
865

FIG. 30

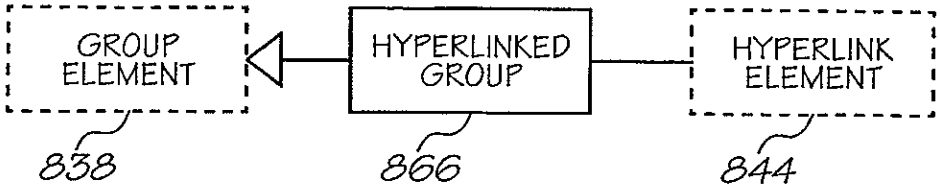
GROUP ELEMENT
HYPERLINKED GROUP
HYPERLINK ELEMENT
838
866
844

FIG. 31

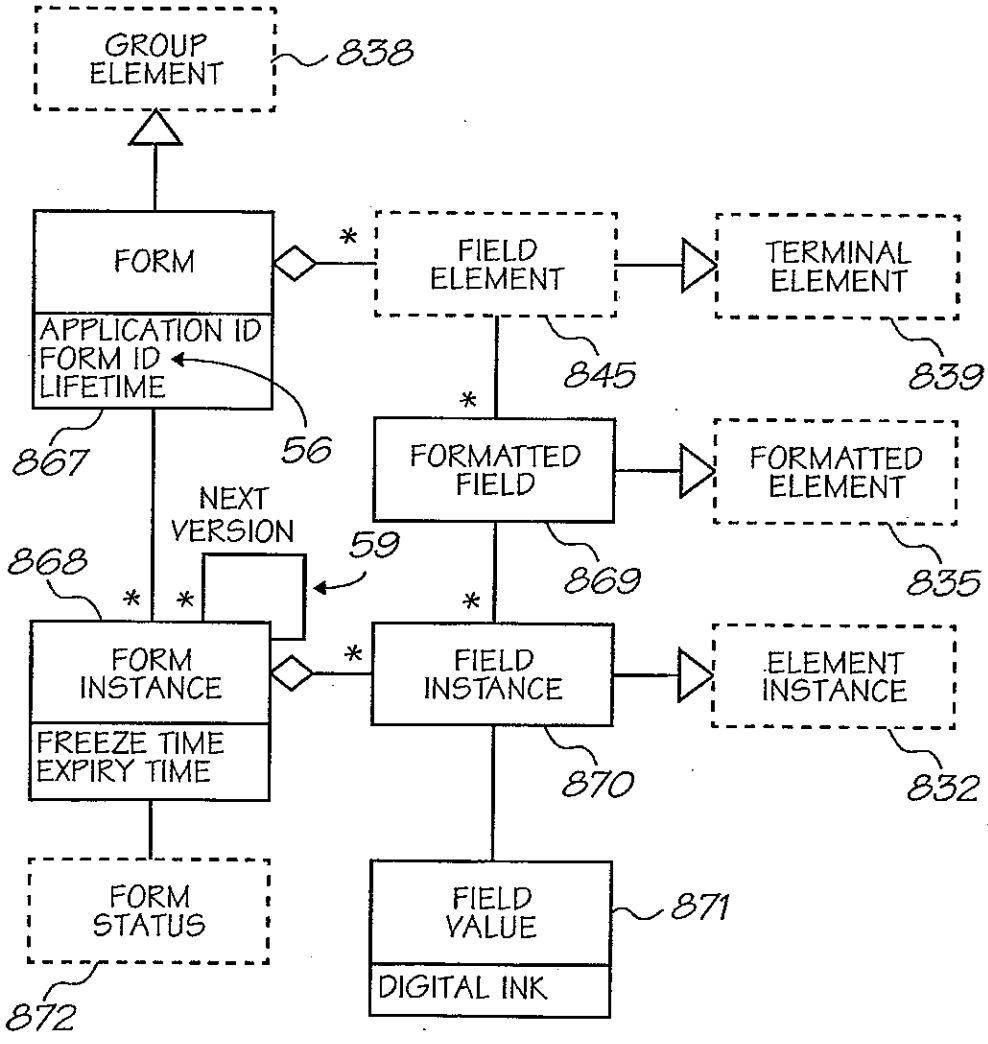
GROUP ELEMENT
838
FORM
APPLICATION ID
FORM ID
LIFETIME
867
56
FIELD ELEMENT
845
TERMINAL ELEMENT
839
FORMATTED FIELD
869
FORMATTED ELEMENT
835
NEXT VERSION
59
868
FORM INSTANCE
FREEZE TIME
EXPIRY TIME
FIELD INSTANCE
870
ELEMENT INSTANCE
832
FORM STATUS
872
FIELD VALUE
DIGITAL INK
871

FIG. 32

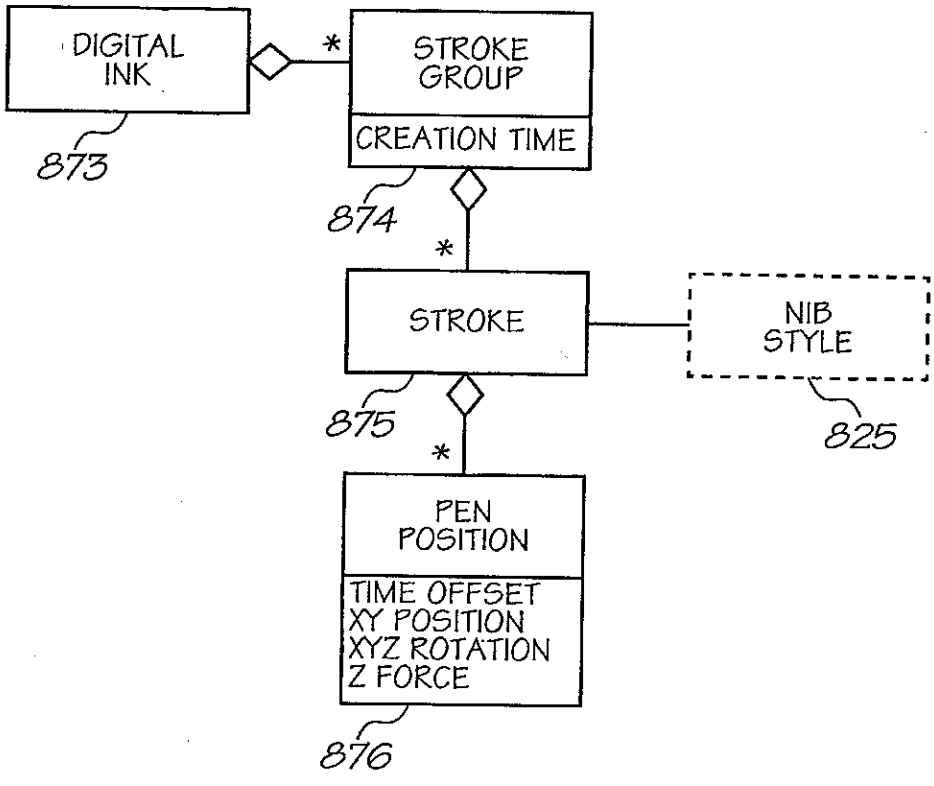
DIGITAL INK
873
*
STROKE GROUP
CREATION TIME
874
*
STROKE
875
NIB STYLE
825
*
PEN POSITION
TIME OFFSET
XY POSITION
XYZ ROTATION
Z FORCE
876

FIG. 33

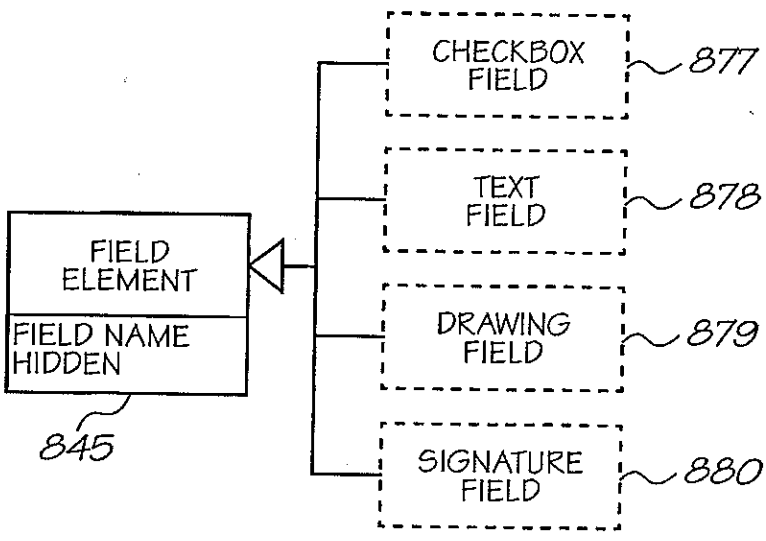
FIELD ELEMENT
FIELD NAME
HIDDEN
845
CHECKBOX FIELD
877
TEXT FIELD
878
DRAWING FIELD
879
SIGNATURE FIELD
880

FIG. 34

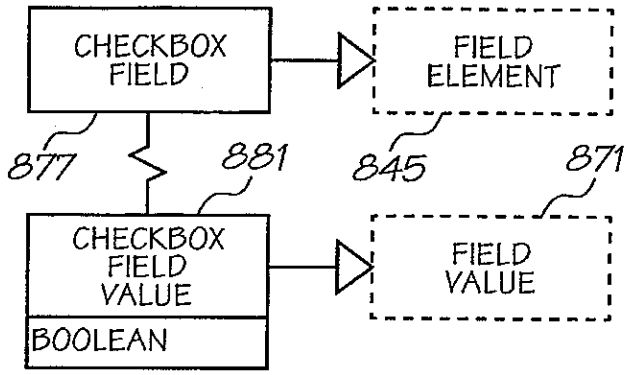

FIG. 35

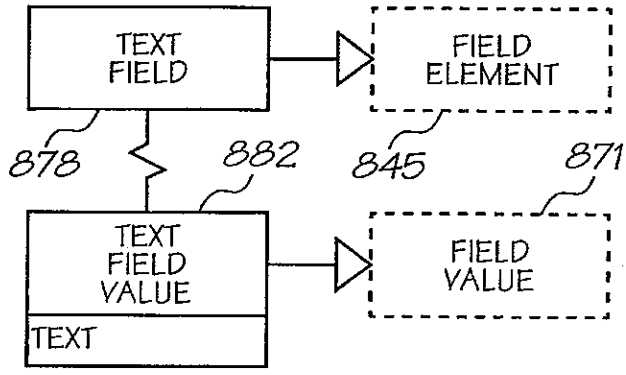

FIG. 36

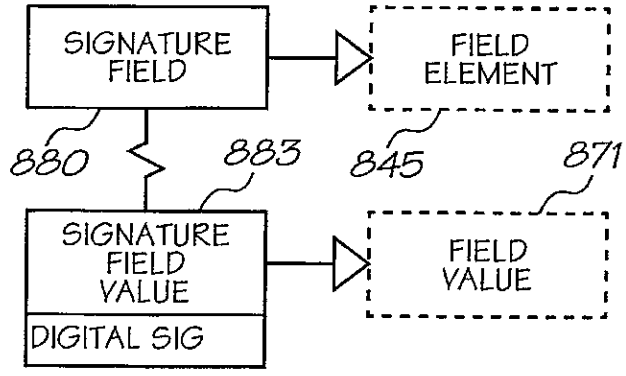

FIG. 37

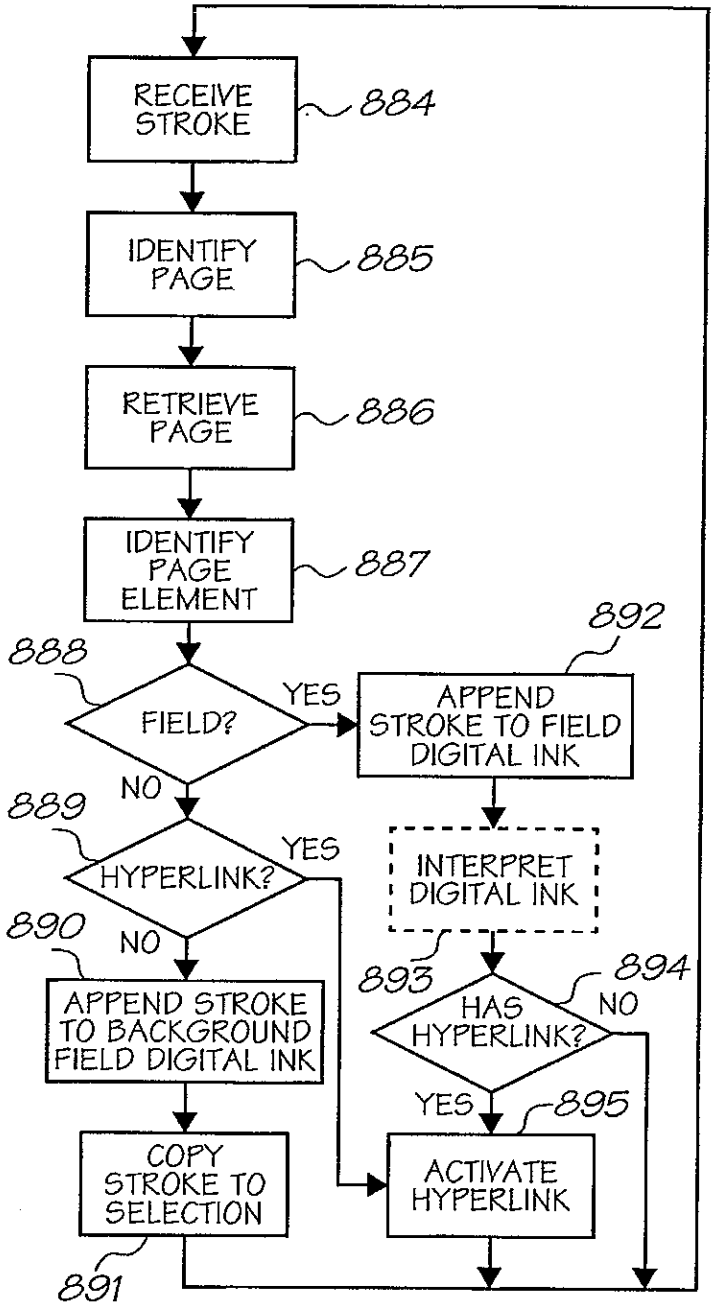
RECEIVE STROKE
884
IDENTIFY PAGE
885
RETRIEVE PAGE
886
IDENTIFY PAGE ELEMENT
887
888
FIELD?
YES
892
APPEND STROKE TO FIELD DIGITAL INK
NO
889
HYPERLINK?
YES
INTERPRET DIGITAL INK
890
NO
893
HAS HYPERLINK?
894
NO
YES
895
APPEND STROKE TO BACKGROUND FIELD DIGITAL INK
COPY STROKE TO SELECTION
ACTIVATE HYPERLINK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

FIG. 38

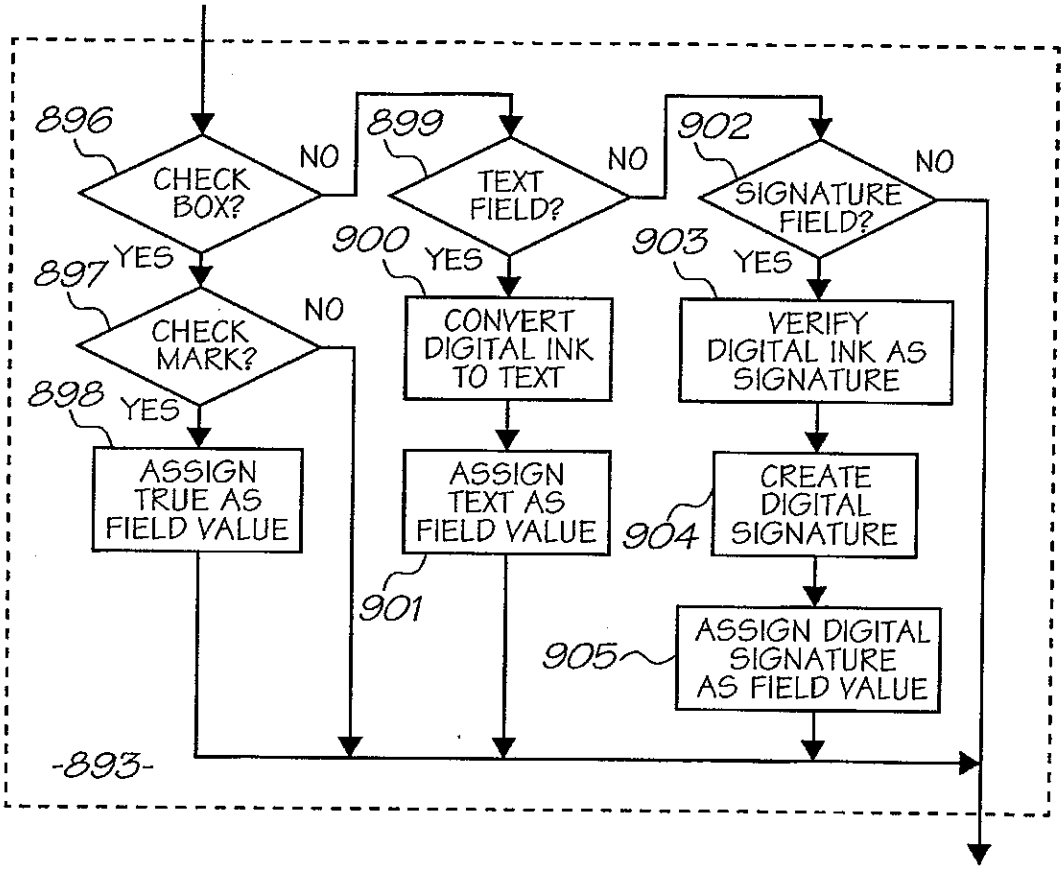
896
CHECK BOX?
NO
899
TEXT FIELD?
NO
902
SIGNATURE FIELD?
NO
897
YES
CHECK MARK?
NO
900
YES
CONVERT DIGITAL INK TO TEXT
903
YES
VERIFY DIGITAL INK AS SIGNATURE
898
YES
ASSIGN TRUE AS FIELD VALUE
ASSIGN TEXT AS FIELD VALUE
901
904
CREATE DIGITAL SIGNATURE
905
ASSIGN DIGITAL SIGNATURE AS FIELD VALUE
-893-

FIG. 38a

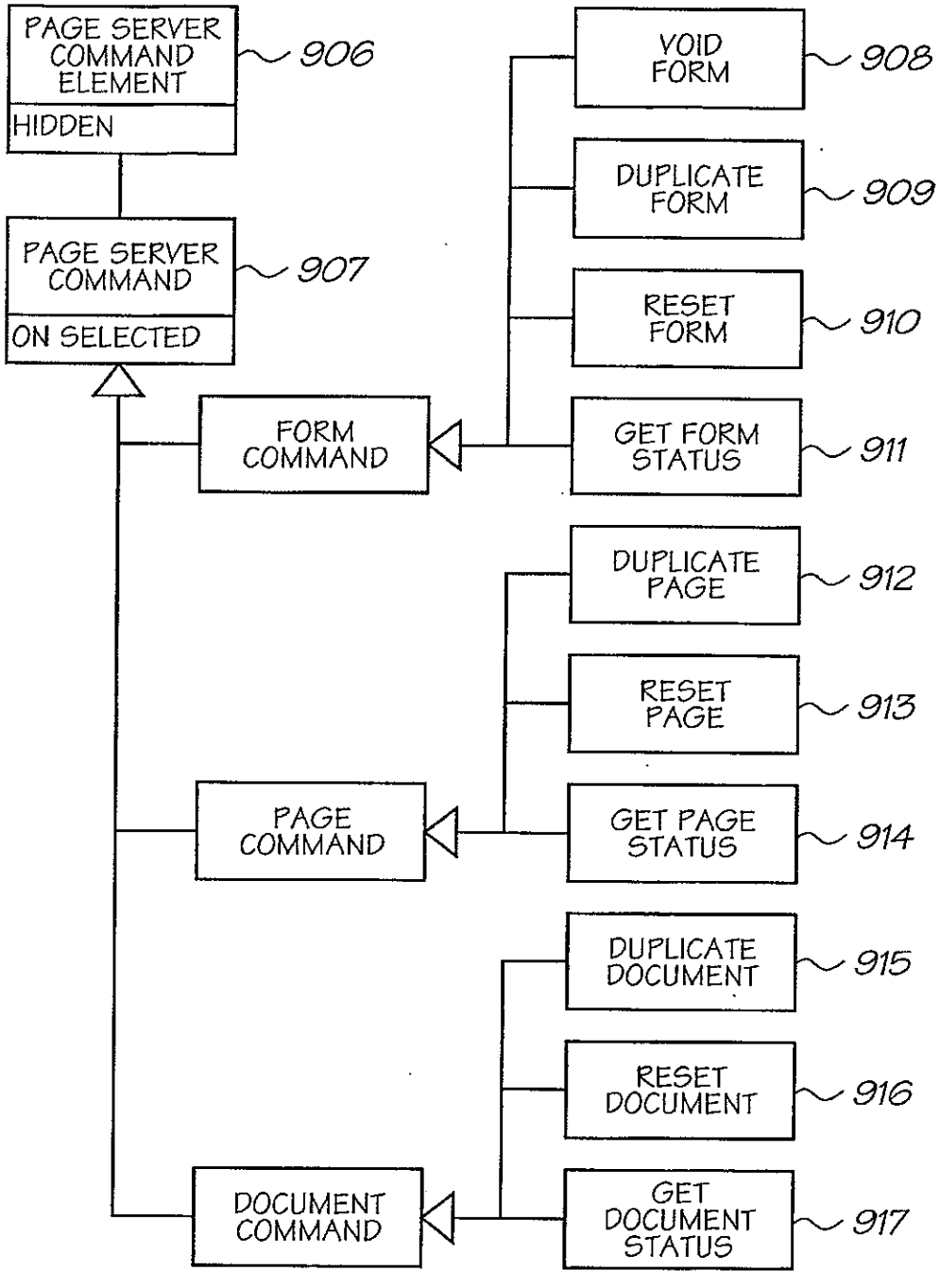
PAGE SERVER COMMAND ELEMENT
HIDDEN
906
PAGE SERVER COMMAND
ON SELECTED
907
FORM COMMAND
VOID FORM
908
DUPLICATE FORM
909
RESET FORM
910
GET FORM STATUS
911
PAGE COMMAND
DUPLICATE PAGE
912
RESET PAGE
913
GET PAGE STATUS
914
DOCUMENT COMMAND
DUPLICATE DOCUMENT
915
RESET DOCUMENT
916
GET DOCUMENT STATUS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

FIG. 39

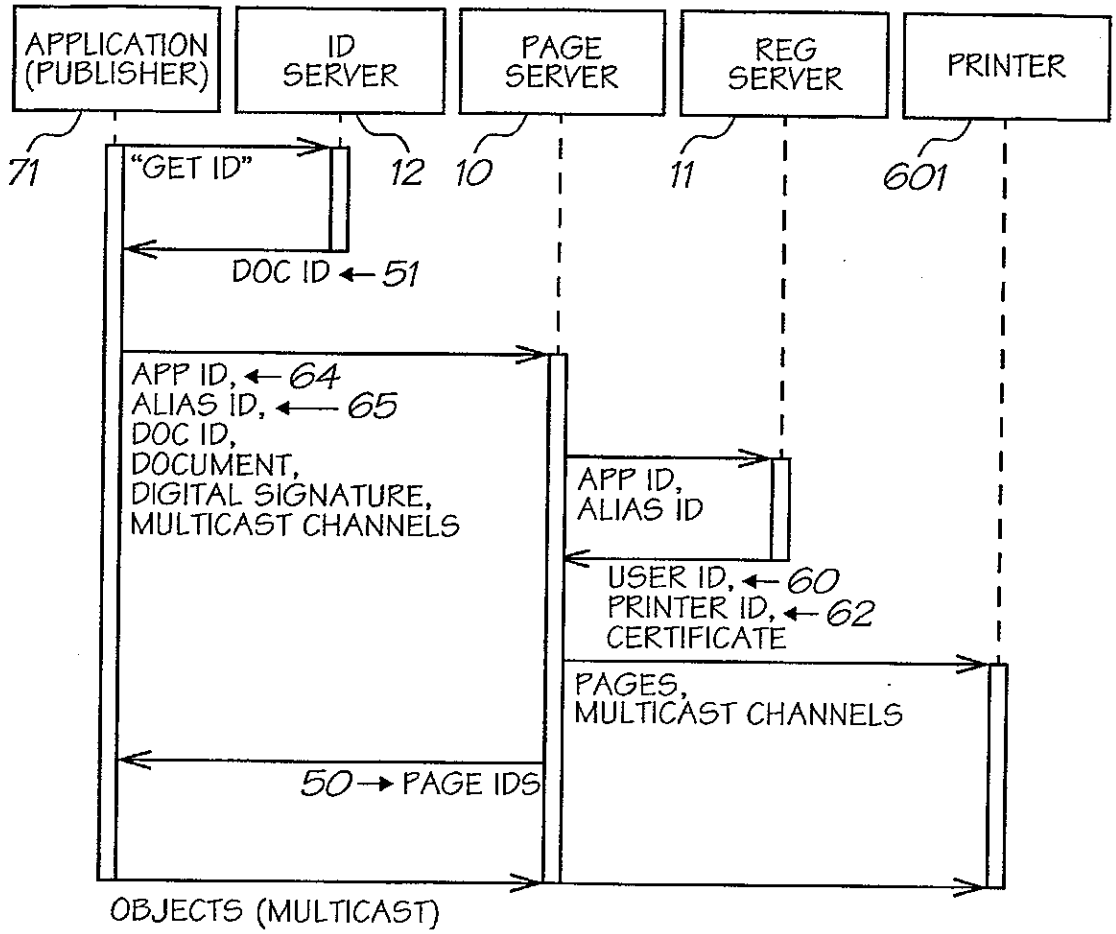
APPLICATION (PUBLISHER)
ID SERVER
PAGE SERVER
REG SERVER
PRINTER
71
12
10
11
601
"GET ID"
DOC ID ← 51
APP ID, ← 64
ALIAS ID, ← 65
DOC ID,
DOCUMENT,
DIGITAL SIGNATURE,
MULTICAST CHANNELS
APP ID,
ALIAS ID
USER ID, ← 60
PRINTER ID, ← 62
CERTIFICATE
PAGES,
MULTICAST CHANNELS
50 → PAGE IDS
OBJECTS (MULTICAST)

FIG. 40

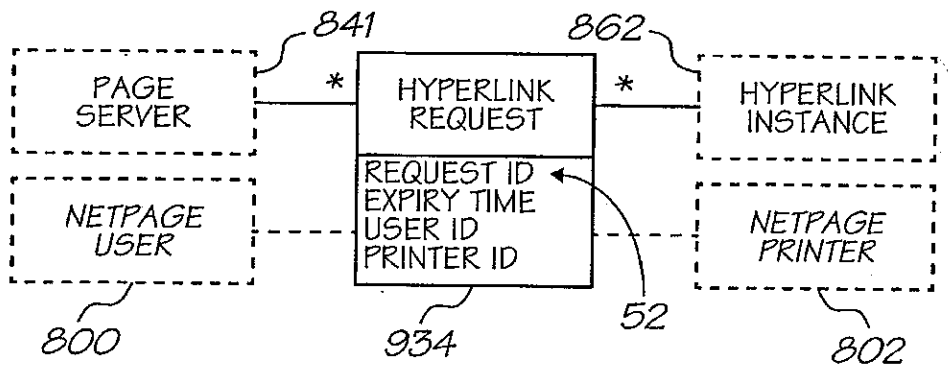
841
862
PAGE SERVER
*
HYPERLINK REQUEST
*
HYPERLINK INSTANCE
REQUEST ID
EXPIRY TIME
USER ID
PRINTER ID
NETPAGE USER
NETPAGE PRINTER
800
934
52
802

FIG. 41

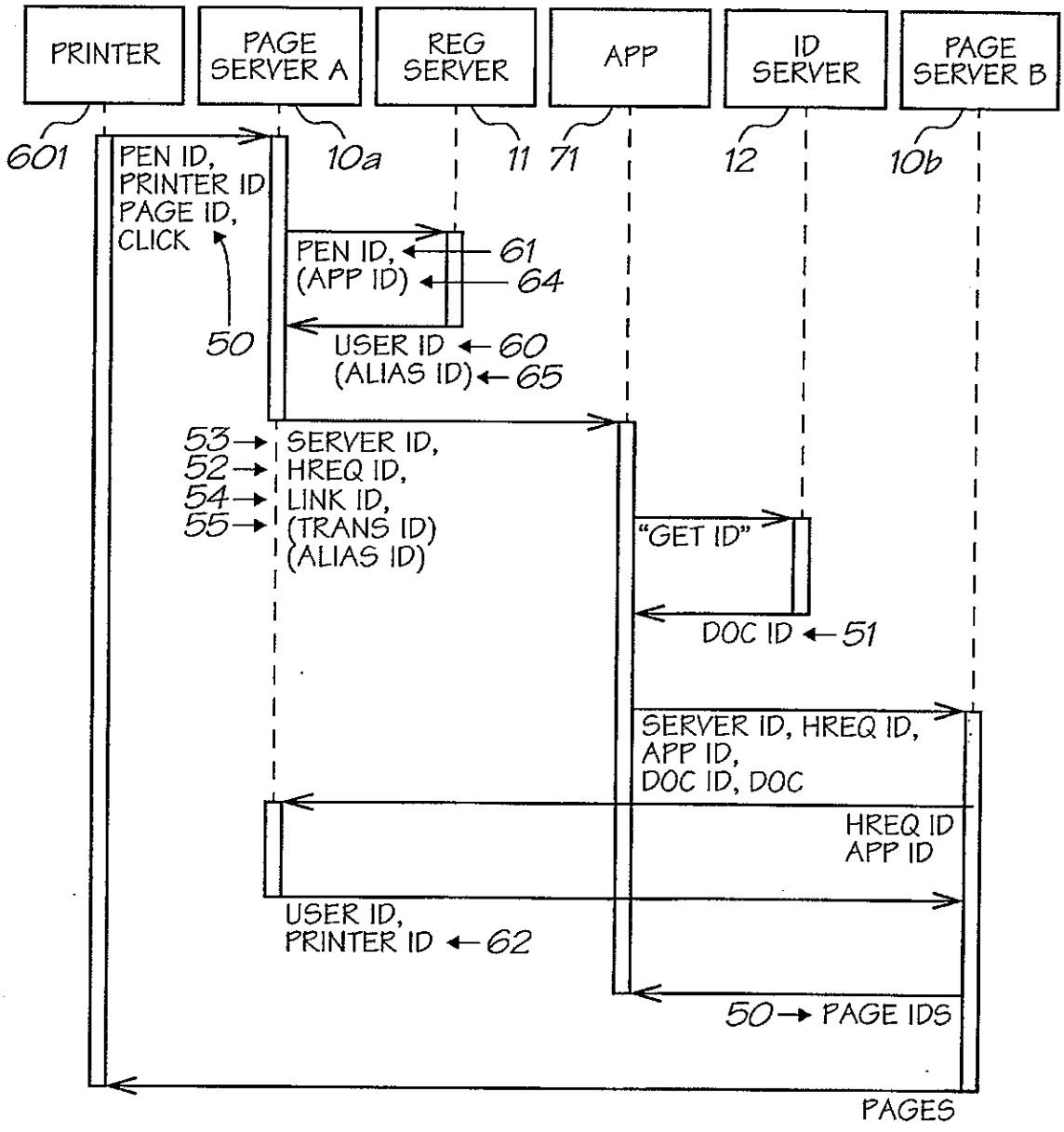
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID, 61
(APP ID) 64
USER ID 60
(ALIAS ID) 65
53 SERVER ID,
52 HREQ ID,
54 LINK ID,
55 (TRANS ID)
(ALIAS ID)
"GET ID"
DOC ID 51
SERVER ID, HREQ ID,
APP ID,
DOC ID, DOC
HREQ ID
APP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

FIG. 42

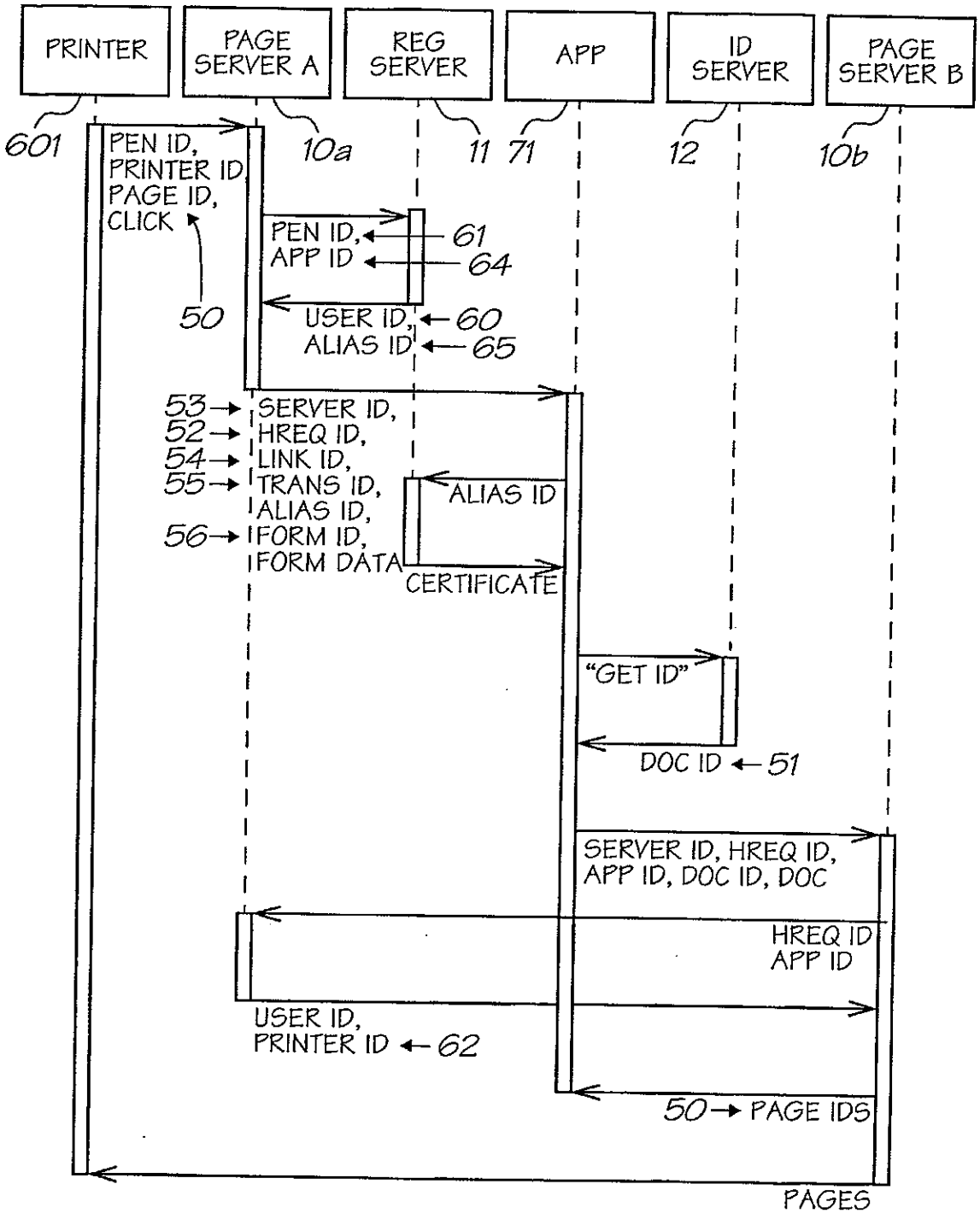
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID,
APP ID
61
64
USER ID,
ALIAS ID
60
65
53
52
54
55
56
SERVER ID,
HREQ ID,
LINK ID,
TRANS ID,
ALIAS ID,
FORM ID,
FORM DATA
ALIAS ID
CERTIFICATE
"GET ID"
DOC ID
51
SERVER ID, HREQ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

FIG. 43

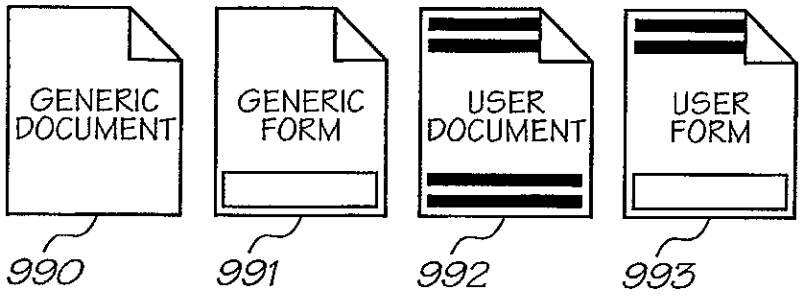
GENERIC DOCUMENT
GENERIC FORM
USER DOCUMENT
USER FORM
990
991
992
993

FIG. 44

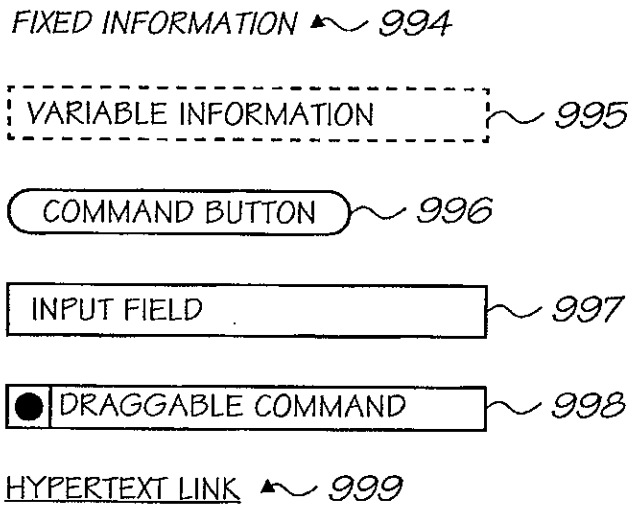
FIXED INFORMATION
994
VARIABLE INFORMATION
995
COMMAND BUTTON
996
INPUT FIELD
997
DRAGGABLE COMMAND
998
HYPERTEXT LINK
999

FIG. 45

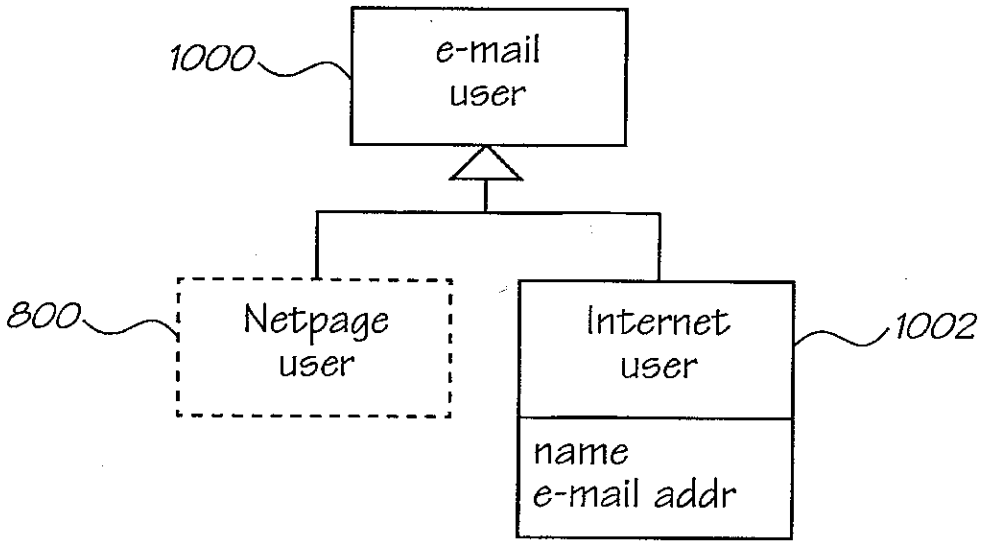
1000
e-mail user
800
Netpage user
Internet user
1002
name
e-mail addr

FIG. 46

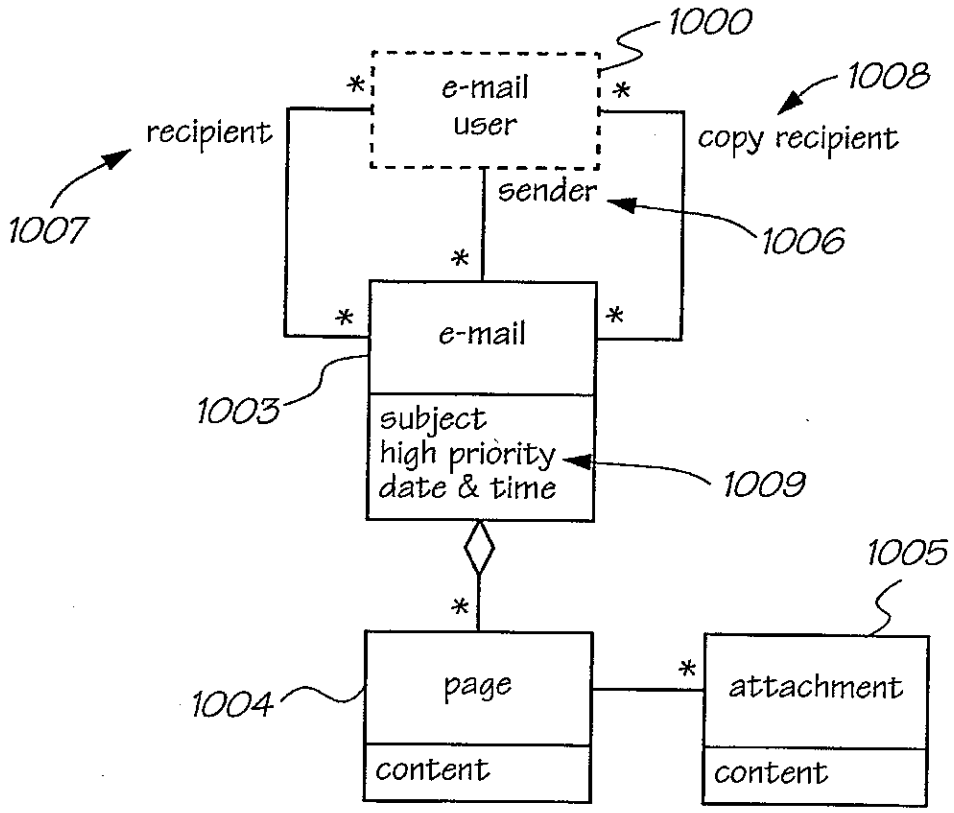
1000
e-mail user
1008
recipient
copy recipient
1007
sender
1006
e-mail
1003
subject
high priority
date & time
1009
1005
page
attachment
1004
content
content

FIG. 47

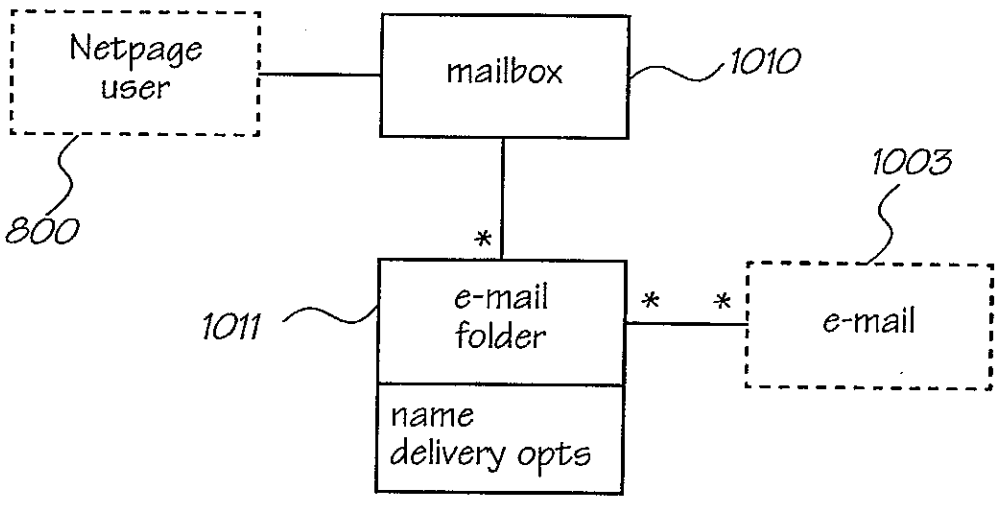
Netpage user
mailbox
1010
800
1003
e-mail folder
1011
e-mail
name
delivery opts

FIG. 48

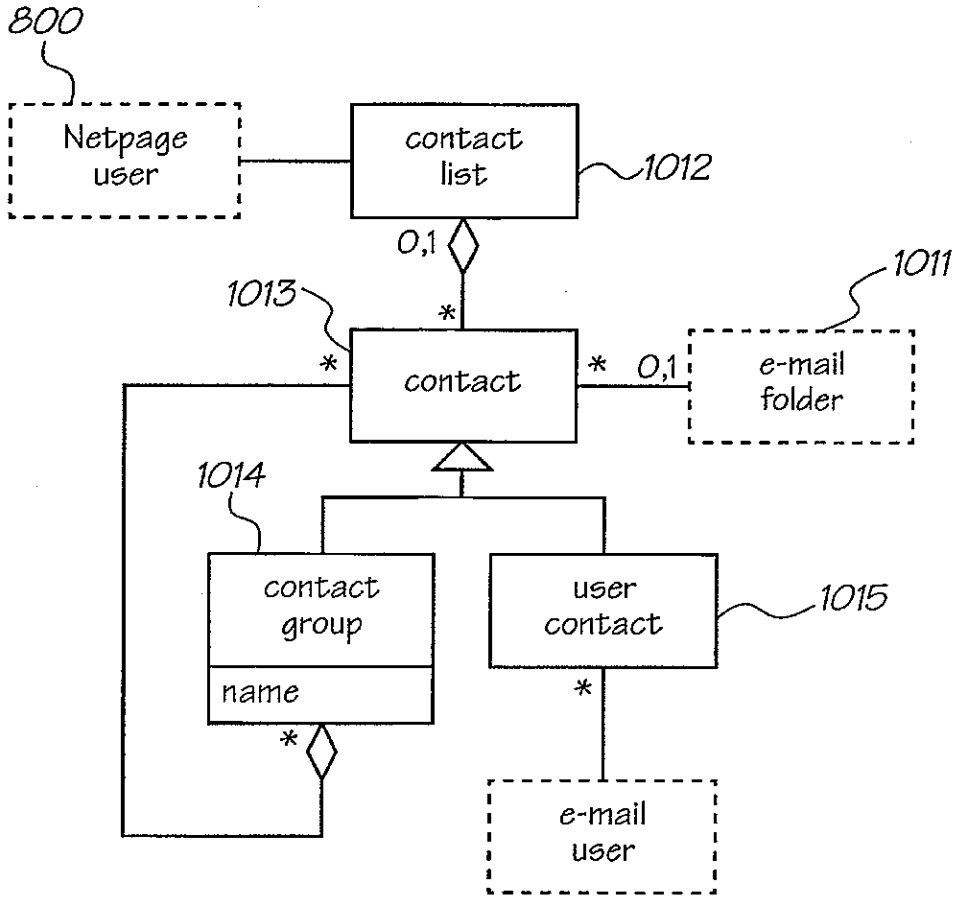
800
Netpage user
contact list
1012
0,1
*
1013
1011
*
contact
*
0,1
e-mail folder
1014
contact group
name
*
user contact
1015
*
e-mail user

FIG. 49

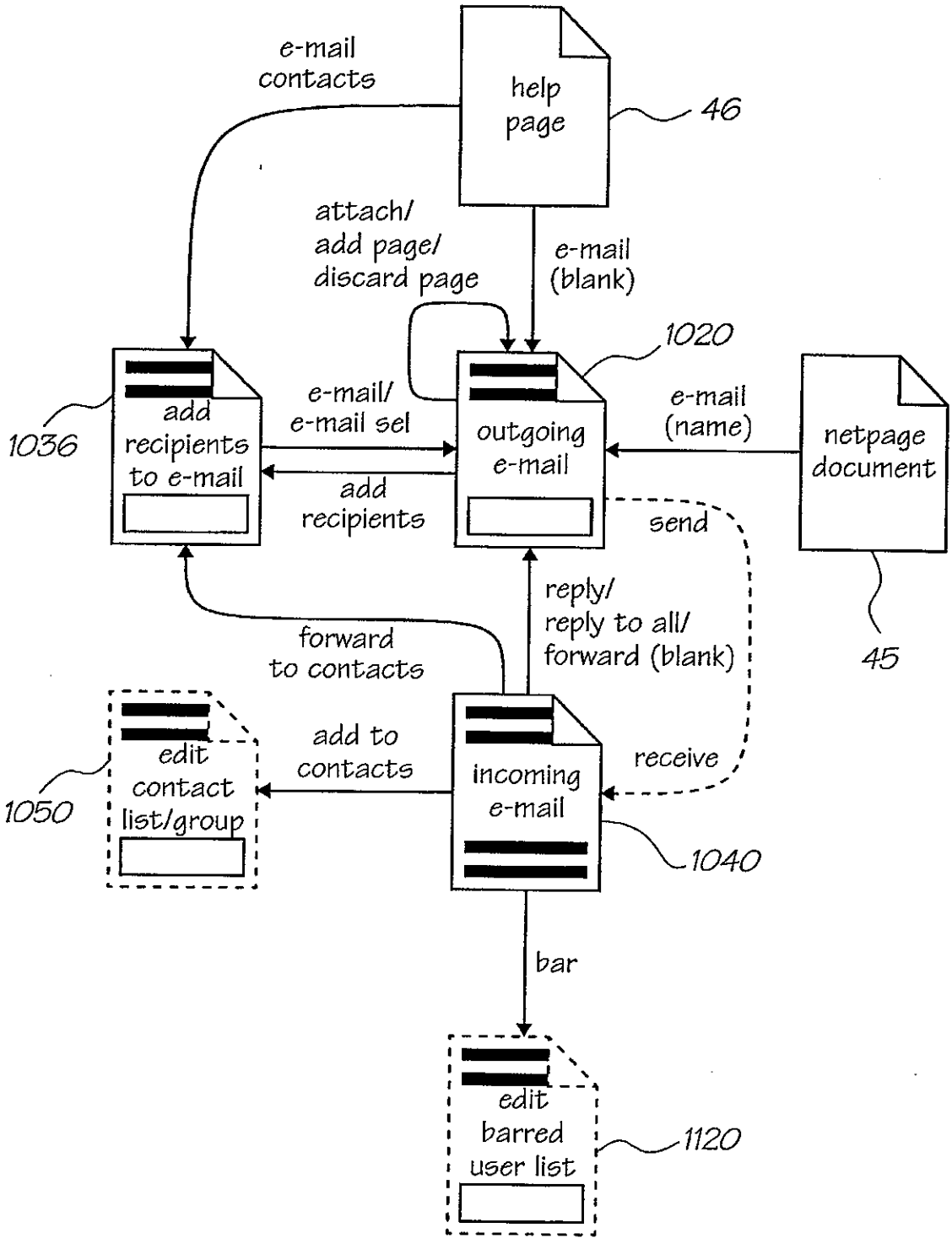
e-mail
contacts
help
page
46
attach/
add page/
discard page
e-mail
(blank)
1020
1036
add
recipients
to e-mail
e-mail/
e-mail sel
add
recipients
outgoing
e-mail
e-mail
(name)
netpage
document
send
reply/
reply to all/
forward (blank)
45
forward
to contacts
edit
contact
list/group
1050
add to
contacts
incoming
e-mail
receive
1040
bar
edit
barred
user list
1120

FIG. 50

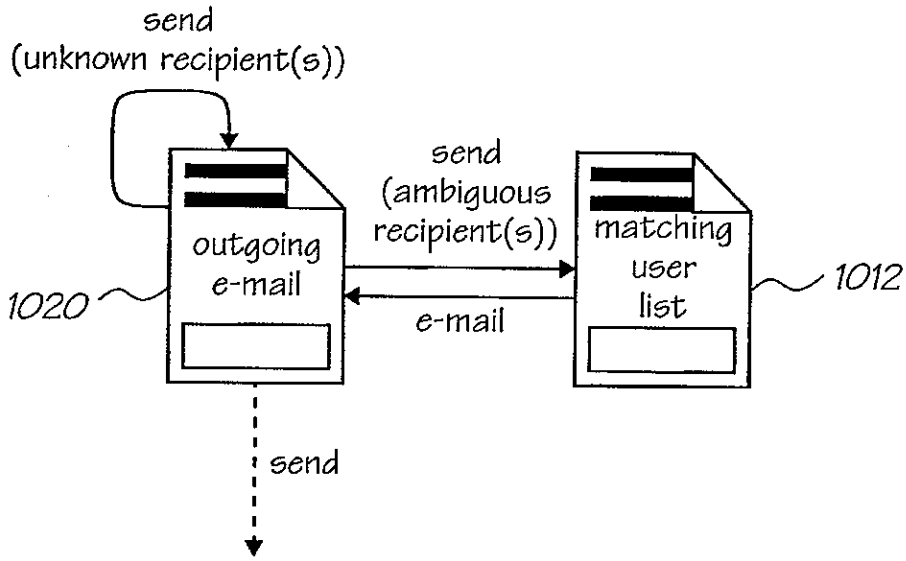
send
(unknown recipient(s))
outgoing
e-mail
1020
send
(ambiguous
recipient(s))
e-mail
matching
user
list
1012
send

FIG. 51

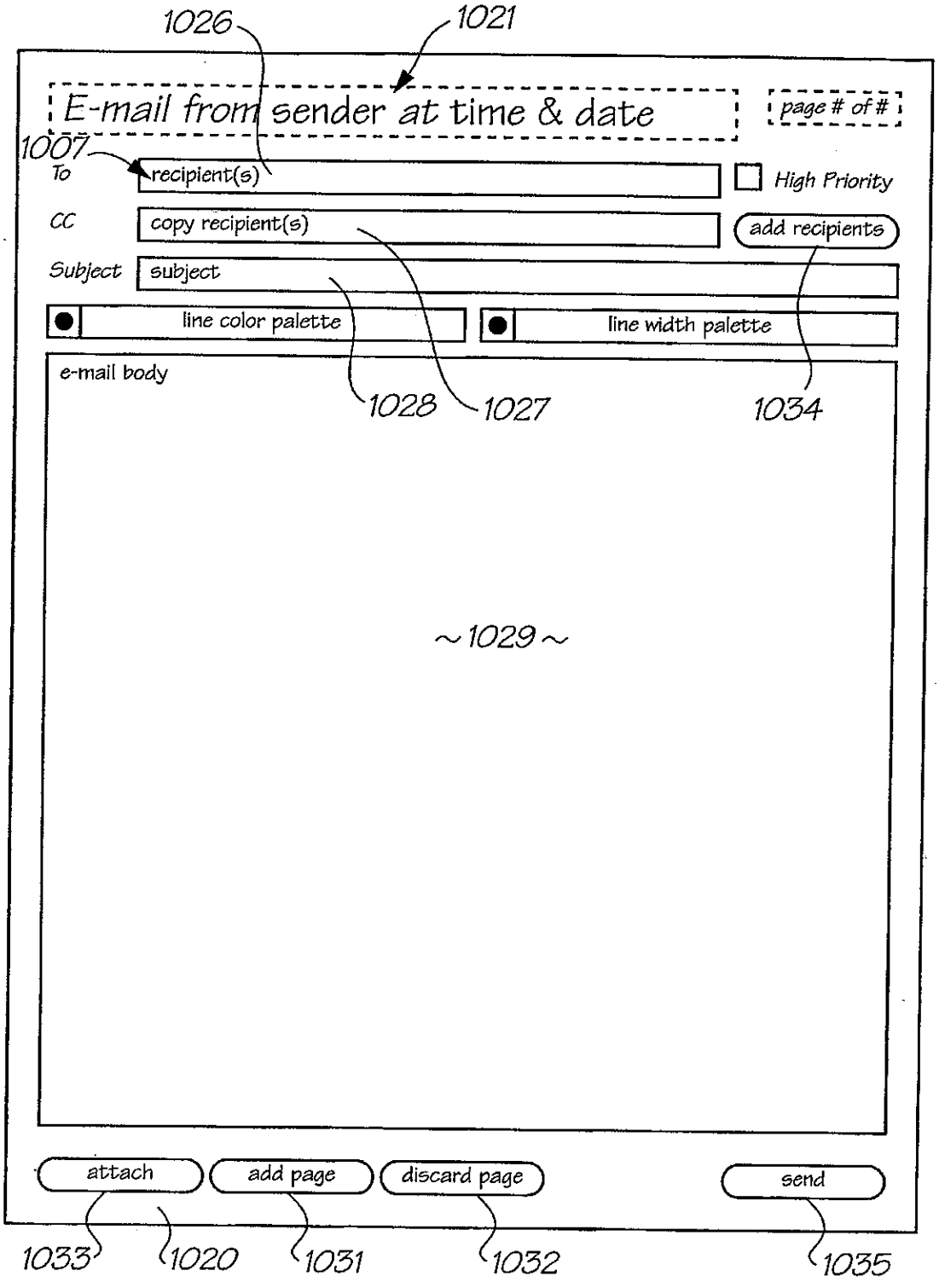
1026
1021
E-mail from sender at time & date
page # of #
1007
To
recipient(s)
High Priority
CC
copy recipient(s)
add recipients
Subject
subject
line color palette
line width palette
e-mail body
1028
1027
1034
~1029~
attach
add page
discard page
send
1033
1020
1031
1032
1035

FIG. 52

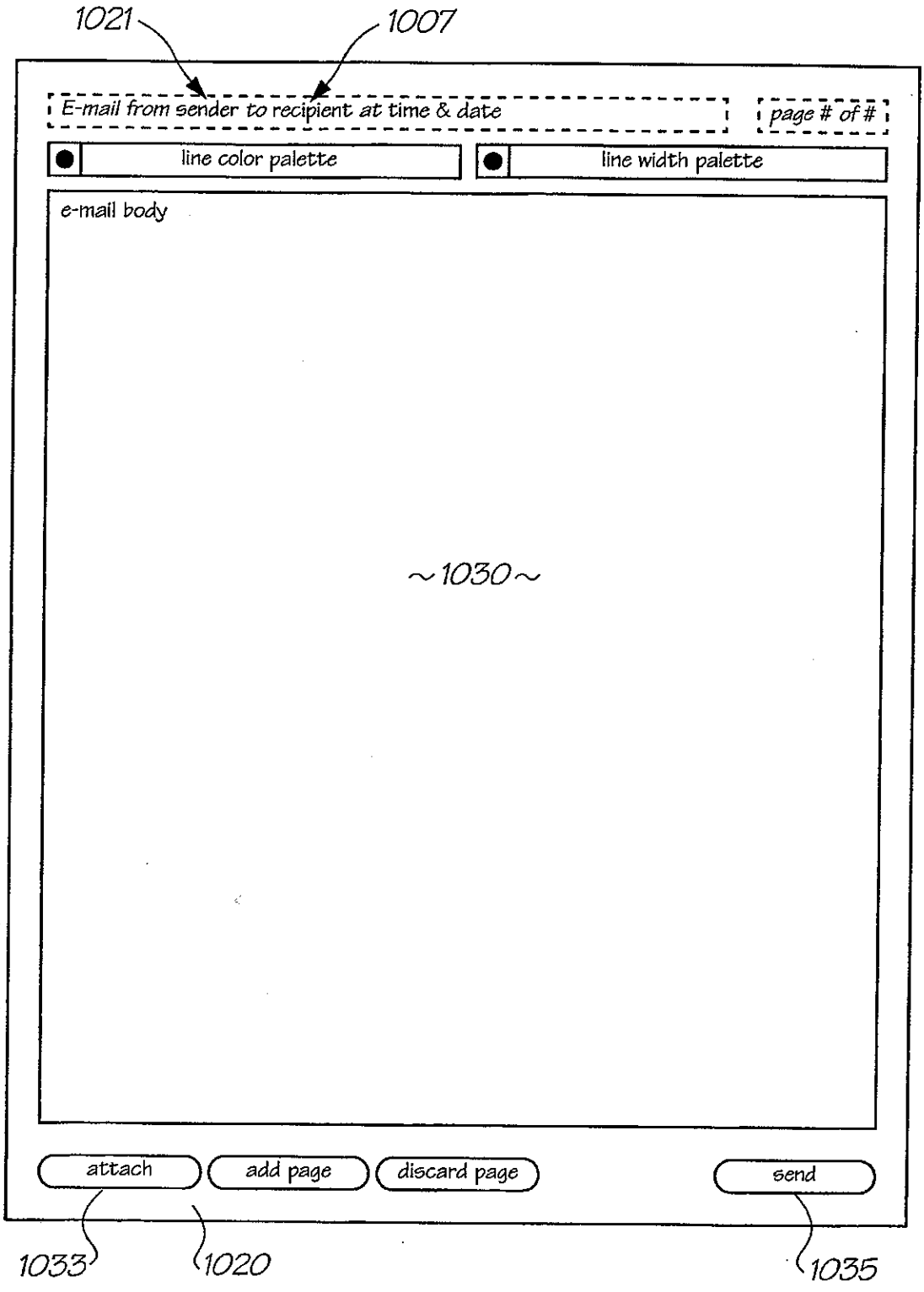
1021
1007
E-mail from sender to recipient at time & date
page # of #
line color palette
line width palette
e-mail body
~1030~
attach
add page
discard page
send
1033
1020
1035

FIG. 53

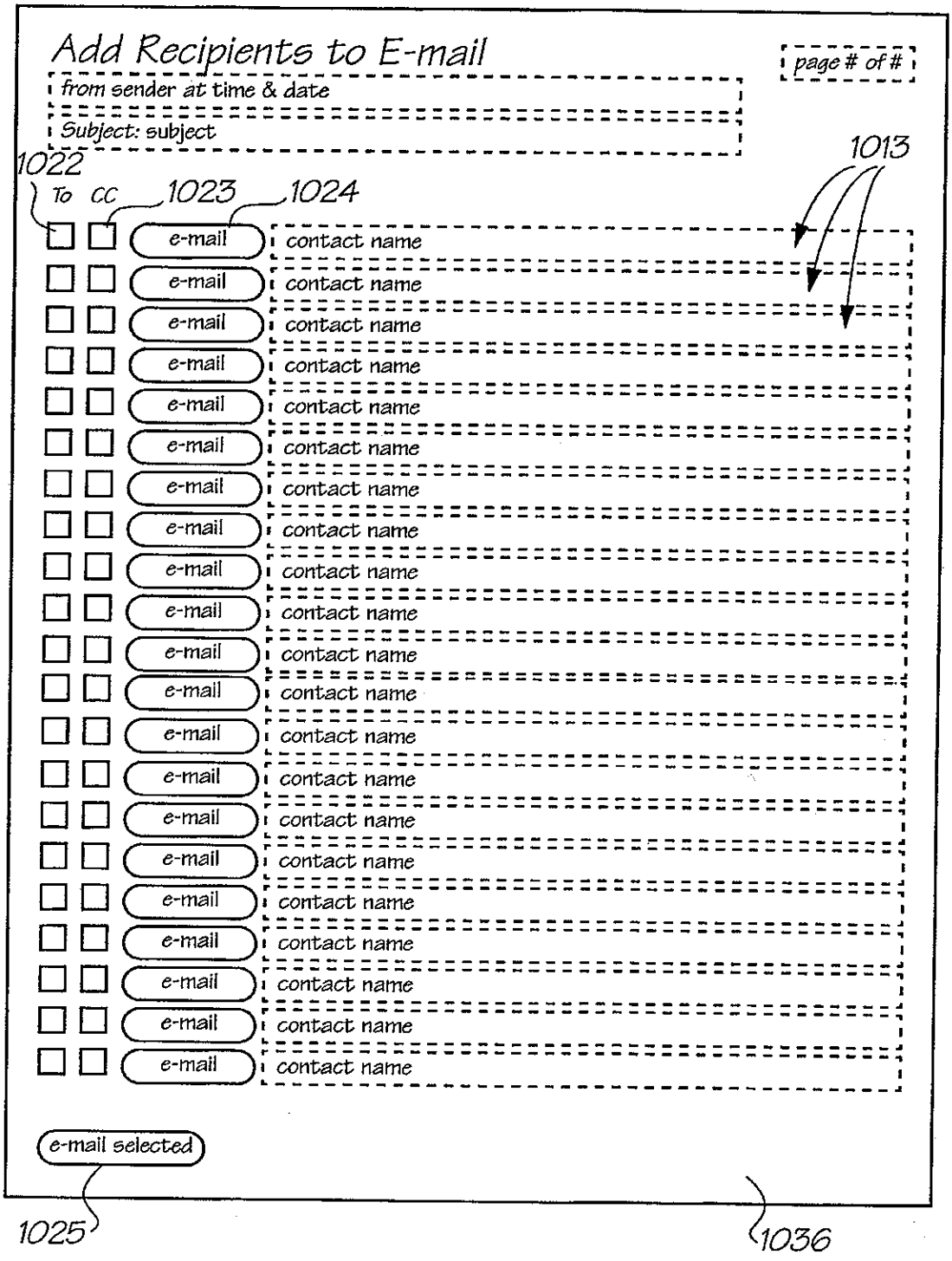
Add Recipients to E-mail
page # of #
from sender at time & date
Subject: subject
1013
1022
To CC
1023
1024
e-mail
contact name
e-mail selected
1025
1036

FIG. 54

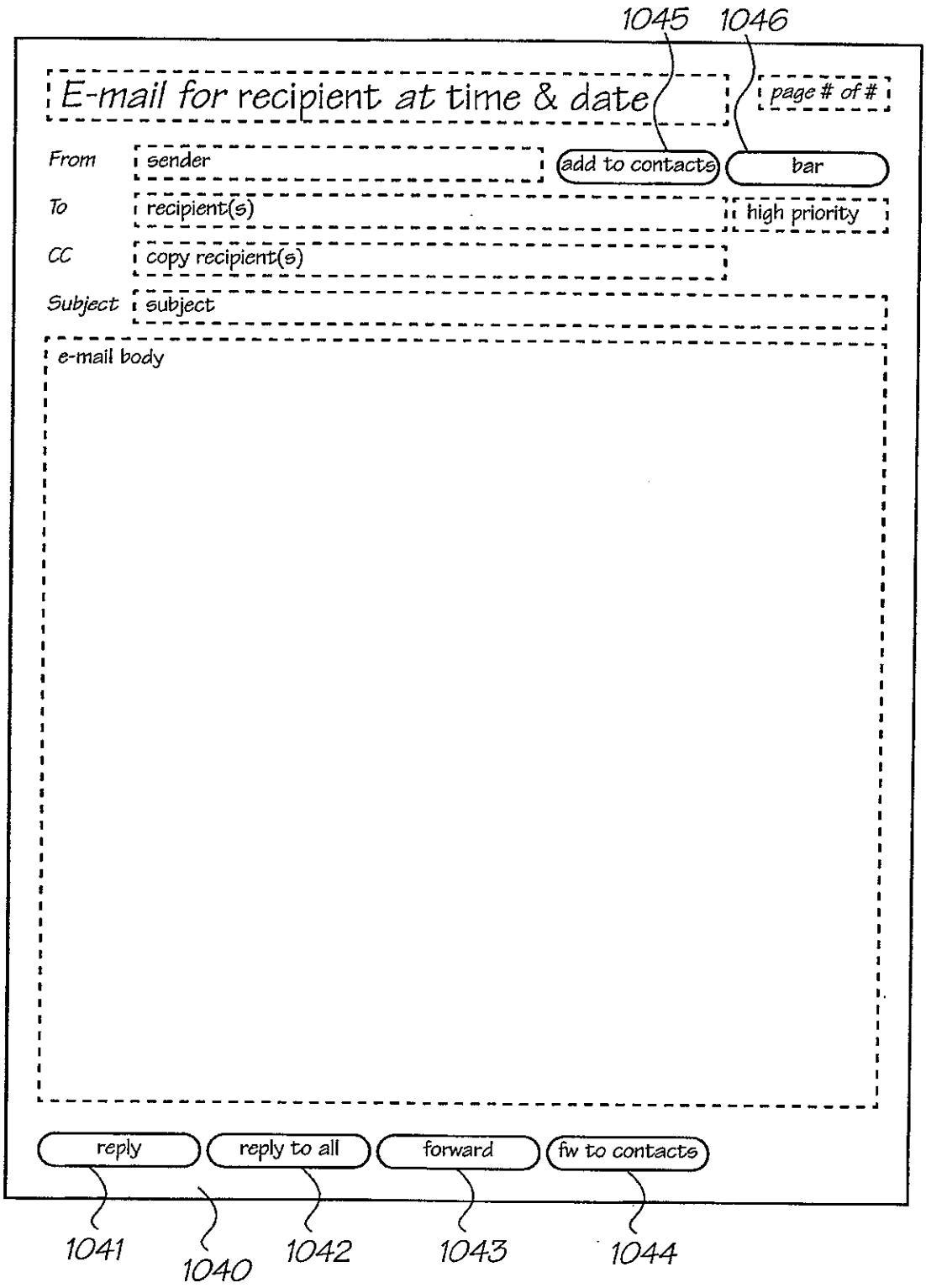
1045
1046
E-mail for recipient at time & date
page # of #
From
sender
add to contacts
bar
To
recipient(s)
high priority
CC
copy recipient(s)
Subject
subject
e-mail body
reply
reply to all
forward
fw to contacts
1041
1040
1042
1043
1044

FIG. 55

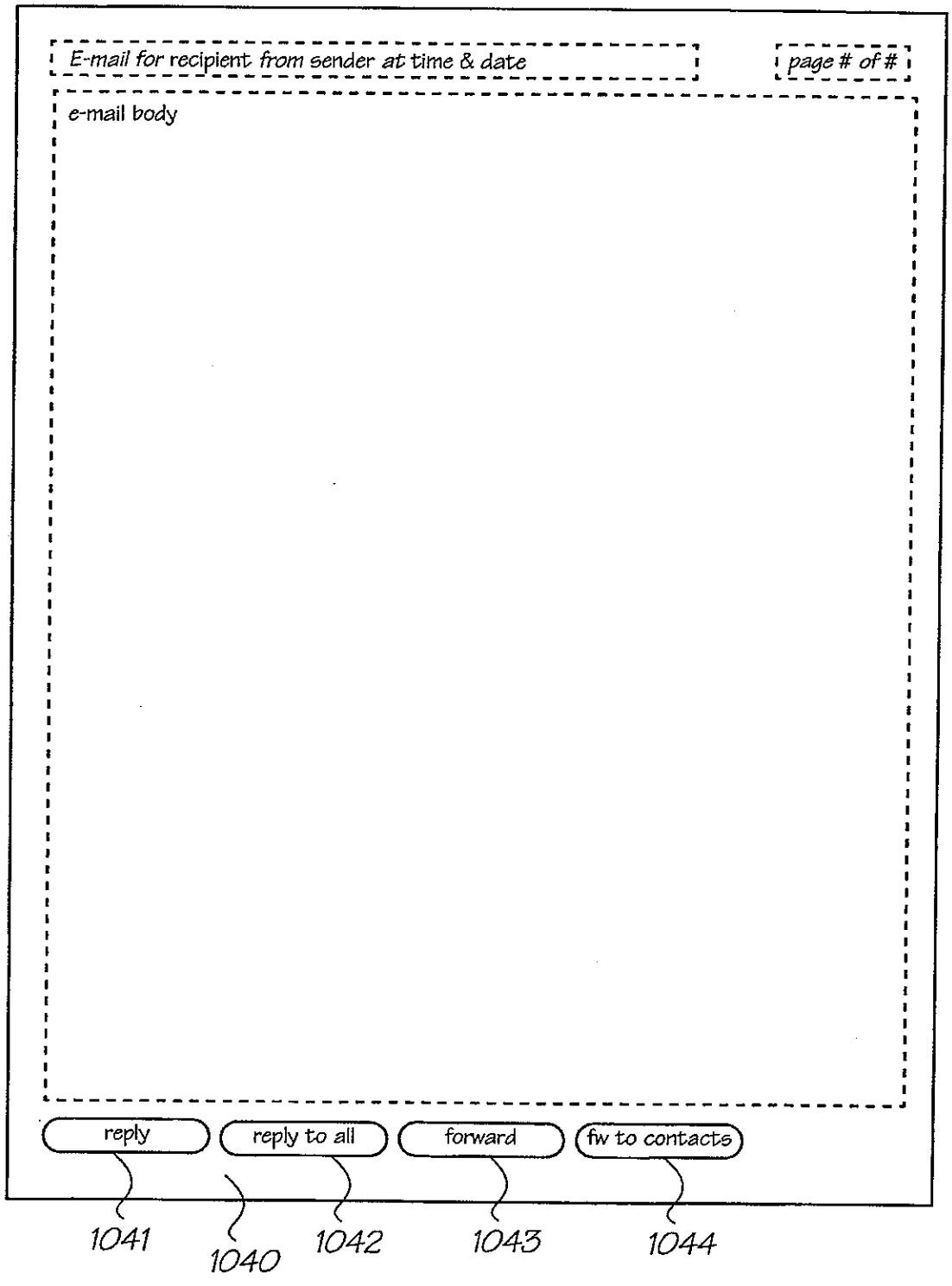
E-mail for recipient from sender at time & date
page # of #
e-mail body
reply
reply to all
forward
fw to contacts
1041
1040
1042
1043
1044

FIG. 56

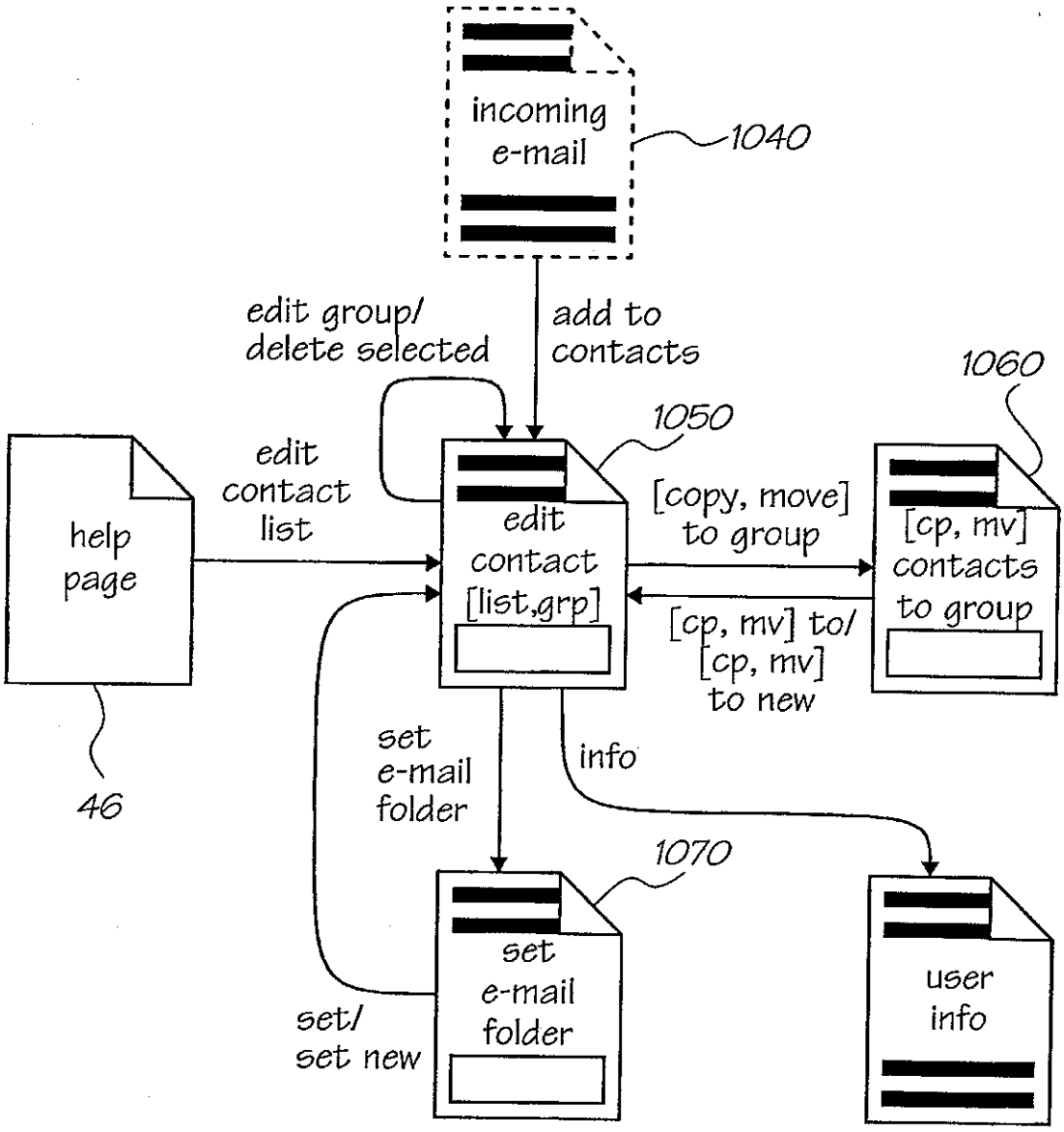
incoming
e-mail
1040
edit group/
delete selected
add to
contacts
1060
1050
edit
contact
list
help
page
edit
contact
[list,grp]
[copy, move]
to group
[cp, mv]
contacts
to group
[cp, mv] to/
[cp, mv]
to new
46
set
e-mail
folder
info
1070
set
e-mail
folder
user
info
set/
set new

FIG. 57

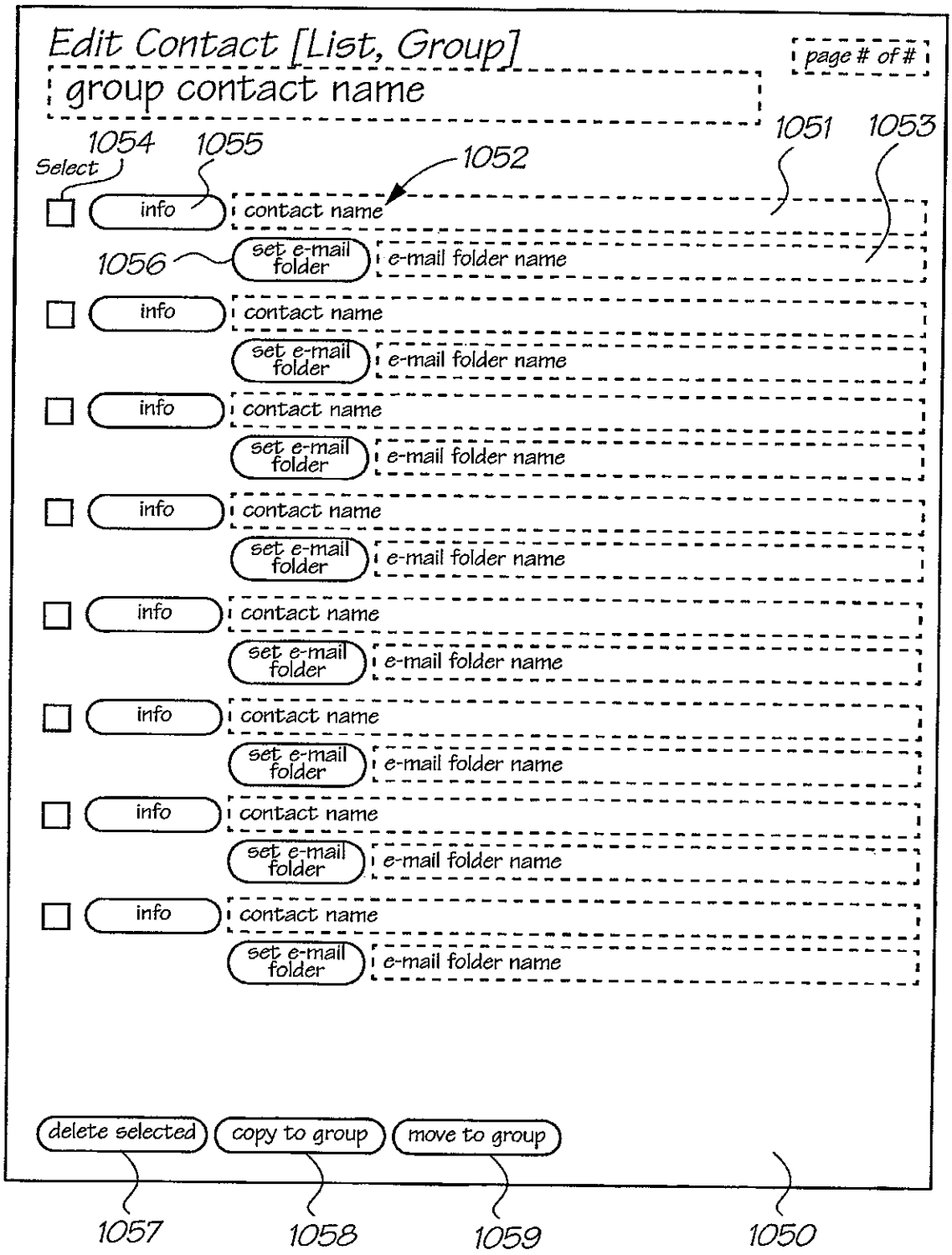
Edit Contact [List, Group]
page # of #
group contact name
1054
Select
1055
1052
1051
1053
info
contact name
1056
set e-mail folder
e-mail folder name
delete selected
copy to group
move to group
1057
1058
1059
1050

FIG. 58

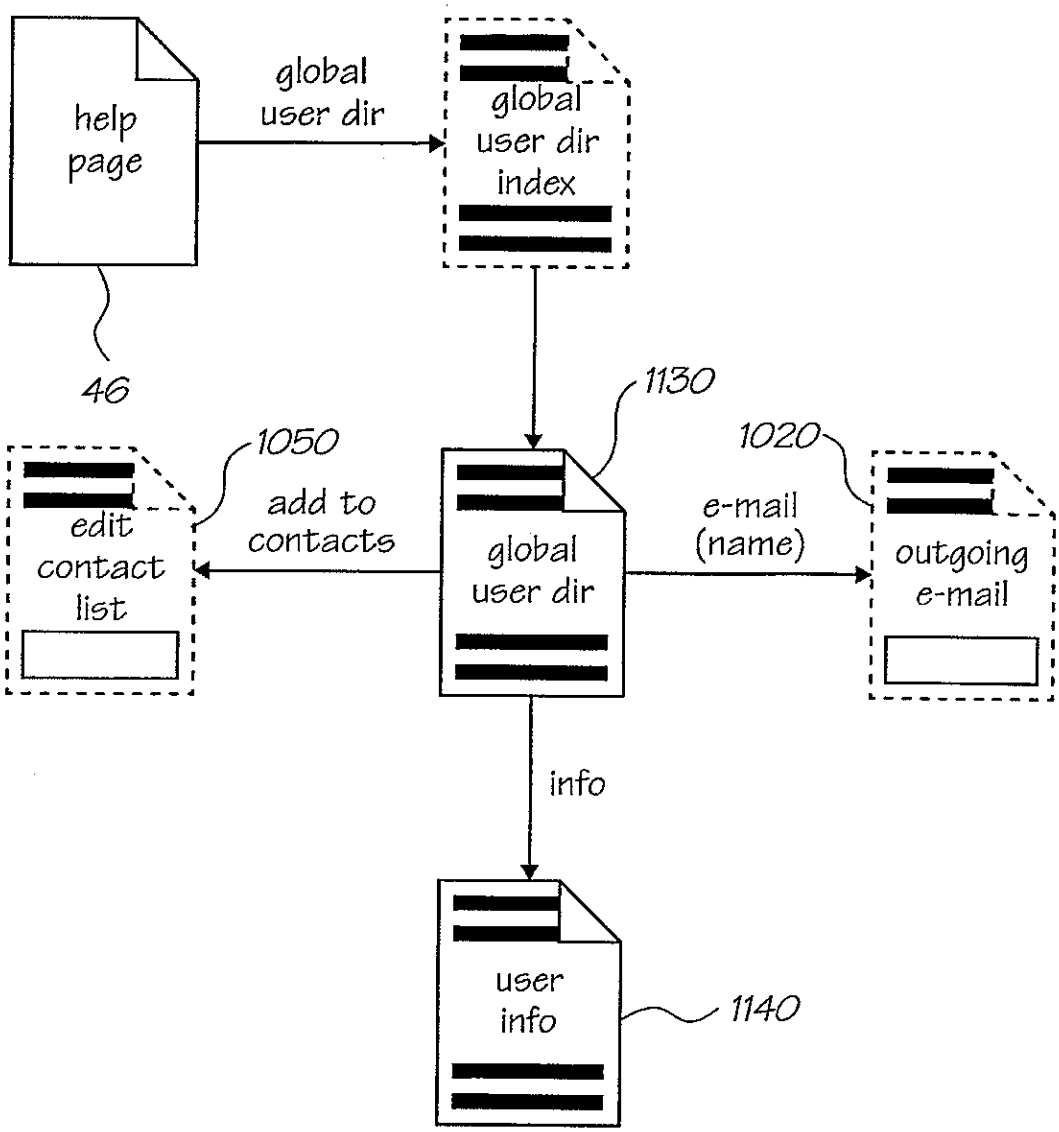
help page
global user dir
global user dir index
46
1130
1050
1020
edit contact list
add to contacts
global user dir
e-mail (name)
outgoing e-mail
info
user info
1140

FIG. 59

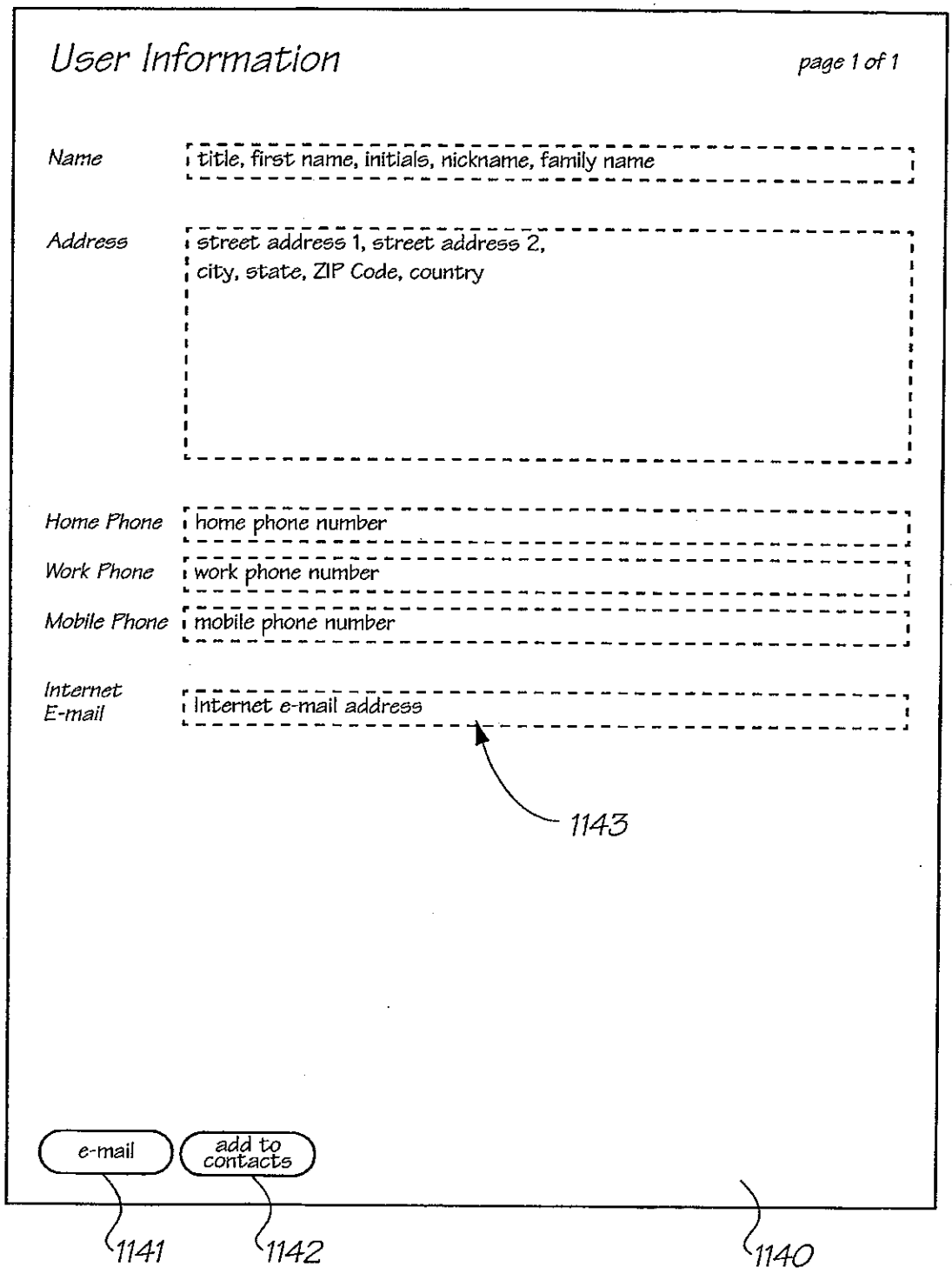
User Information
page 1 of 1
Name
title, first name, initials, nickname, family name
Address
street address 1, street address 2,
city, state, ZIP Code, country
Home Phone
home phone number
Work Phone
work phone number
Mobile Phone
mobile phone number
Internet E-mail
Internet e-mail address
1143
e-mail
add to contacts
1141
1142
1140

FIG. 60

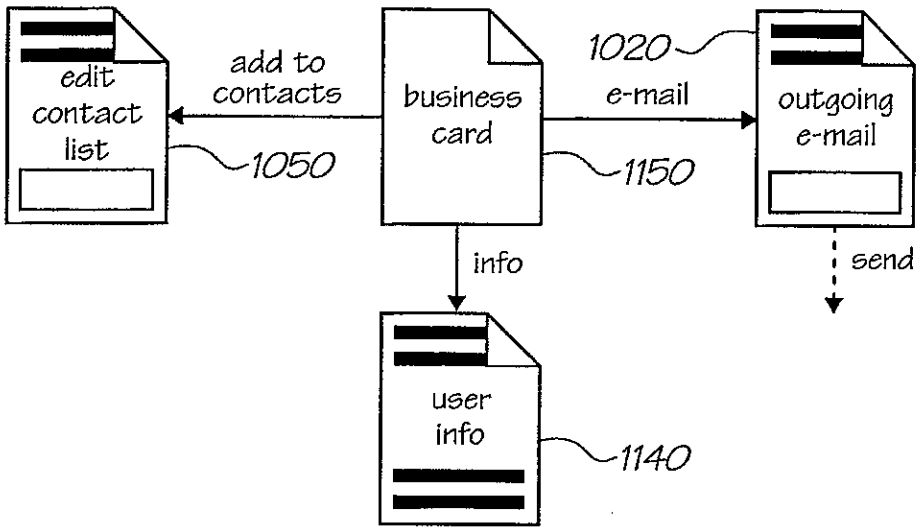
edit
contact
list
add to
contacts
1050
business
card
1020
e-mail
1150
outgoing
e-mail
send
info
user
info
1140

FIG. 61

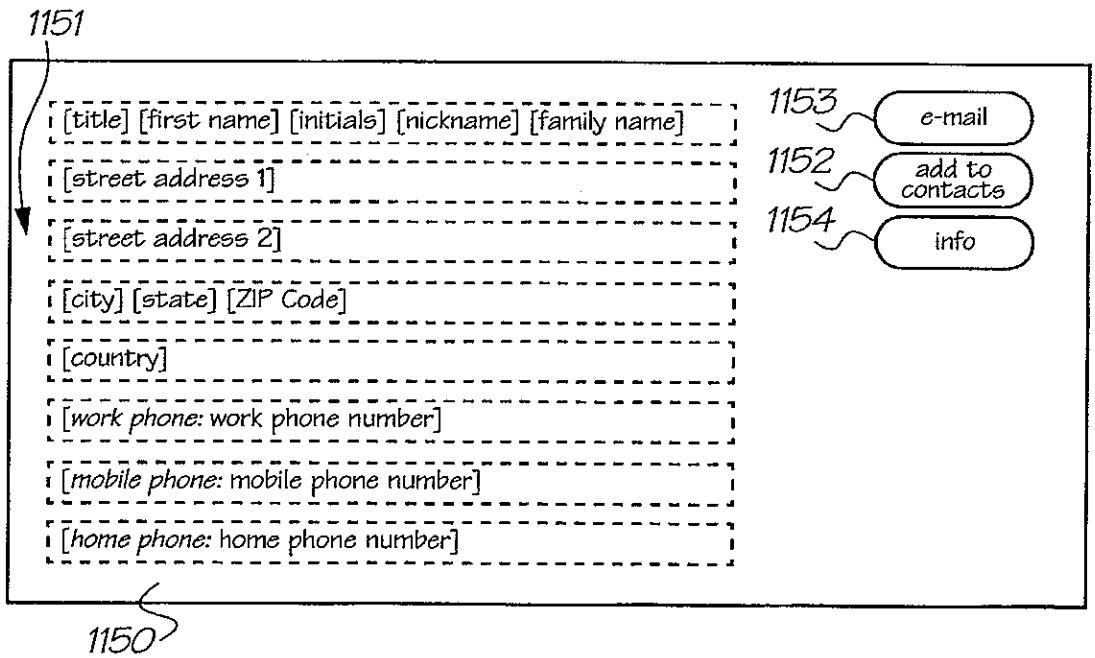
1151
[title] [first name] [initials] [nickname] [family name]
[street address 1]
[street address 2]
[city] [state] [ZIP Code]
[country]
[work phone: work phone number]
[mobile phone: mobile phone number]
[home phone: home phone number]
1150
1153
e-mail
1152
add to
contacts
1154
info

FIG. 62

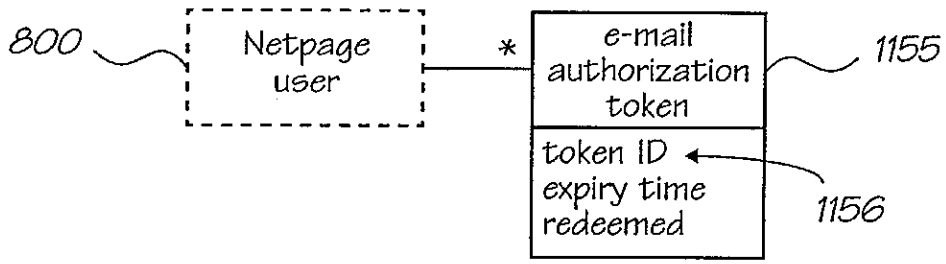
800
Netpage user
*
e-mail authorization token
1155
token ID
expiry time
redeemed
1156

FIG. 63

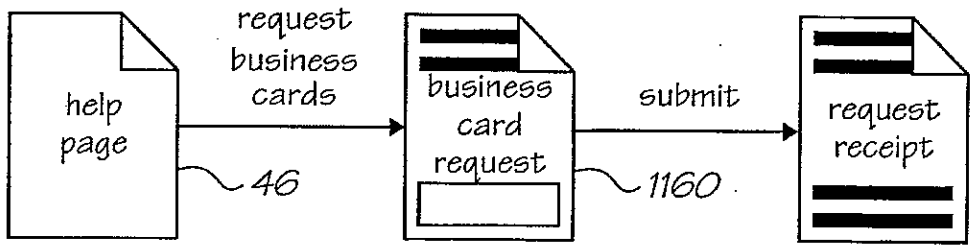
help page
46
request business cards
business card request
1160
submit
request receipt

FIG. 64

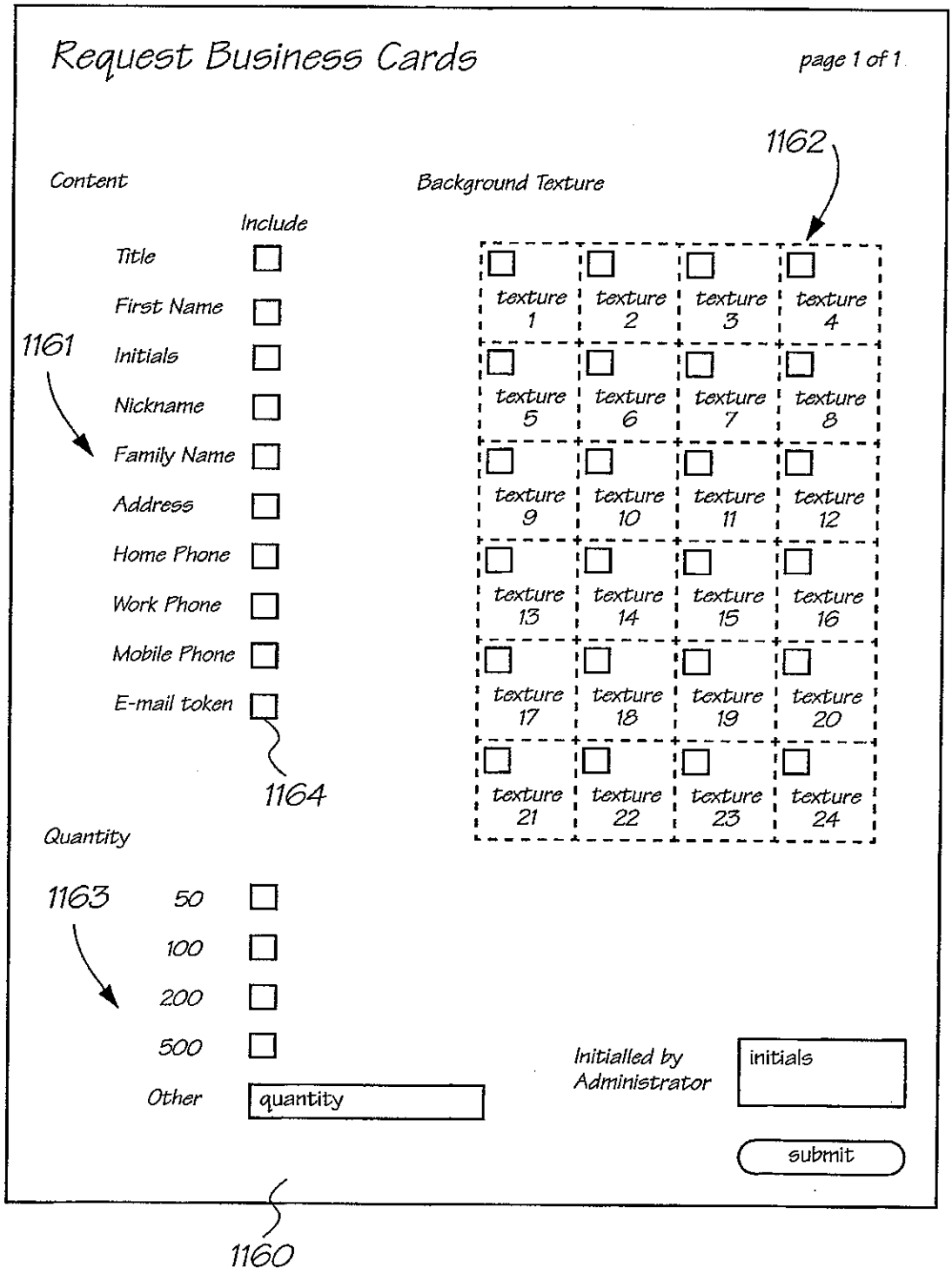
Request Business Cards
page 1 of 1
Content
Include
Title
First Name
Initials
Nickname
Family Name
Address
Home Phone
Work Phone
Mobile Phone
E-mail token
1161
1164
Background Texture
1162
texture 1
texture 2
texture 3
texture 4
texture 5
texture 6
texture 7
texture 8
texture 9
texture 10
texture 11
texture 12
texture 13
texture 14
texture 15
texture 16
texture 17
texture 18
texture 19
texture 20
texture 21
texture 22
texture 23
texture 24
Quantity
1163
50
100
200
500
Other
quantity
Initialled by Administrator
initials
submit
1160

FIG. 65