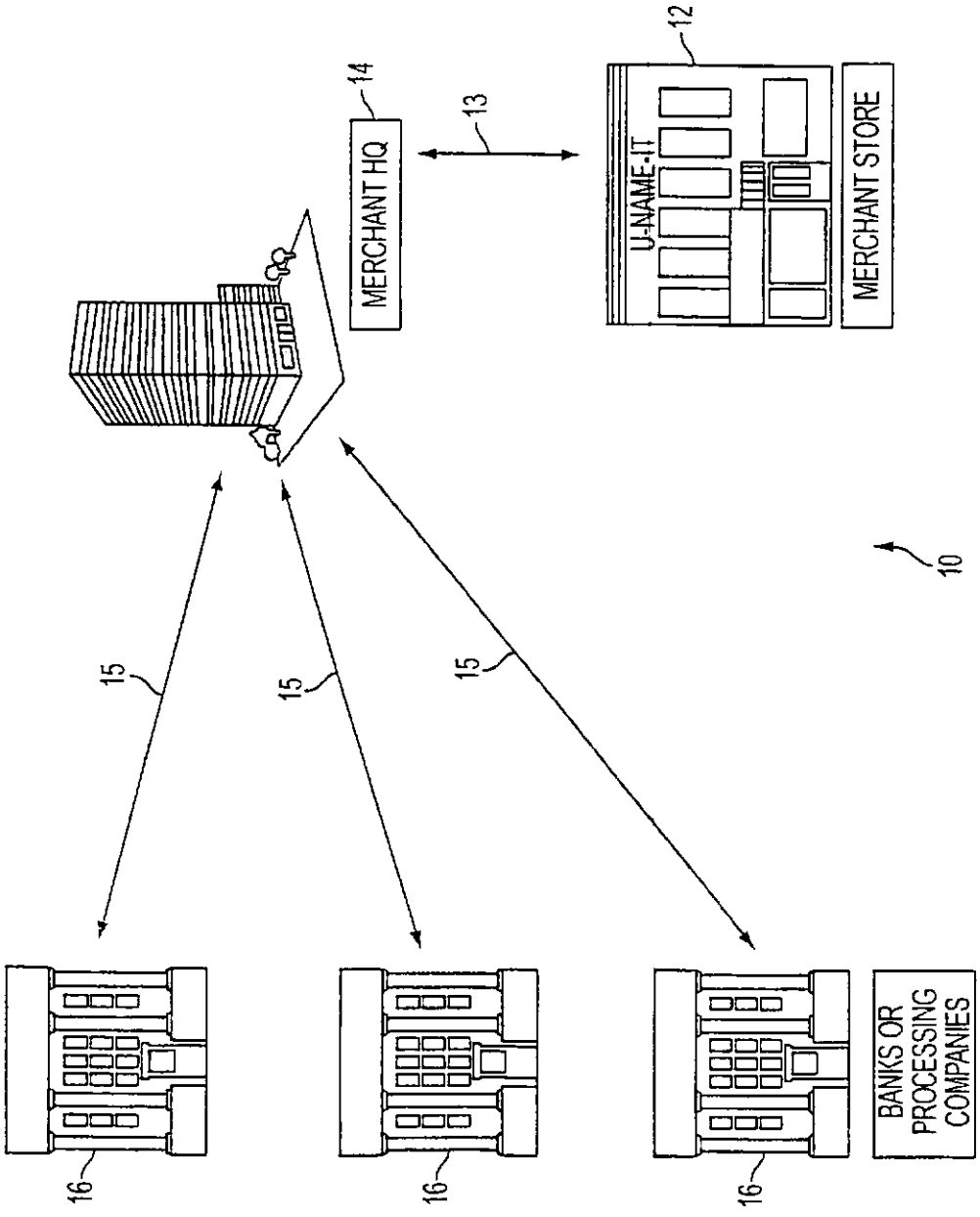

12
14
13
MERCHANT HQ
U-NAME-IT
MERCHANT STORE
10
15
15
15
16
16
16
BANKS OR
PROCESSING
COMPANIES

FIG. 1

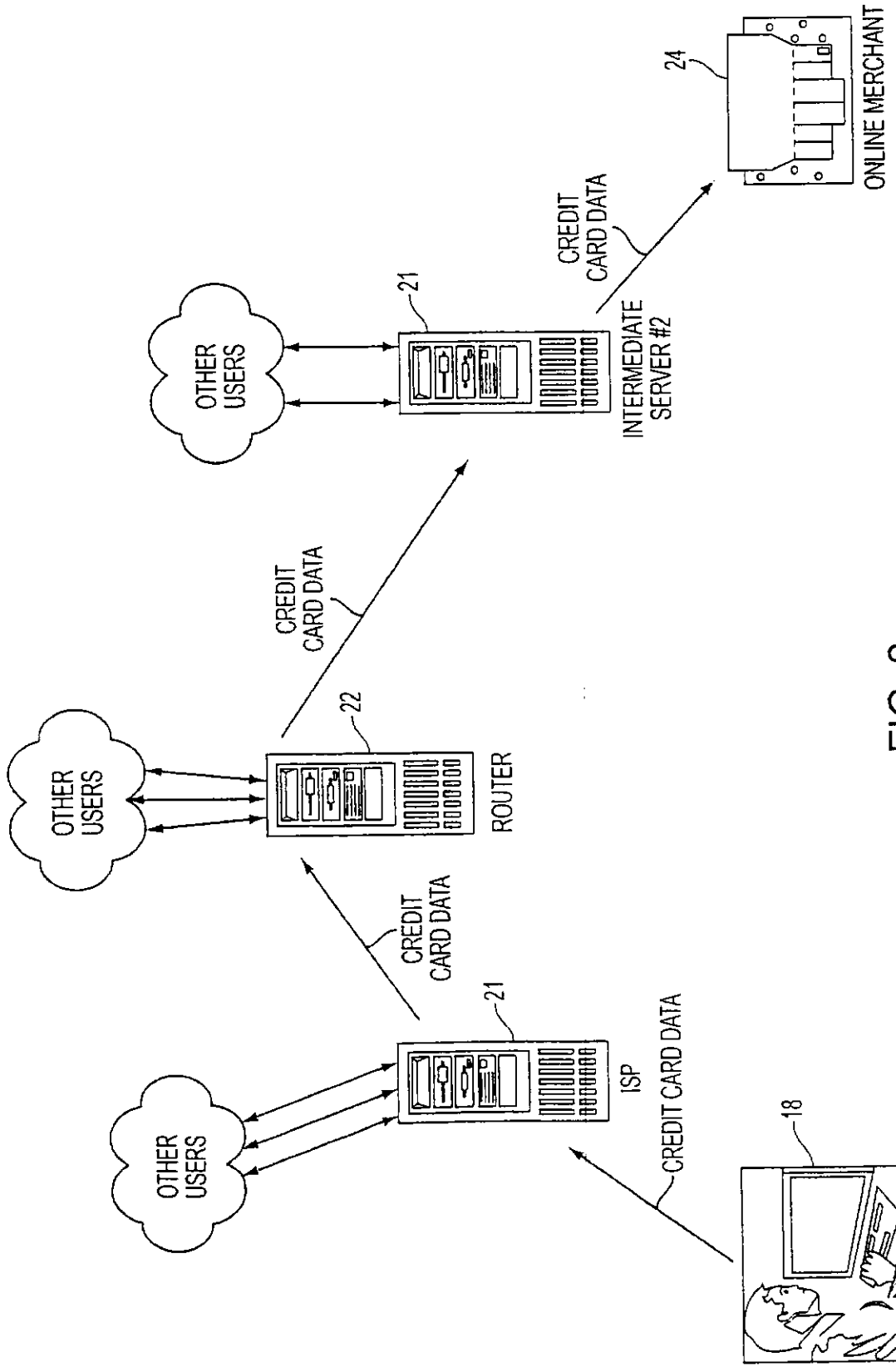

OTHER USERS
OTHER USERS
OTHER USERS
21
22
21
24
18
CREDIT CARD DATA
CREDIT CARD DATA
CREDIT CARD DATA
CREDIT CARD DATA
INTERMEDIATE SERVER #2
ROUTER
ISP
ONLINE MERCHANT
CONSUMER'S PC

FIG. 2

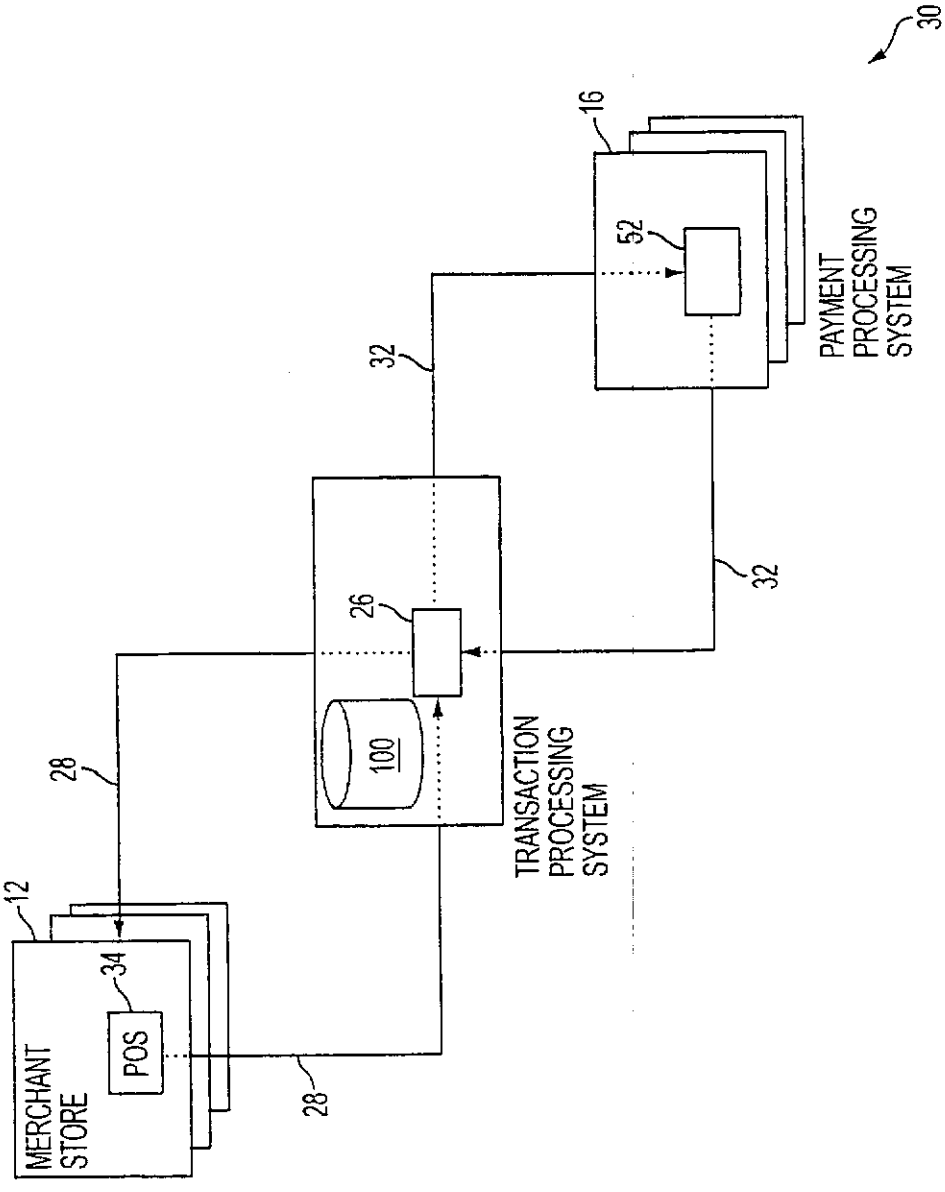

30
16
52
PAYMENT PROCESSING SYSTEM
32
32
26
100
TRANSACTION PROCESSING SYSTEM
28
12
34
POS
MERCHANT STORE
28

FIG. 3

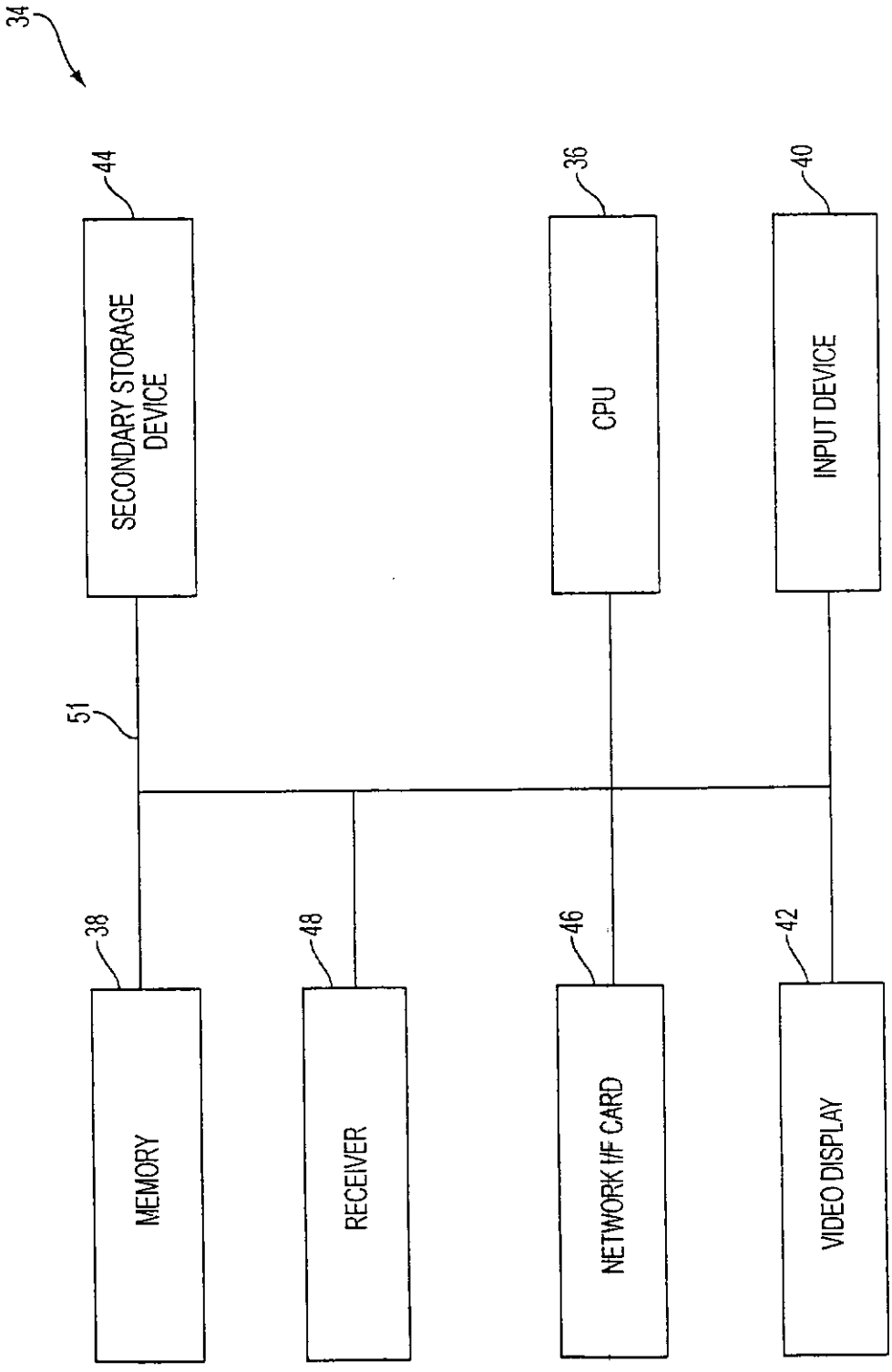

34
44
SECONDARY STORAGE DEVICE
36
CPU
40
INPUT DEVICE
51
38
MEMORY
48
RECEIVER
46
NETWORK I/F CARD
42
VIDEO DISPLAY

FIG. 4

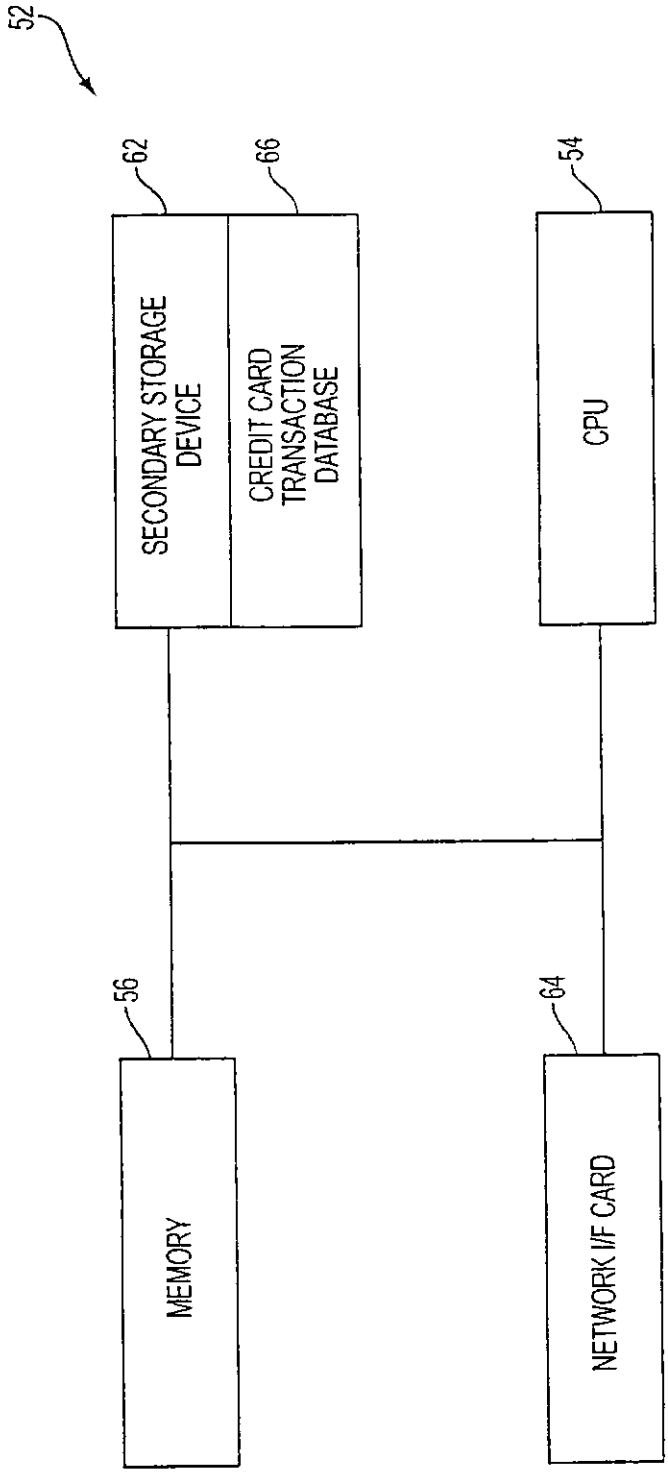

52
62
66
54
SECONDARY STORAGE DEVICE
CREDIT CARD TRANSACTION DATABASE
CPU
56
64
MEMORY
NETWORK I/F CARD

FIG. 5

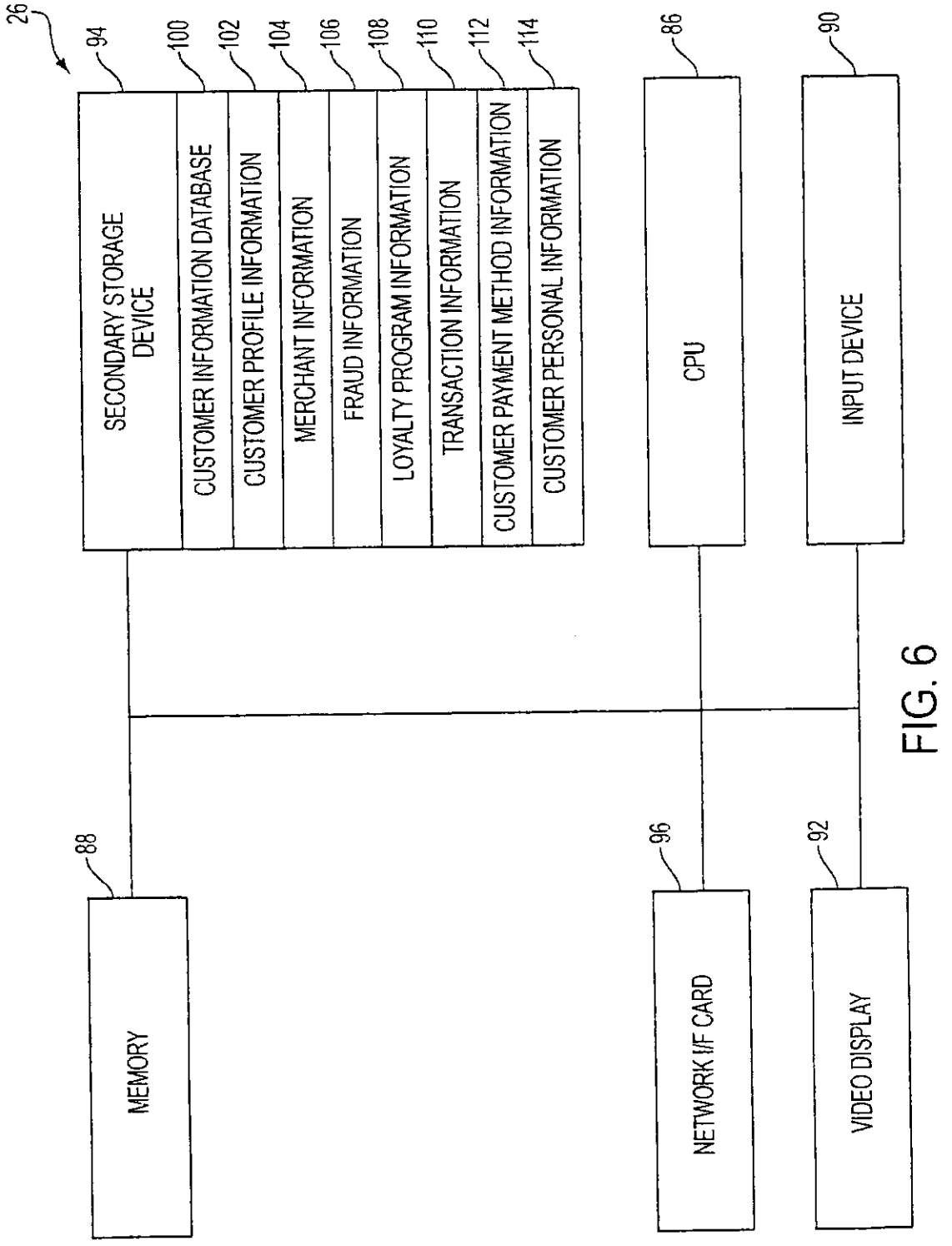

26
94
SECONDARY STORAGE DEVICE
100
CUSTOMER INFORMATION DATABASE
102
CUSTOMER PROFILE INFORMATION
104
MERCHANT INFORMATION
106
FRAUD INFORMATION
108
LOYALTY PROGRAM INFORMATION
110
TRANSACTION INFORMATION
112
CUSTOMER PAYMENT METHOD INFORMATION
114
CUSTOMER PERSONAL INFORMATION
86
CPU
90
INPUT DEVICE
88
MEMORY
96
NETWORK I/F CARD
92
VIDEO DISPLAY

FIG. 6

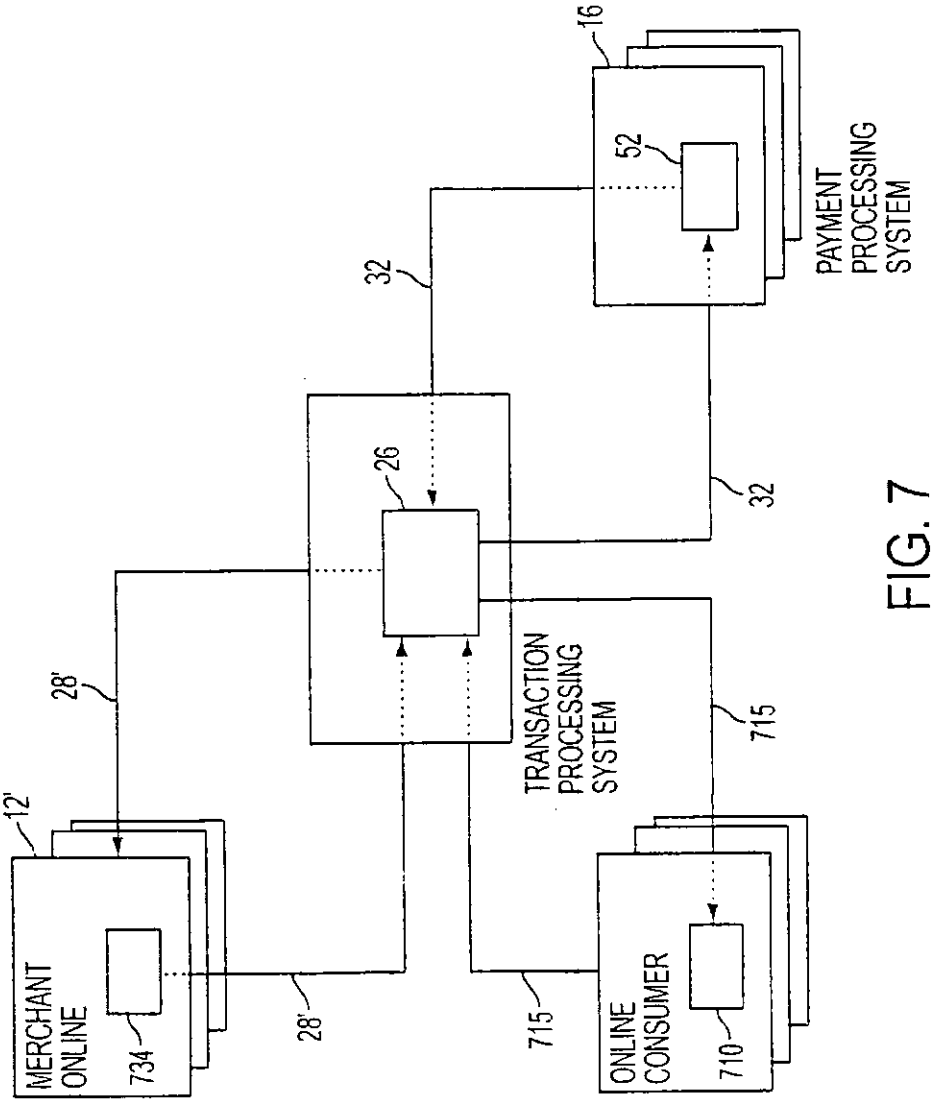

16
52
PAYMENT PROCESSING SYSTEM
32
26
32
28'
TRANSACTION PROCESSING SYSTEM
715
12'
MERCHANT ONLINE
734
28'
715
ONLINE CONSUMER
710

FIG. 7

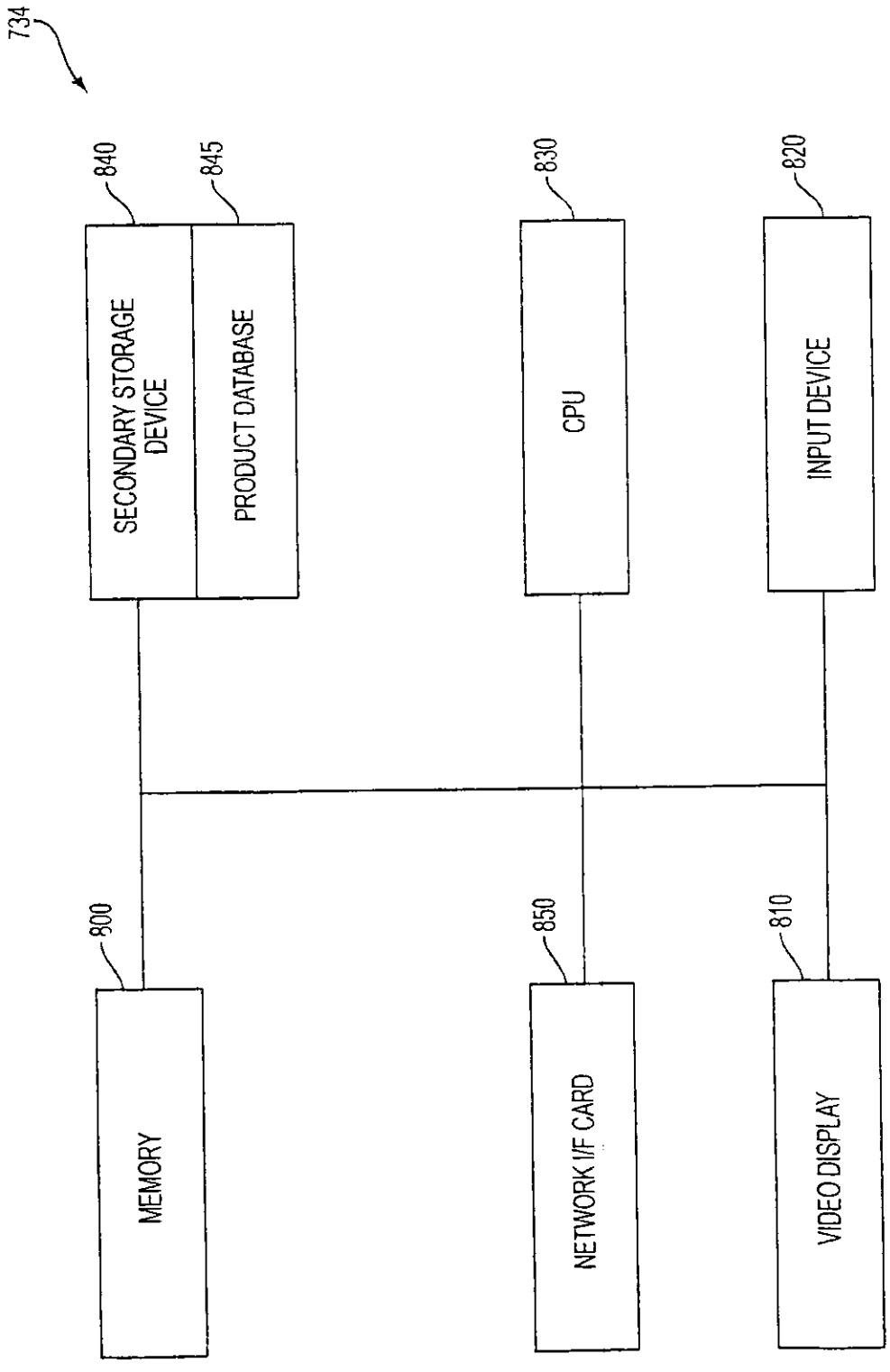

734
840
845
830
820
SECONDARY STORAGE DEVICE
PRODUCT DATABASE
CPU
INPUT DEVICE
800
850
810
MEMORY
NETWORK I/F CARD
VIDEO DISPLAY

FIG. 8

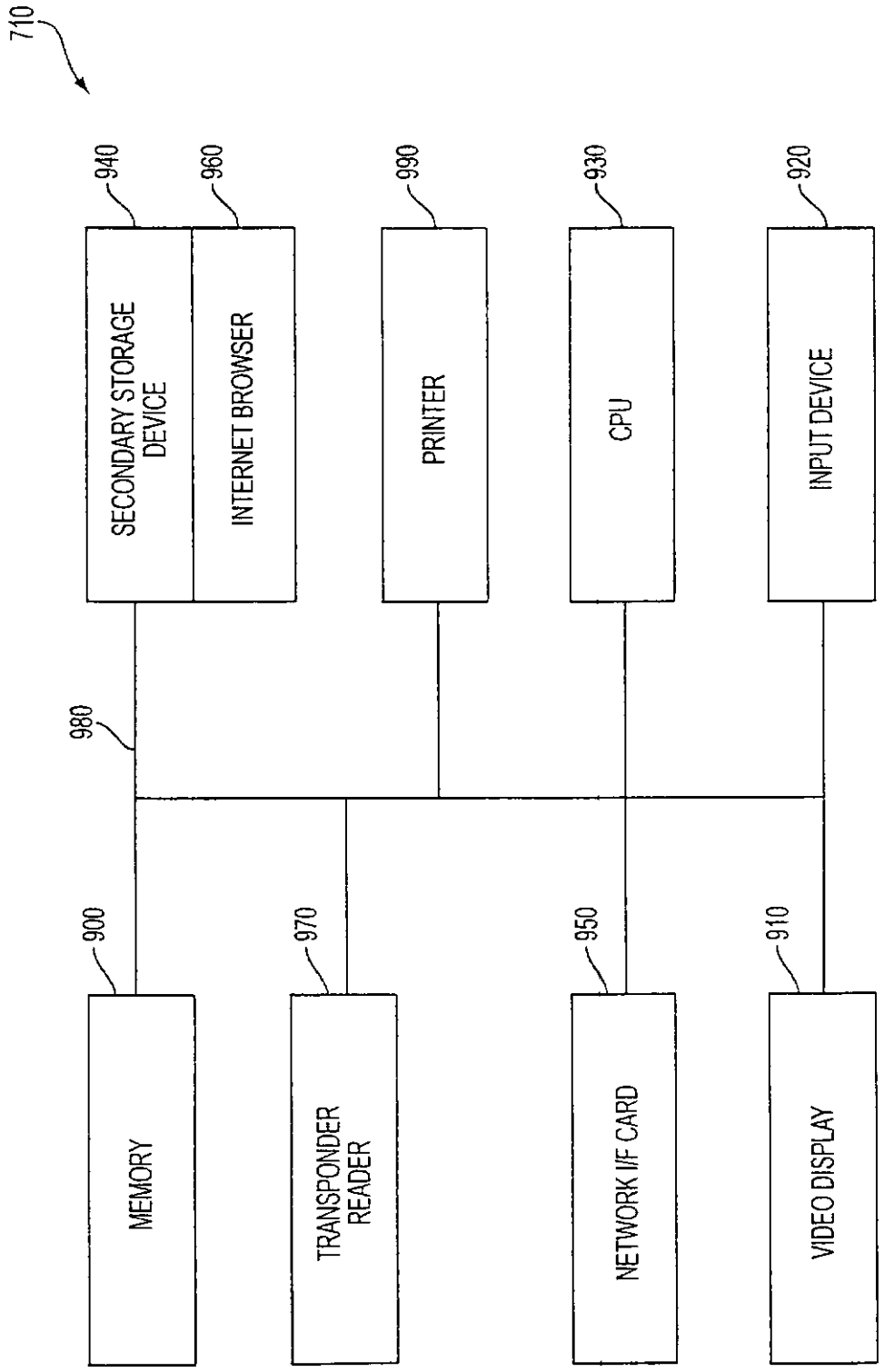

710
940
960
990
930
920
SECONDARY STORAGE DEVICE
INTERNET BROWSER
PRINTER
CPU
INPUT DEVICE
980
900
970
950
910
MEMORY
TRANSPONDER READER
NETWORK I/F CARD
VIDEO DISPLAY

FIG. 9

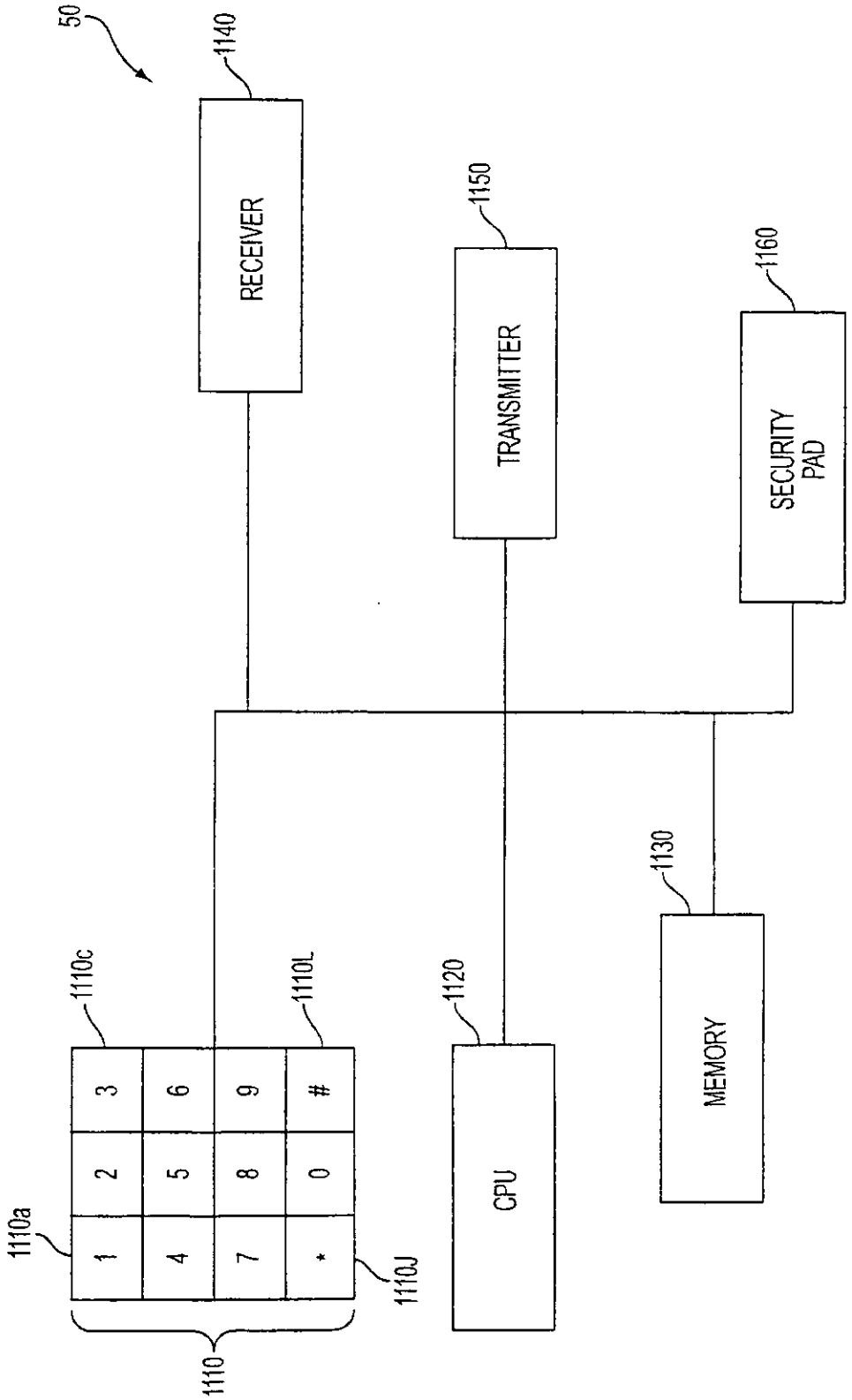

50
1140
RECEIVER
1150
TRANSMITTER
1160
SECURITY PAD
1130
MEMORY
1120
CPU
1110c
1110L
1110a
1110J
1110
1 2 3
4 5 6
7 8 9
* 0 #

FIG. 10

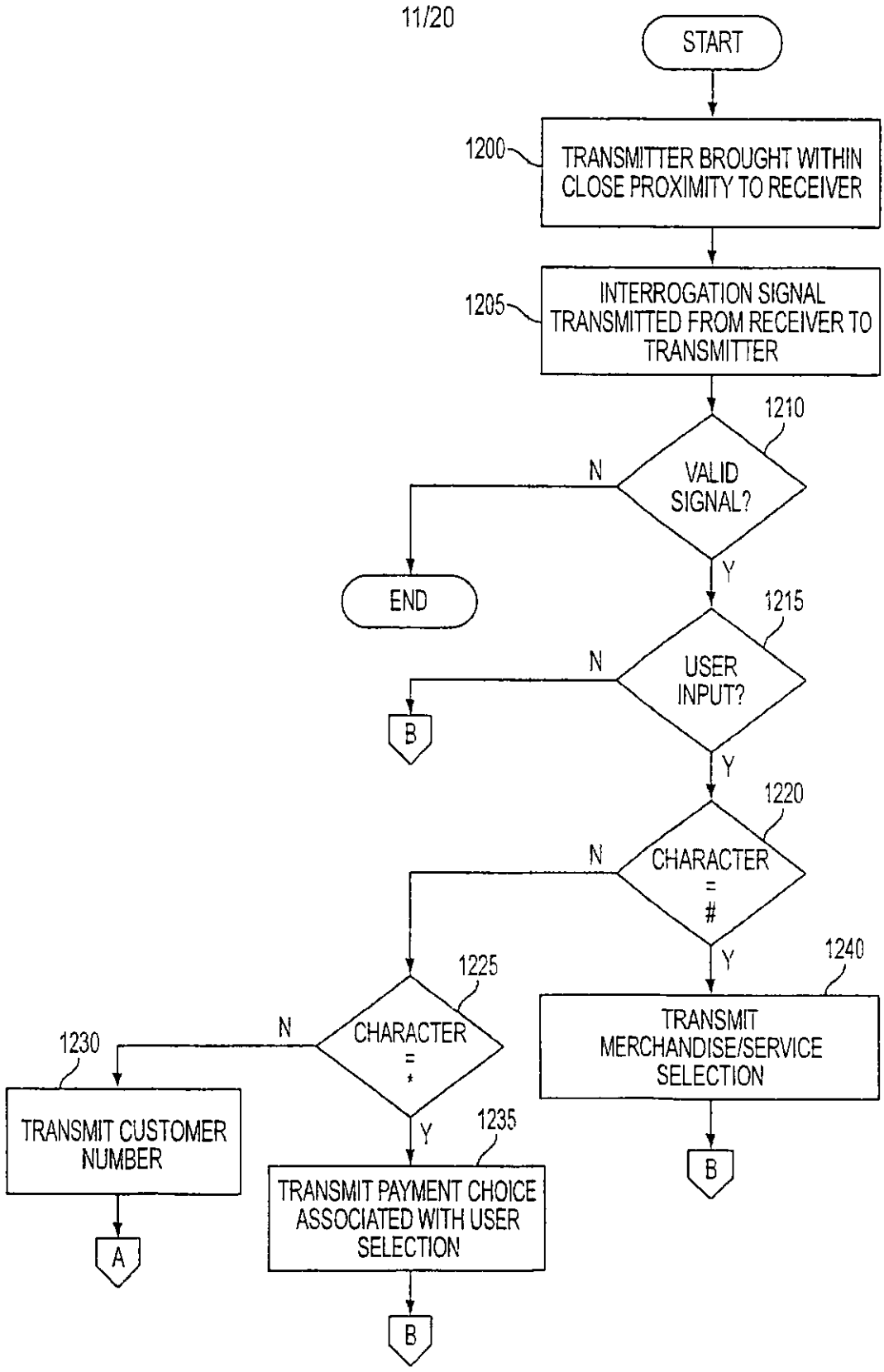

11/20
START
1200
TRANSMITTER BROUGHT WITHIN CLOSE PROXIMITY TO RECEIVER
1205
INTERROGATION SIGNAL TRANSMITTED FROM RECEIVER TO TRANSMITTER
1210
VALID SIGNAL?
N
Y
END
1215
USER INPUT?
N
Y
B
1220
CHARACTER = #
N
Y
1225
CHARACTER = *
N
Y
1230
TRANSMIT CUSTOMER NUMBER
A
1235
TRANSMIT PAYMENT CHOICE ASSOCIATED WITH USER SELECTION
B
1240
TRANSMIT MERCHANDISE/SERVICE SELECTION
B

FIG. 11a

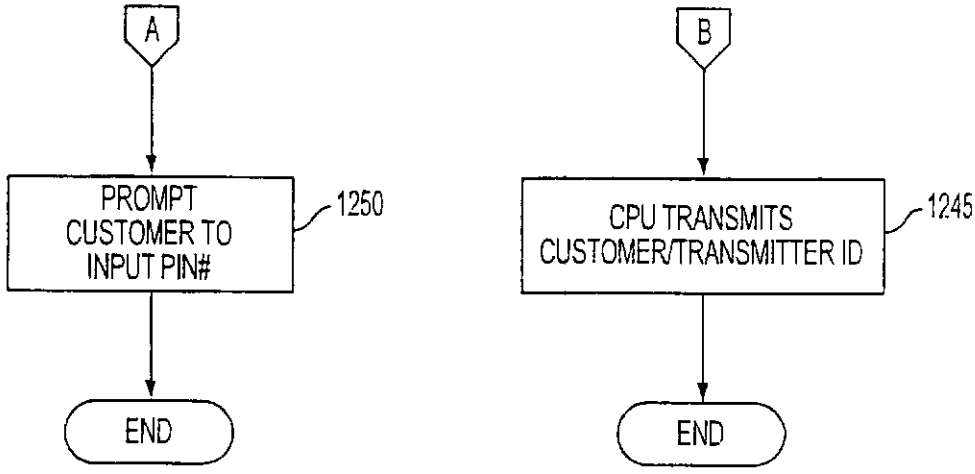

A
PROMPT CUSTOMER TO INPUT PIN#
1250
END
B
CPU TRANSMITS CUSTOMER/TRANSMITTER ID
1245
END

FIG. 11b

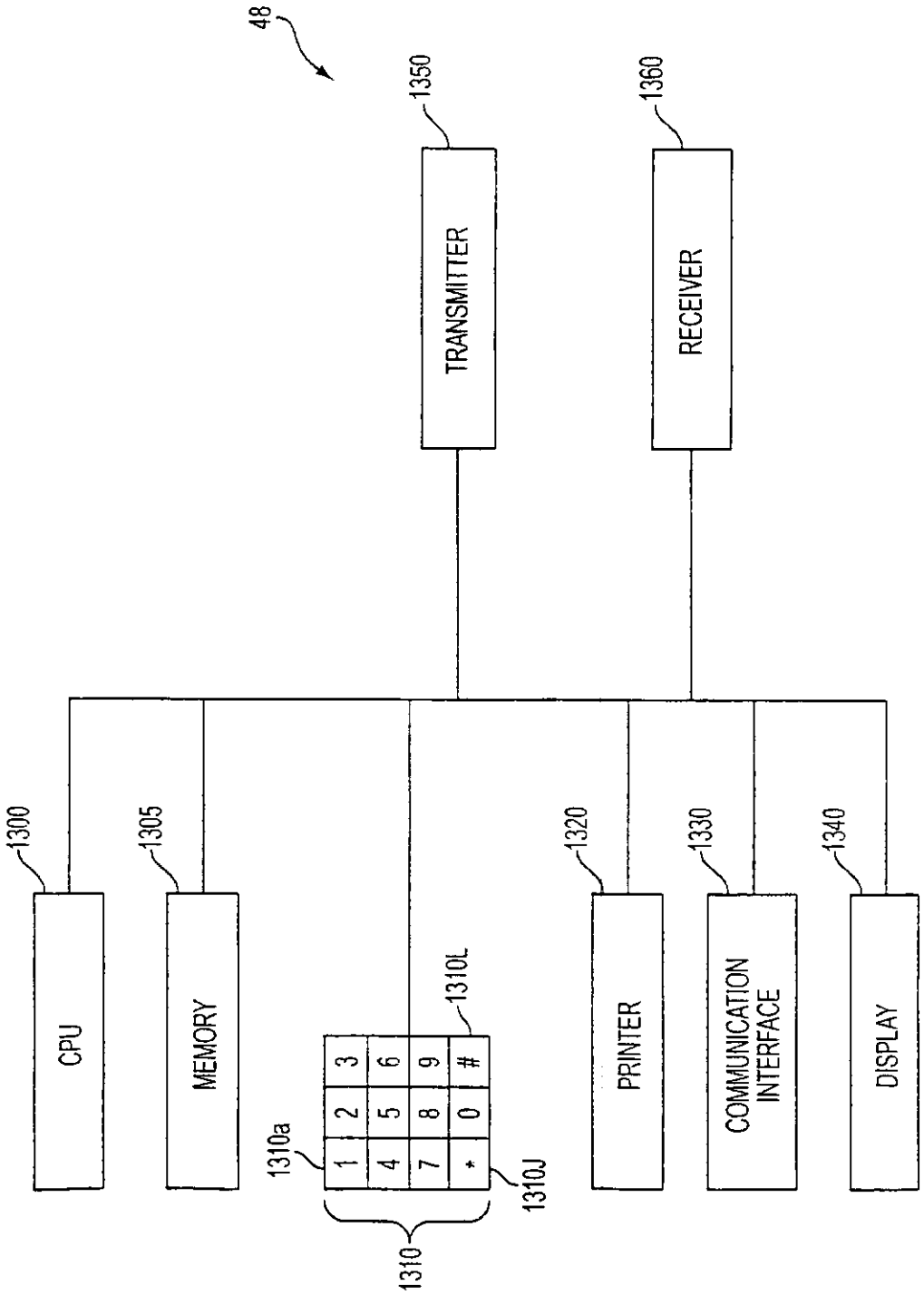

48
1350
TRANSMITTER
1360
RECEIVER
1300
CPU
1305
MEMORY
1310a
1310L
1310J
1310
1320
PRINTER
1330
COMMUNICATION INTERFACE
1340
DISPLAY
1 2 3
4 5 6
7 8 9
* 0 #

FIG. 12

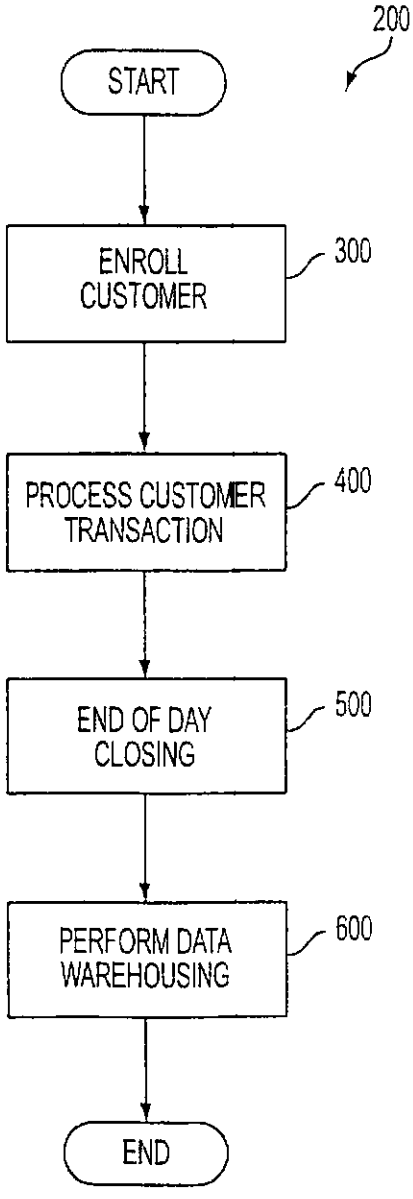

200
START
ENROLL CUSTOMER
300
PROCESS CUSTOMER TRANSACTION
400
END OF DAY CLOSING
500
PERFORM DATA WAREHOUSING
600
END

FIG. 13

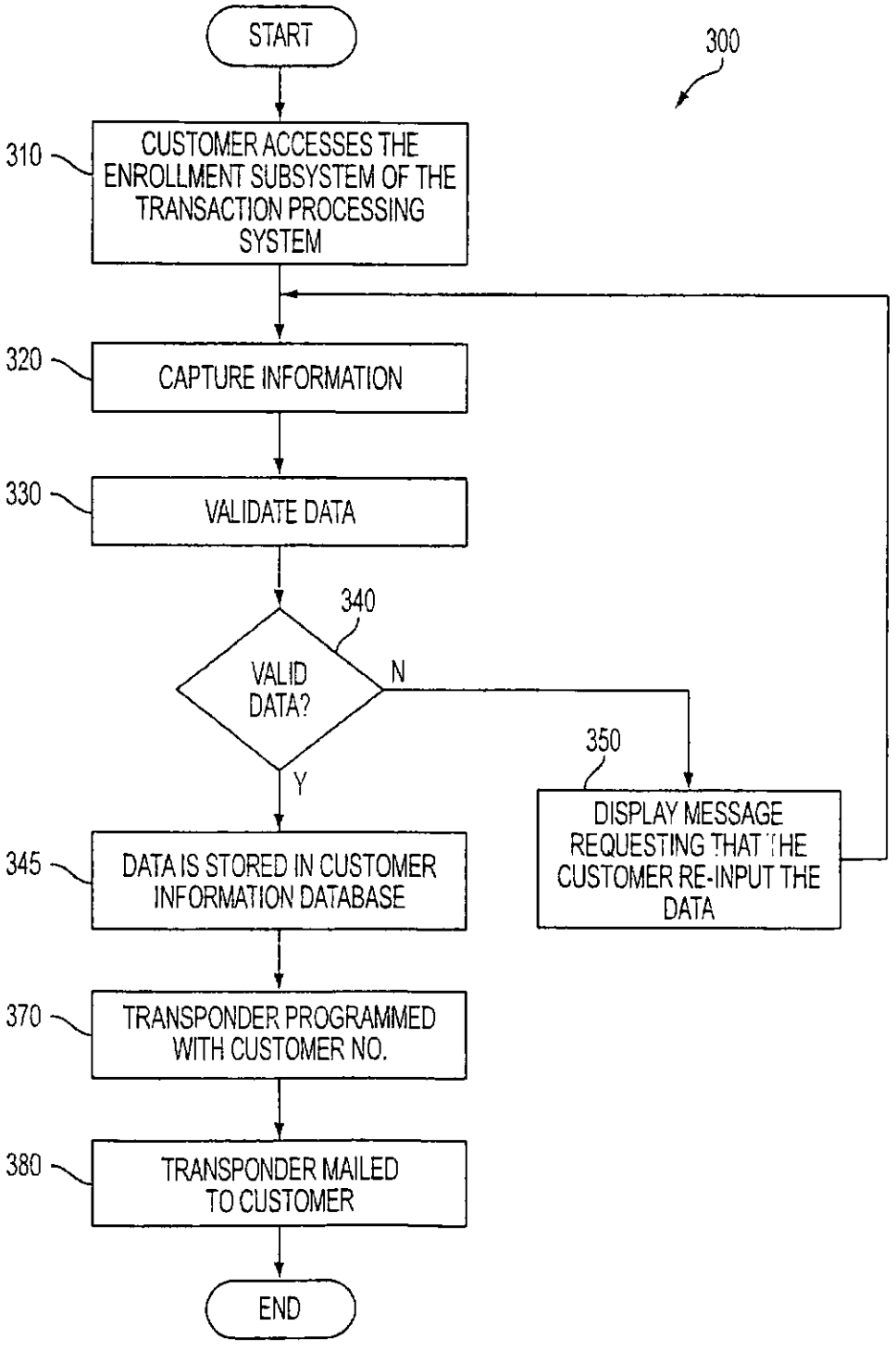

START
300
310
CUSTOMER ACCESSES THE ENROLLMENT SUBSYSTEM OF THE TRANSACTION PROCESSING SYSTEM
320
CAPTURE INFORMATION
330
VALIDATE DATA
340
VALID DATA?
N
Y
350
DISPLAY MESSAGE REQUESTING THAT THE CUSTOMER RE-INPUT THE DATA
345
DATA IS STORED IN CUSTOMER INFORMATION DATABASE
370
TRANSPONDER PROGRAMMED WITH CUSTOMER NO.
380
TRANSPONDER MAILED TO CUSTOMER
END

FIG. 14a

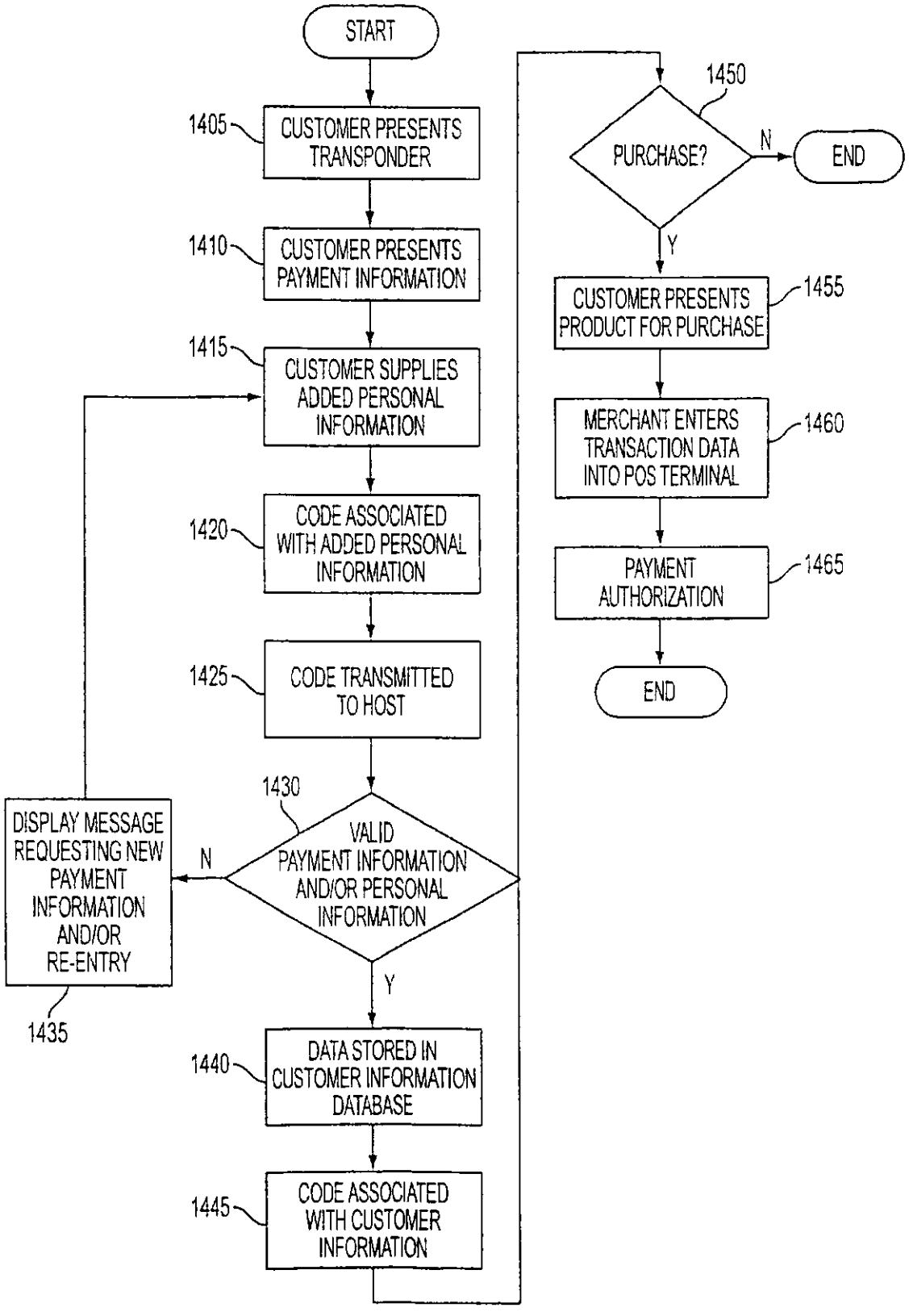

START
1405
CUSTOMER PRESENTS TRANSPONDER
1410
CUSTOMER PRESENTS PAYMENT INFORMATION
1415
CUSTOMER SUPPLIES ADDED PERSONAL INFORMATION
1420
CODE ASSOCIATED WITH ADDED PERSONAL INFORMATION
1425
CODE TRANSMITTED TO HOST
1430
VALID PAYMENT INFORMATION AND/OR PERSONAL INFORMATION
N
DISPLAY MESSAGE REQUESTING NEW PAYMENT INFORMATION AND/OR RE-ENTRY
1435
Y
1440
DATA STORED IN CUSTOMER INFORMATION DATABASE
1445
CODE ASSOCIATED WITH CUSTOMER INFORMATION
1450
PURCHASE?
N
END
Y
1455
CUSTOMER PRESENTS PRODUCT FOR PURCHASE
1460
MERCHANT ENTERS TRANSACTION DATA INTO POS TERMINAL
1465
PAYMENT AUTHORIZATION
END

FIG. 14b

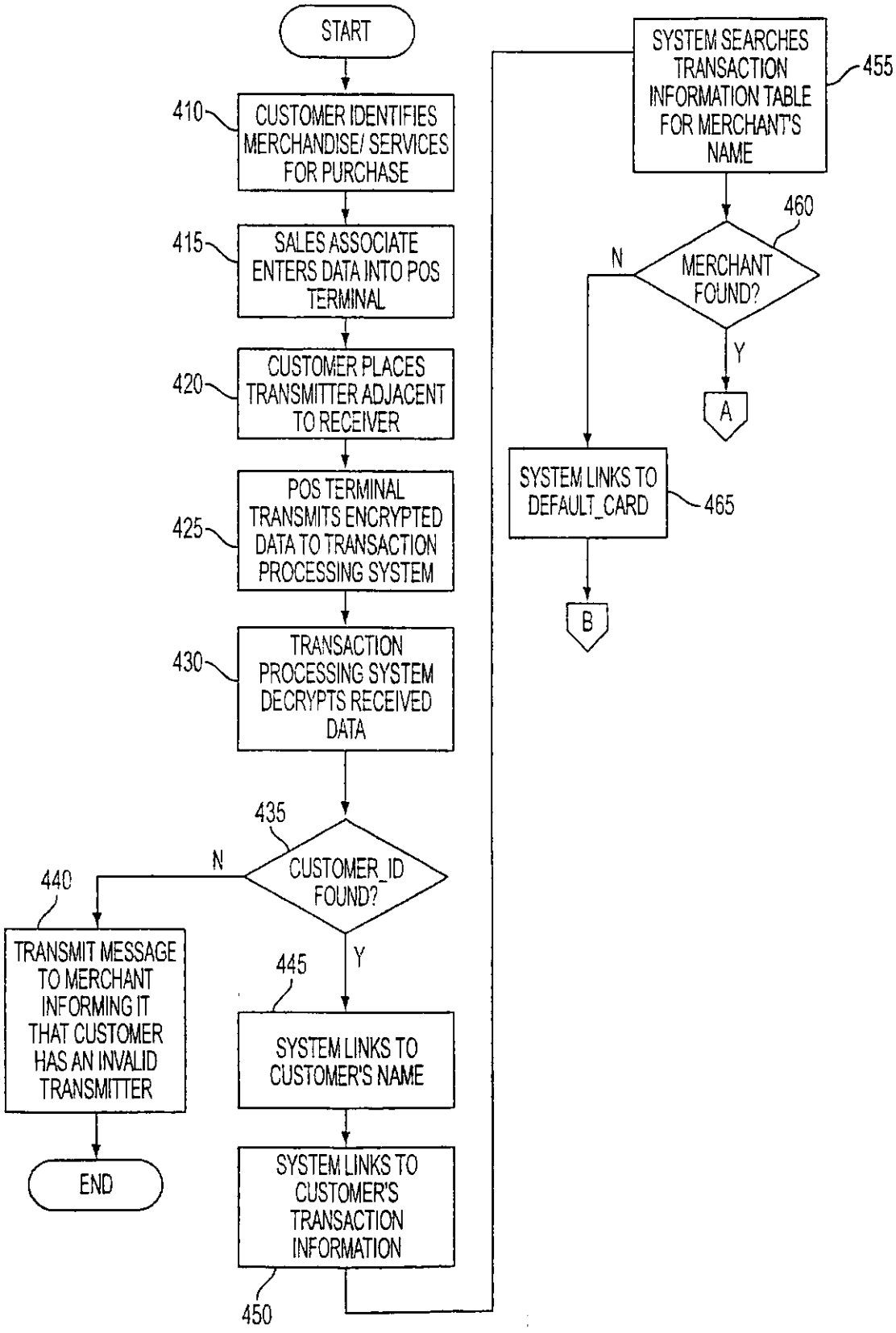

START
410
CUSTOMER IDENTIFIES MERCHANDISE/ SERVICES FOR PURCHASE
415
SALES ASSOCIATE ENTERS DATA INTO POS TERMINAL
420
CUSTOMER PLACES TRANSMITTER ADJACENT TO RECEIVER
425
POS TERMINAL TRANSMITS ENCRYPTED DATA TO TRANSACTION PROCESSING SYSTEM
430
TRANSACTION PROCESSING SYSTEM DECRYPTS RECEIVED DATA
435
CUSTOMER_ID FOUND?
N
Y
440
TRANSMIT MESSAGE TO MERCHANT INFORMING IT THAT CUSTOMER HAS AN INVALID TRANSMITTER
END
445
SYSTEM LINKS TO CUSTOMER'S NAME
SYSTEM LINKS TO CUSTOMER'S TRANSACTION INFORMATION
450
SYSTEM SEARCHES TRANSACTION INFORMATION TABLE FOR MERCHANT'S NAME
455
460
MERCHANT FOUND?
N
Y
A
SYSTEM LINKS TO DEFAULT_CARD
465
B

FIG. 15a

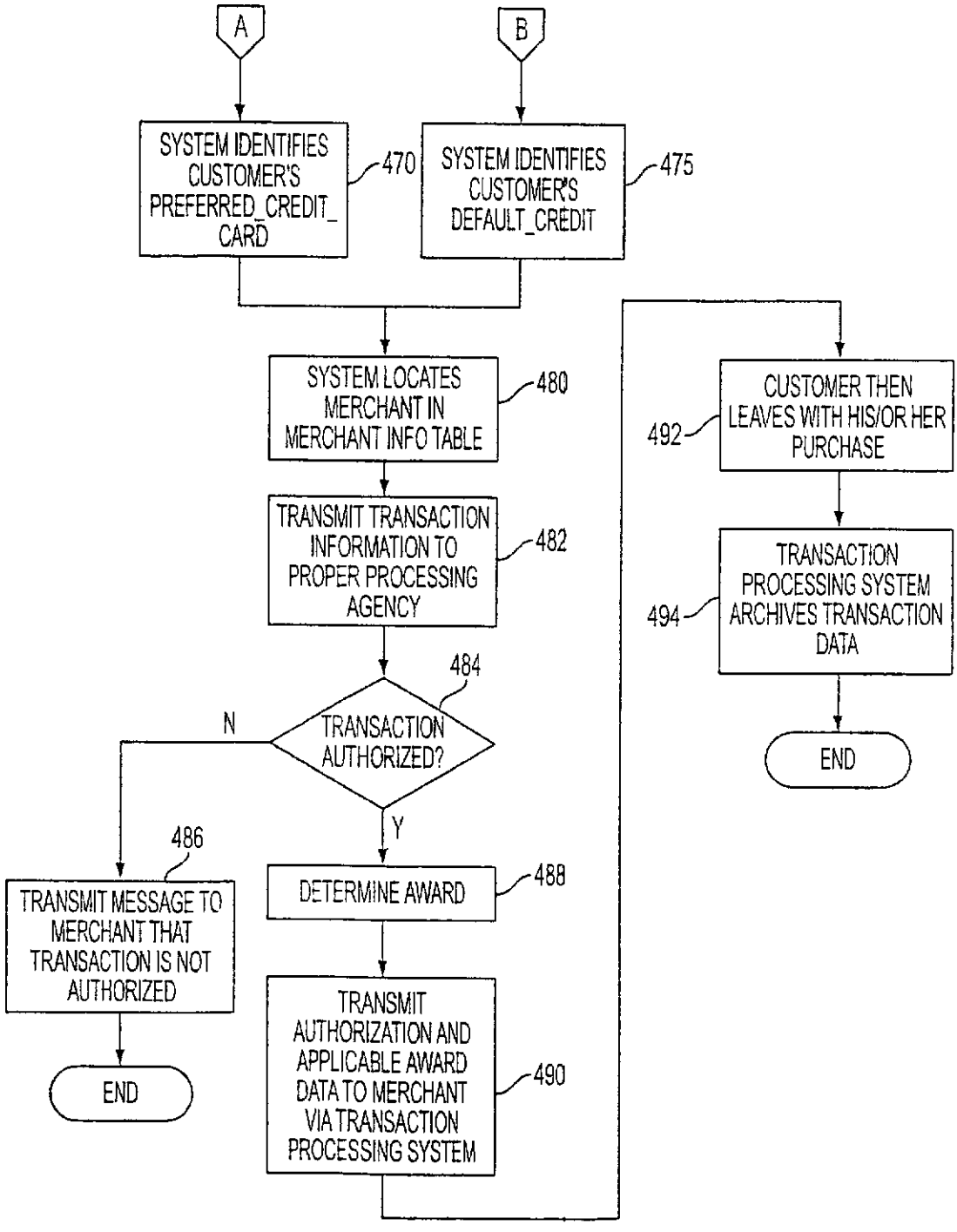

A
B
SYSTEM IDENTIFIES CUSTOMER'S PREFERRED_CREDIT_CARD
470
SYSTEM IDENTIFIES CUSTOMER'S DEFAULT_CREDIT
475
SYSTEM LOCATES MERCHANT IN MERCHANT INFO TABLE
480
TRANSMIT TRANSACTION INFORMATION TO PROPER PROCESSING AGENCY
482
484
TRANSACTION AUTHORIZED?
N
Y
486
TRANSMIT MESSAGE TO MERCHANT THAT TRANSACTION IS NOT AUTHORIZED
END
DETERMINE AWARD
488
TRANSMIT AUTHORIZATION AND APPLICABLE AWARD DATA TO MERCHANT VIA TRANSACTION PROCESSING SYSTEM
490
CUSTOMER THEN LEAVES WITH HIS/OR HER PURCHASE
492
TRANSACTION PROCESSING SYSTEM ARCHIVES TRANSACTION DATA
494
END

FIG. 15b

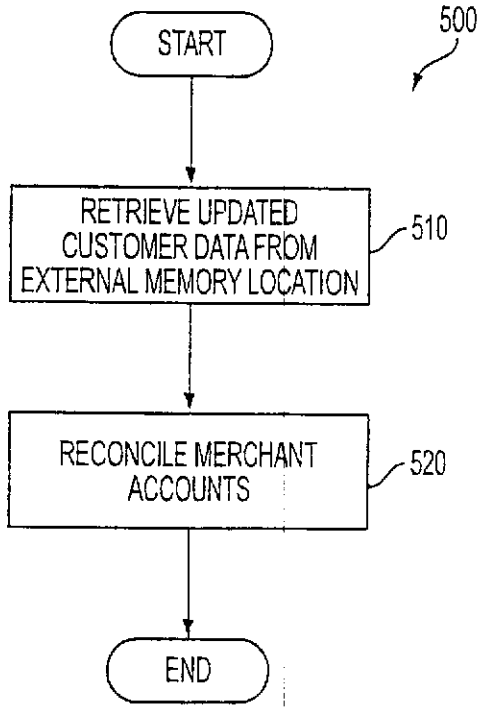

START
500
RETRIEVE UPDATED CUSTOMER DATA FROM EXTERNAL MEMORY LOCATION
510
RECONCILE MERCHANT ACCOUNTS
520
END

FIG. 16

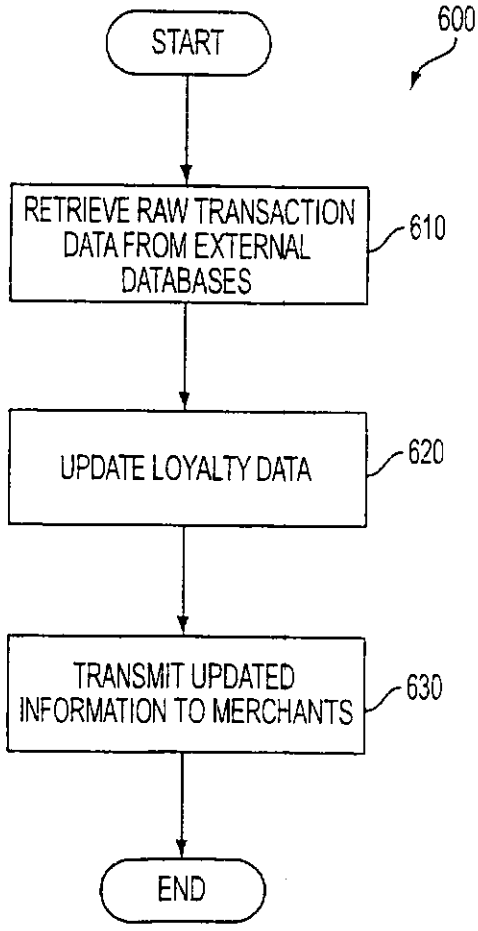

START
600
RETRIEVE RAW TRANSACTION DATA FROM EXTERNAL DATABASES
610
UPDATE LOYALTY DATA
620
TRANSMIT UPDATED INFORMATION TO MERCHANTS
630
END

FIG. 17