FIG. 1

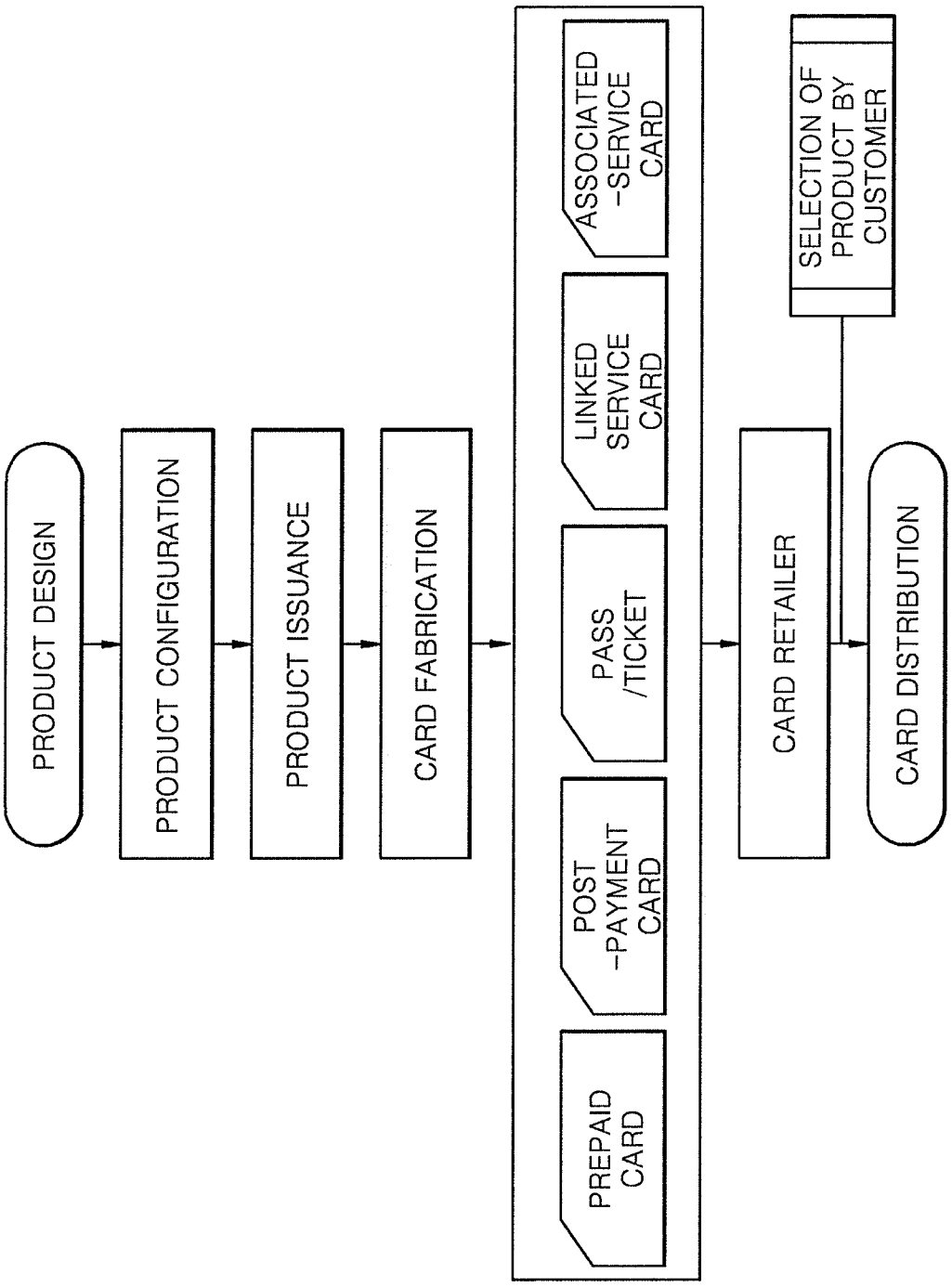

PRODUCT DESIGN
PRODUCT CONFIGURATION
PRODUCT ISSUANCE
CARD FABRICATION
PREPAID CARD
POST -PAYMENT CARD
PASS /TICKET
LINKED SERVICE CARD
ASSOCIATED -SERVICE CARD
CARD RETAILER
SELECTION OF PRODUCT BY CUSTOMER
CARD DISTRIBUTION

FIG. 2

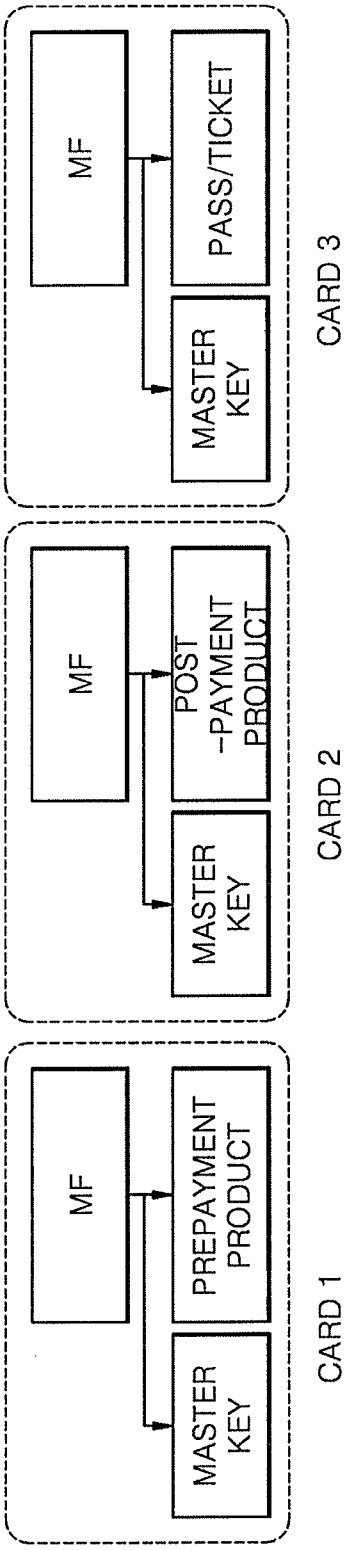

MF
PASS/TICKET
MASTER KEY
CARD 3
MF
POST -PAYMENT PRODUCT
MASTER KEY
CARD 2
MF
PREPAYMENT PRODUCT
MASTER KEY
CARD 1

FIG. 3

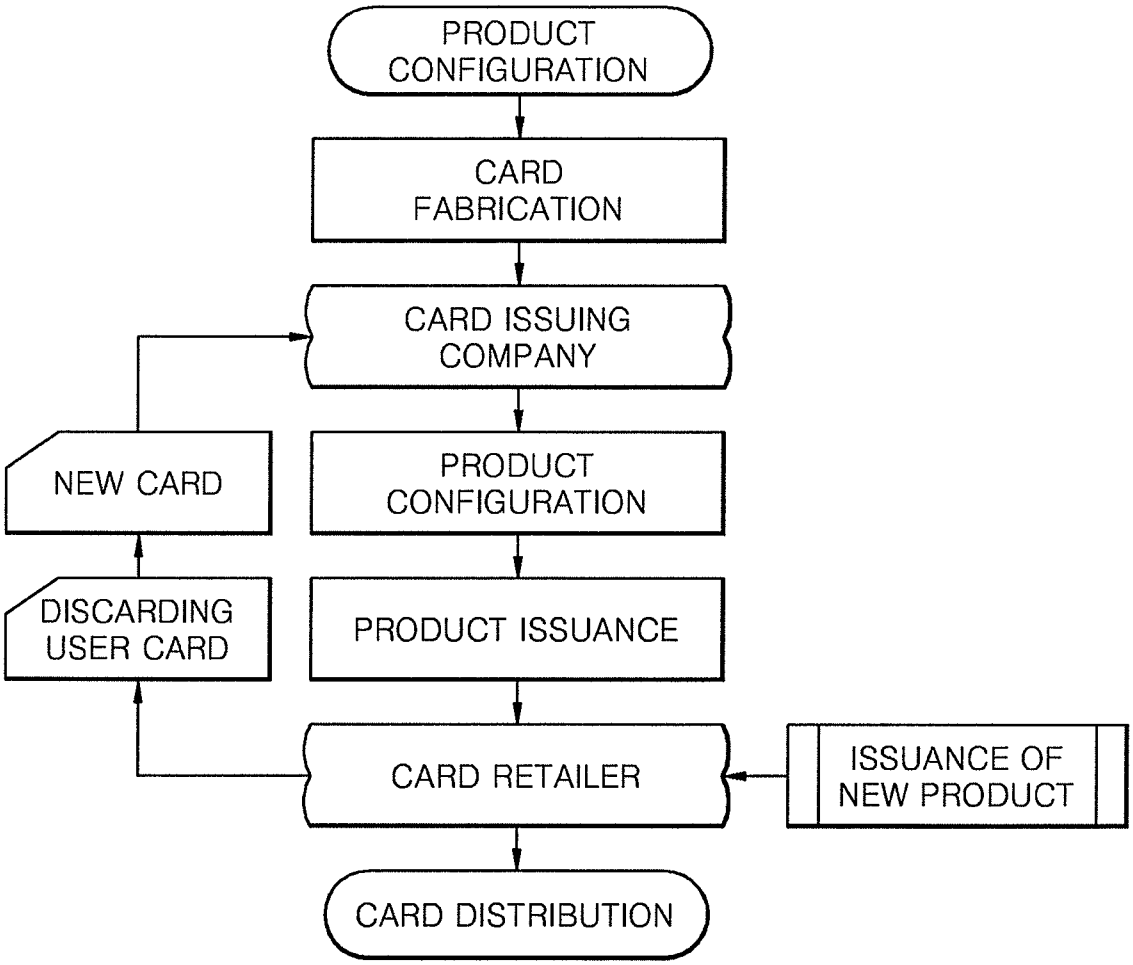

PRODUCT CONFIGURATION
CARD FABRICATION
CARD ISSUING COMPANY
NEW CARD
PRODUCT CONFIGURATION
DISCARDING USER CARD
PRODUCT ISSUANCE
CARD RETAILER
ISSUANCE OF NEW PRODUCT
CARD DISTRIBUTION

FIG. 4

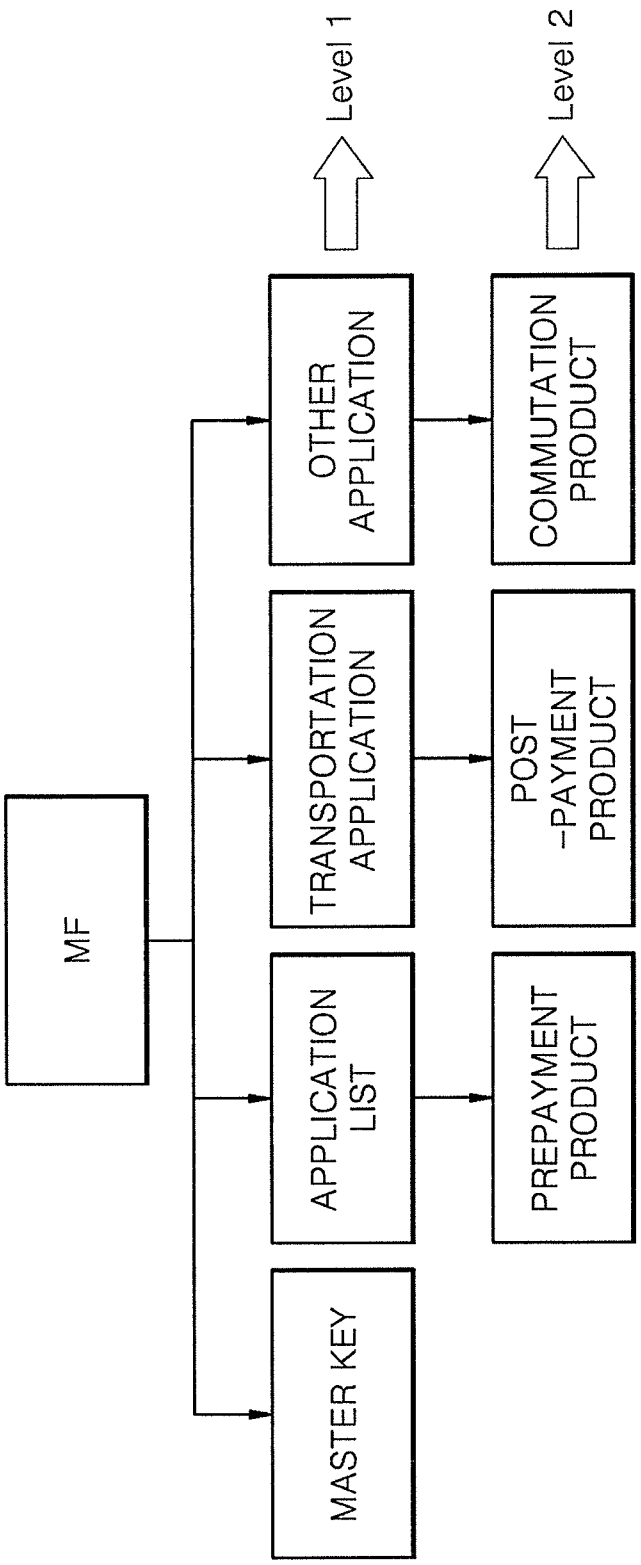

Level 1
Level 2
MF
MASTER KEY
APPLICATION LIST
TRANSPORTATION APPLICATION
OTHER APPLICATION
PREPAYMENT PRODUCT
POST -PAYMENT PRODUCT
COMMUTATION PRODUCT

FIG. 5

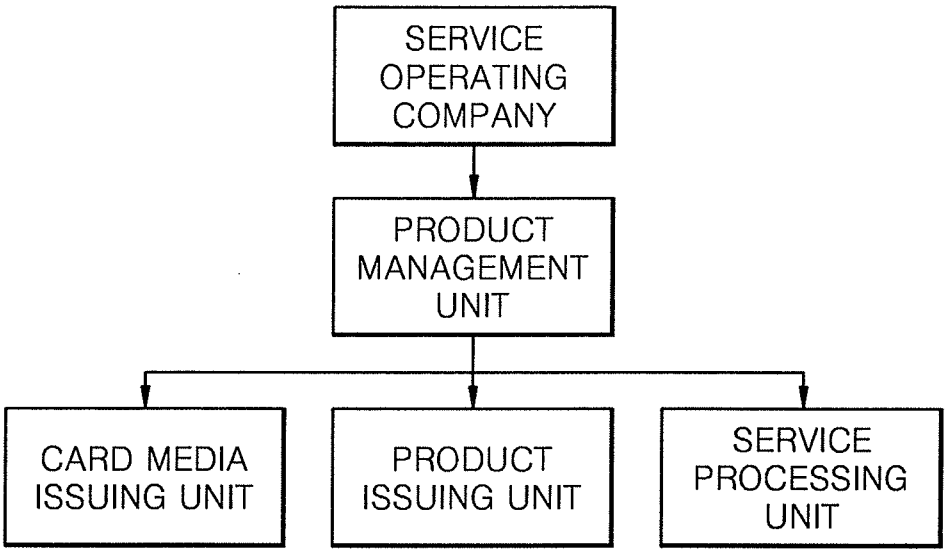

SERVICE OPERATING COMPANY
PRODUCT MANAGEMENT UNIT
CARD MEDIA ISSUING UNIT
PRODUCT ISSUING UNIT
SERVICE PROCESSING UNIT

FIG. 6

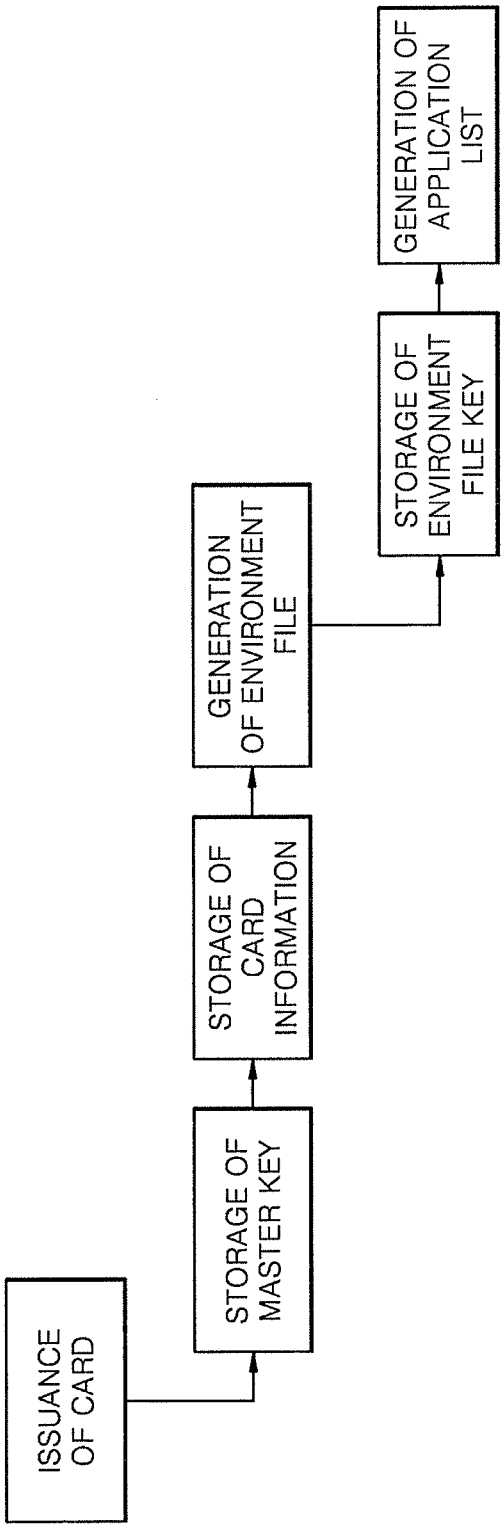

ISSUANCE OF CARD
STORAGE OF MASTER KEY
STORAGE OF CARD INFORMATION
GENERATION OF ENVIRONMENT FILE
STORAGE OF ENVIRONMENT FILE KEY
GENERATION OF APPLICATION LIST

FIG. 7

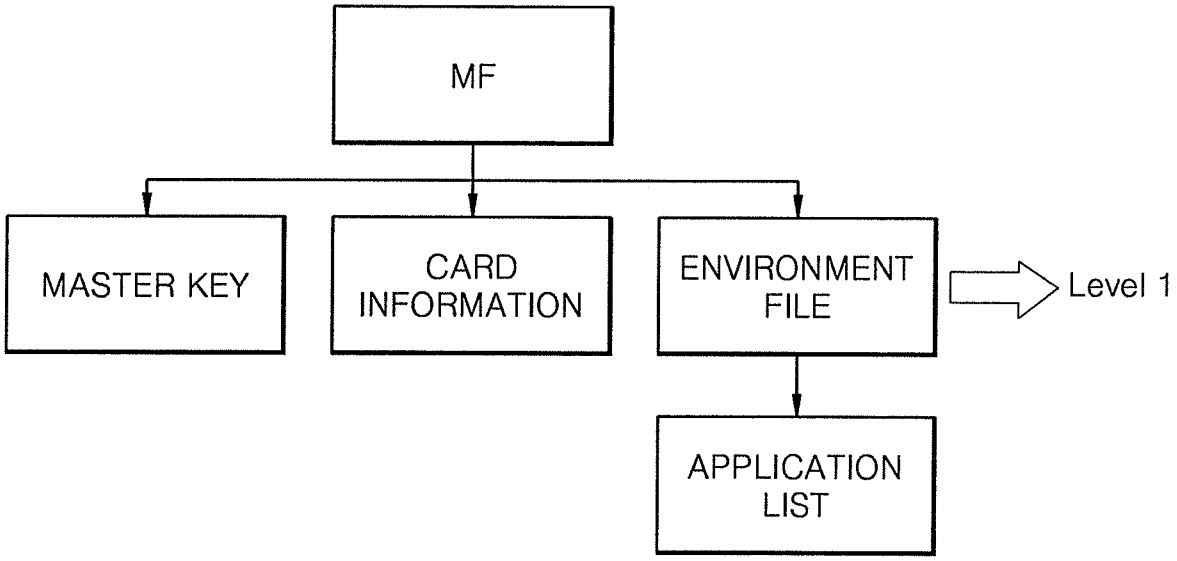

MF
MASTER KEY
CARD INFORMATION
ENVIRONMENT FILE
Level 1
APPLICATION LIST

FIG. 8

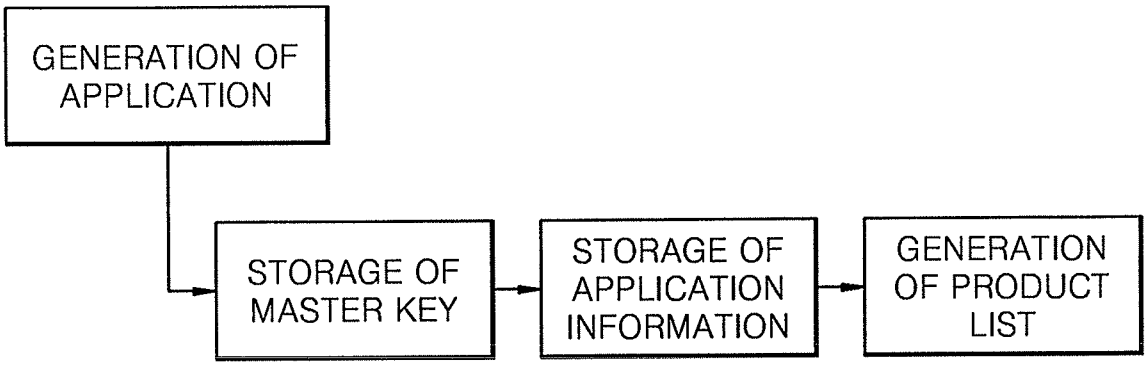

GENERATION OF APPLICATION
STORAGE OF MASTER KEY
STORAGE OF APPLICATION INFORMATION
GENERATION OF PRODUCT LIST

FIG. 9

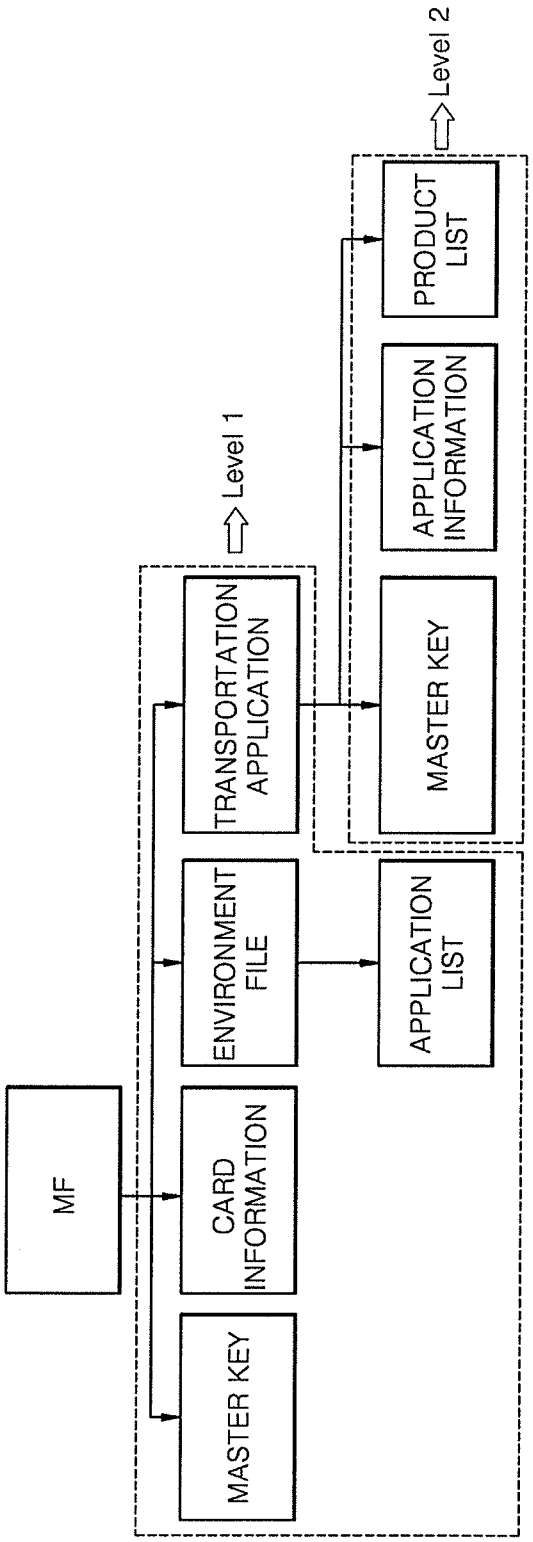

MF
CARD INFORMATION
MASTER KEY
ENVIRONMENT FILE
TRANSPORTATION APPLICATION
Level 1
APPLICATION LIST
MASTER KEY
APPLICATION INFORMATION
PRODUCT LIST
Level 2

FIG. 10

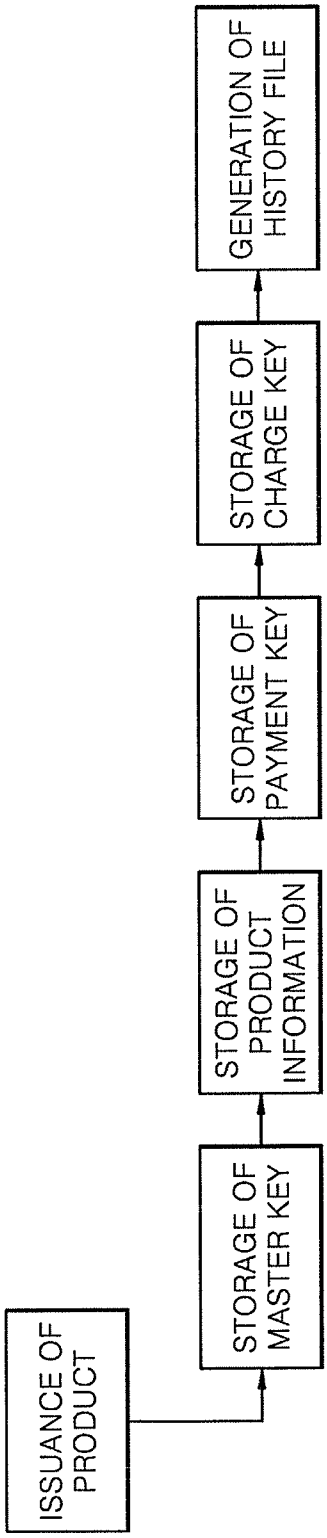

ISSUANCE OF PRODUCT
STORAGE OF MASTER KEY
STORAGE OF PRODUCT INFORMATION
STORAGE OF PAYMENT KEY
STORAGE OF CHARGE KEY
GENERATION OF HISTORY FILE

FIG. 11

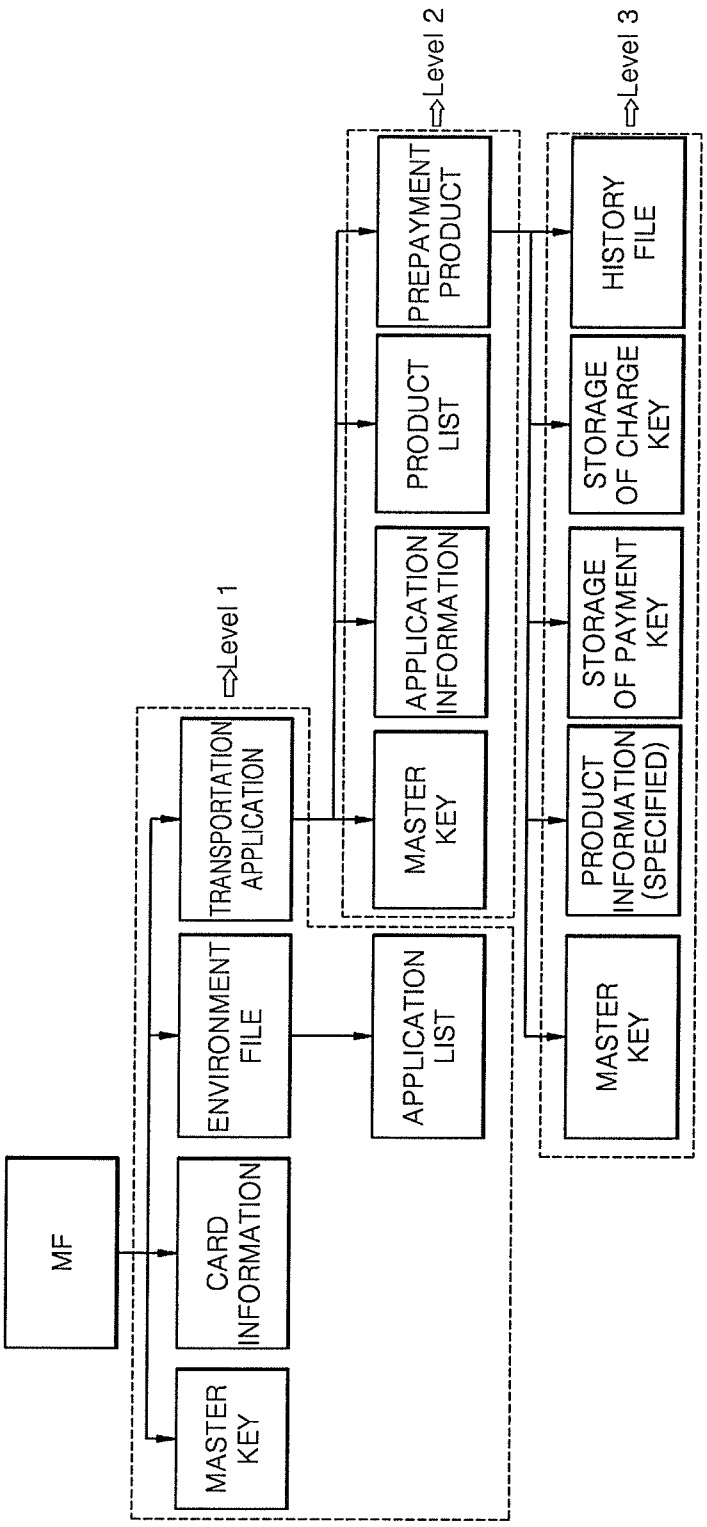

MF
CARD INFORMATION
MASTER KEY
ENVIRONMENT FILE
TRANSPORTATION APPLICATION
⇨Level 1
APPLICATION LIST
MASTER KEY
APPLICATION INFORMATION
PRODUCT LIST
PREPAYMENT PRODUCT
⇨Level 2
MASTER KEY
PRODUCT INFORMATION (SPECIFIED)
STORAGE OF PAYMENT KEY
STORAGE OF CHARGE KEY
HISTORY FILE
⇨Level 3

FIG. 12

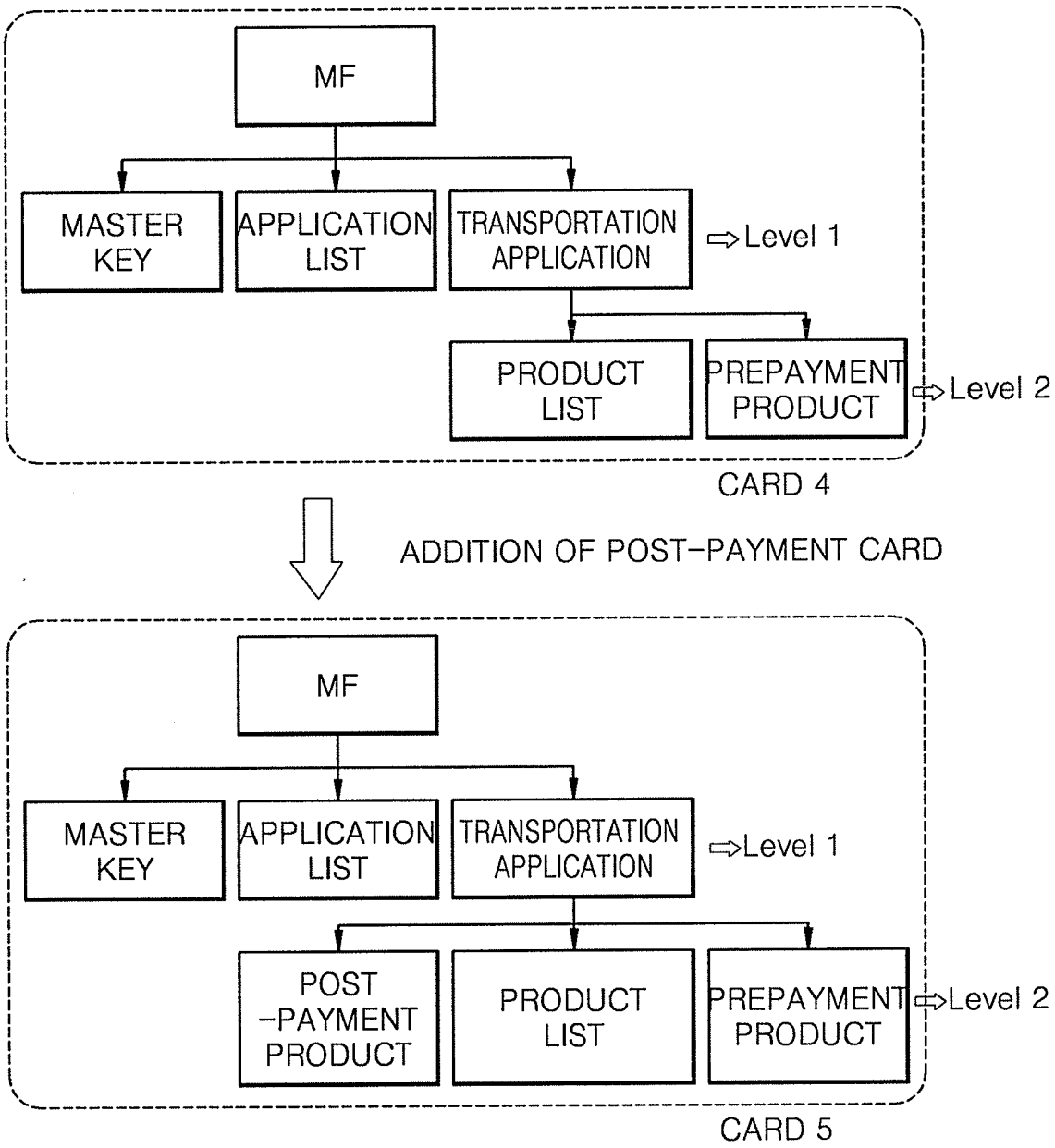

MF
MASTER KEY
APPLICATION LIST
TRANSPORTATION APPLICATION
⇨Level 1
PRODUCT LIST
PREPAYMENT PRODUCT
⇨Level 2
CARD 4
ADDITION OF POST-PAYMENT CARD
MF
MASTER KEY
APPLICATION LIST
TRANSPORTATION APPLICATION
⇨Level 1
POST -PAYMENT PRODUCT
PRODUCT LIST
PREPAYMENT PRODUCT
⇨Level 2
CARD 5

FIG. 13

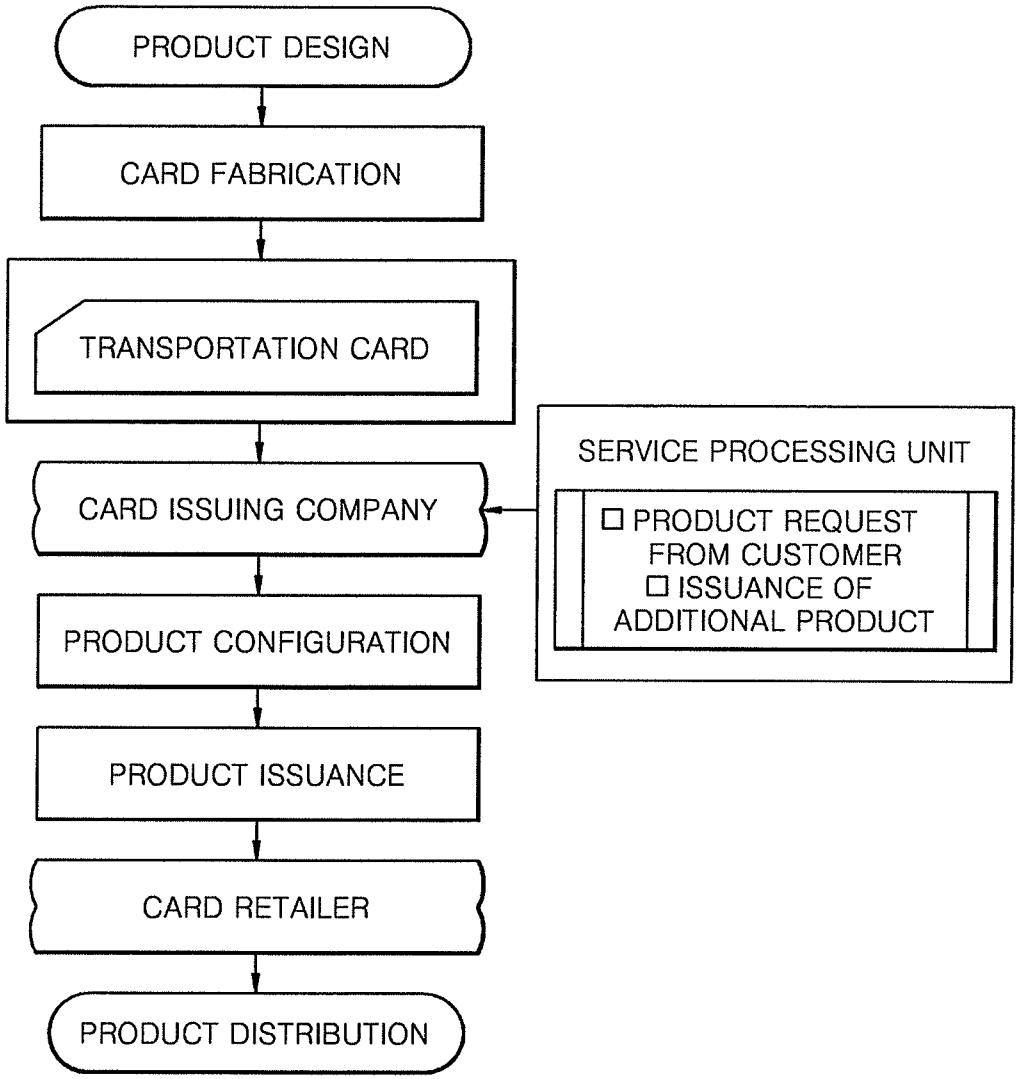

PRODUCT DESIGN
CARD FABRICATION
TRANSPORTATION CARD
CARD ISSUING COMPANY
PRODUCT CONFIGURATION
PRODUCT ISSUANCE
CARD RETAILER
PRODUCT DISTRIBUTION
SERVICE PROCESSING UNIT
☐ PRODUCT REQUEST FROM CUSTOMER
☐ ISSUANCE OF ADDITIONAL PRODUCT

FIG. 14

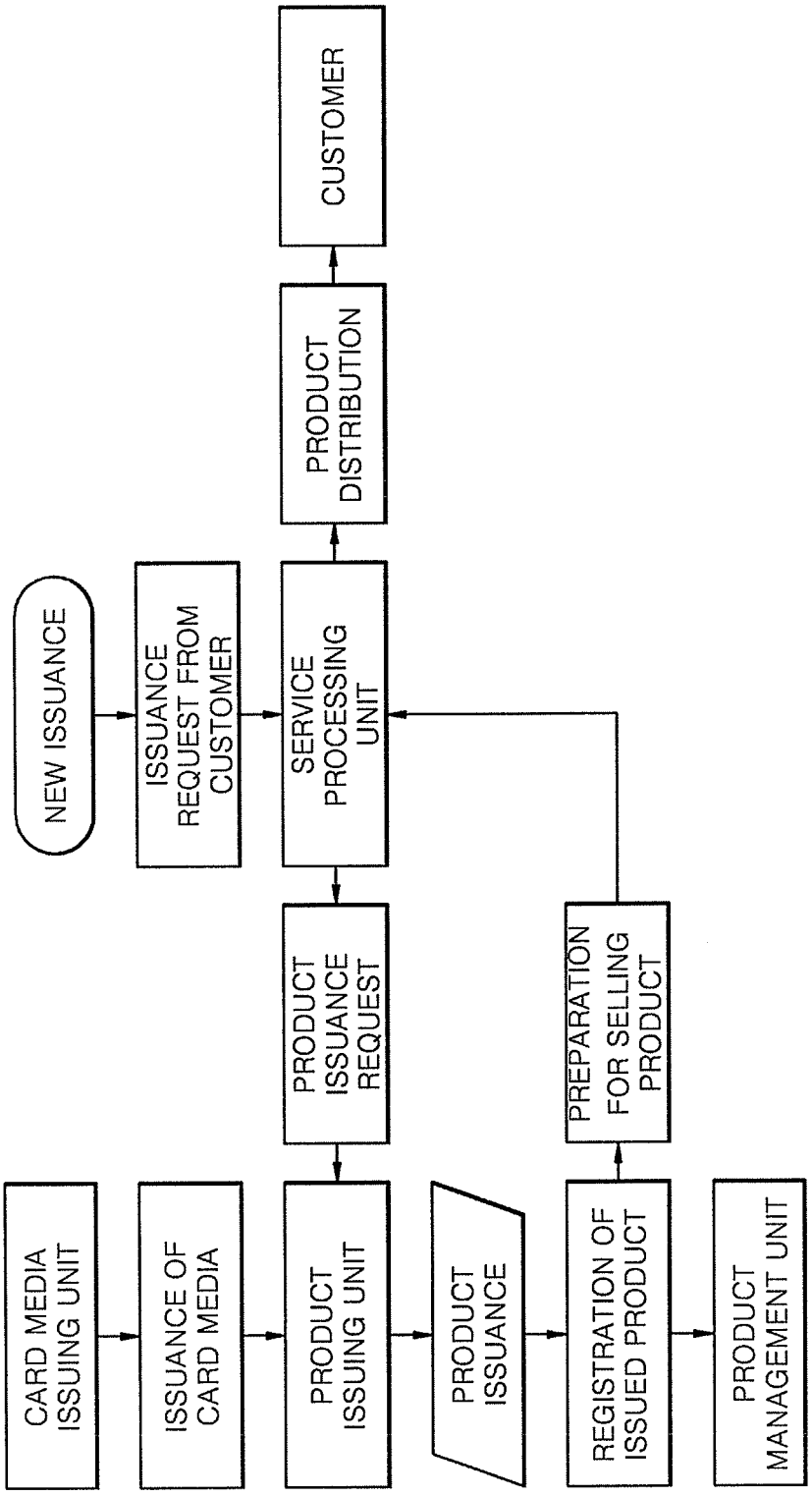

CUSTOMER
PRODUCT DISTRIBUTION
NEW ISSUANCE
ISSUANCE REQUEST FROM CUSTOMER
SERVICE PROCESSING UNIT
PRODUCT ISSUANCE REQUEST
PREPARATION FOR SELLING PRODUCT
CARD MEDIA ISSUING UNIT
ISSUANCE OF CARD MEDIA
PRODUCT ISSUING UNIT
PRODUCT ISSUANCE
REGISTRATION OF ISSUED PRODUCT
PRODUCT MANAGEMENT UNIT

FIG. 15

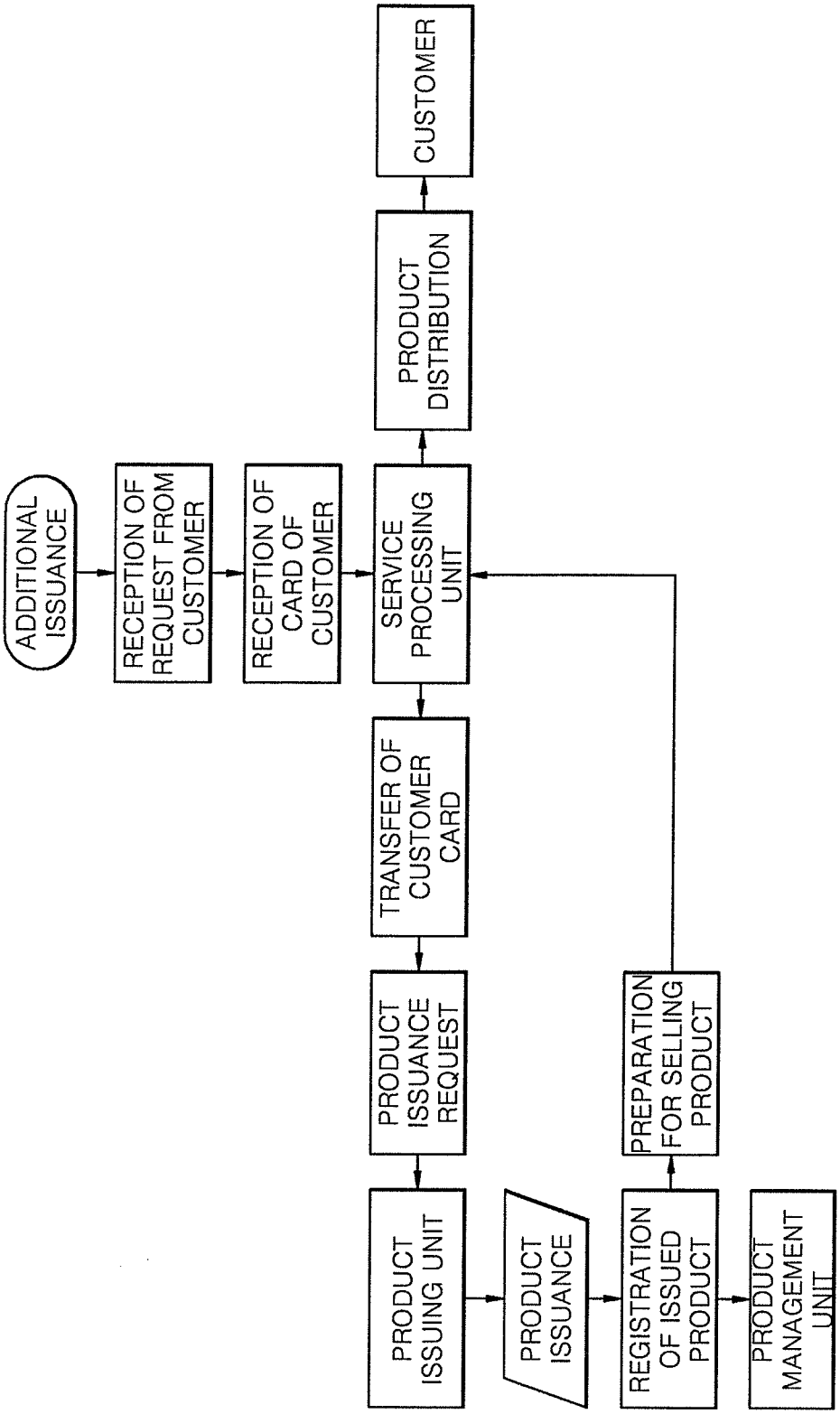

ADDITIONAL ISSUANCE
RECEPTION OF REQUEST FROM CUSTOMER
RECEPTION OF CARD OF CUSTOMER
SERVICE PROCESSING UNIT
PRODUCT DISTRIBUTION
CUSTOMER
TRANSFER OF CUSTOMER CARD
PRODUCT ISSUANCE REQUEST
PREPARATION FOR SELLING PRODUCT
PRODUCT ISSUING UNIT
PRODUCT ISSUANCE
REGISTRATION OF ISSUED PRODUCT
PRODUCT MANAGEMENT UNIT

FIG. 16

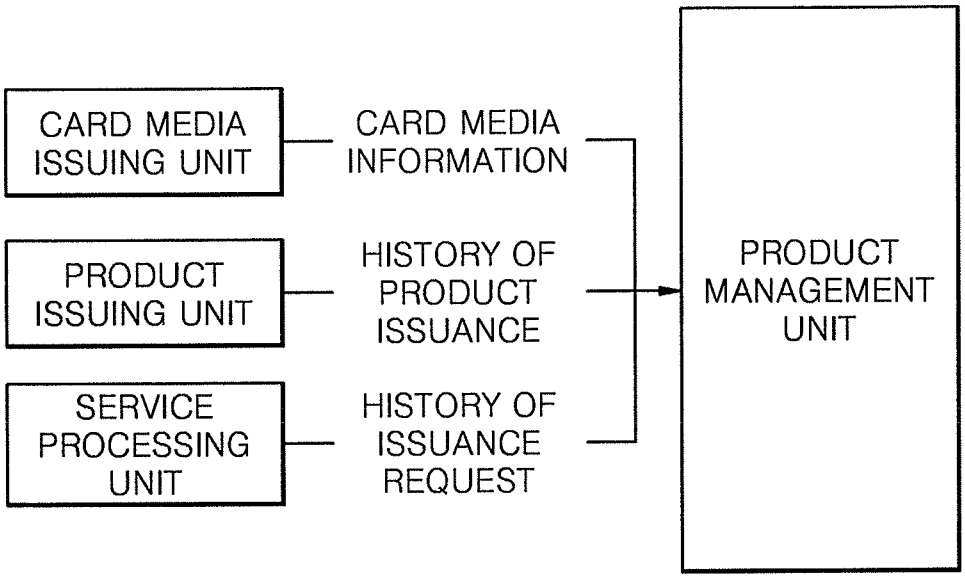

CARD MEDIA ISSUING UNIT
CARD MEDIA INFORMATION
PRODUCT ISSUING UNIT
HISTORY OF PRODUCT ISSUANCE
SERVICE PROCESSING UNIT
HISTORY OF ISSUANCE REQUEST
PRODUCT MANAGEMENT UNIT

FIG. 17

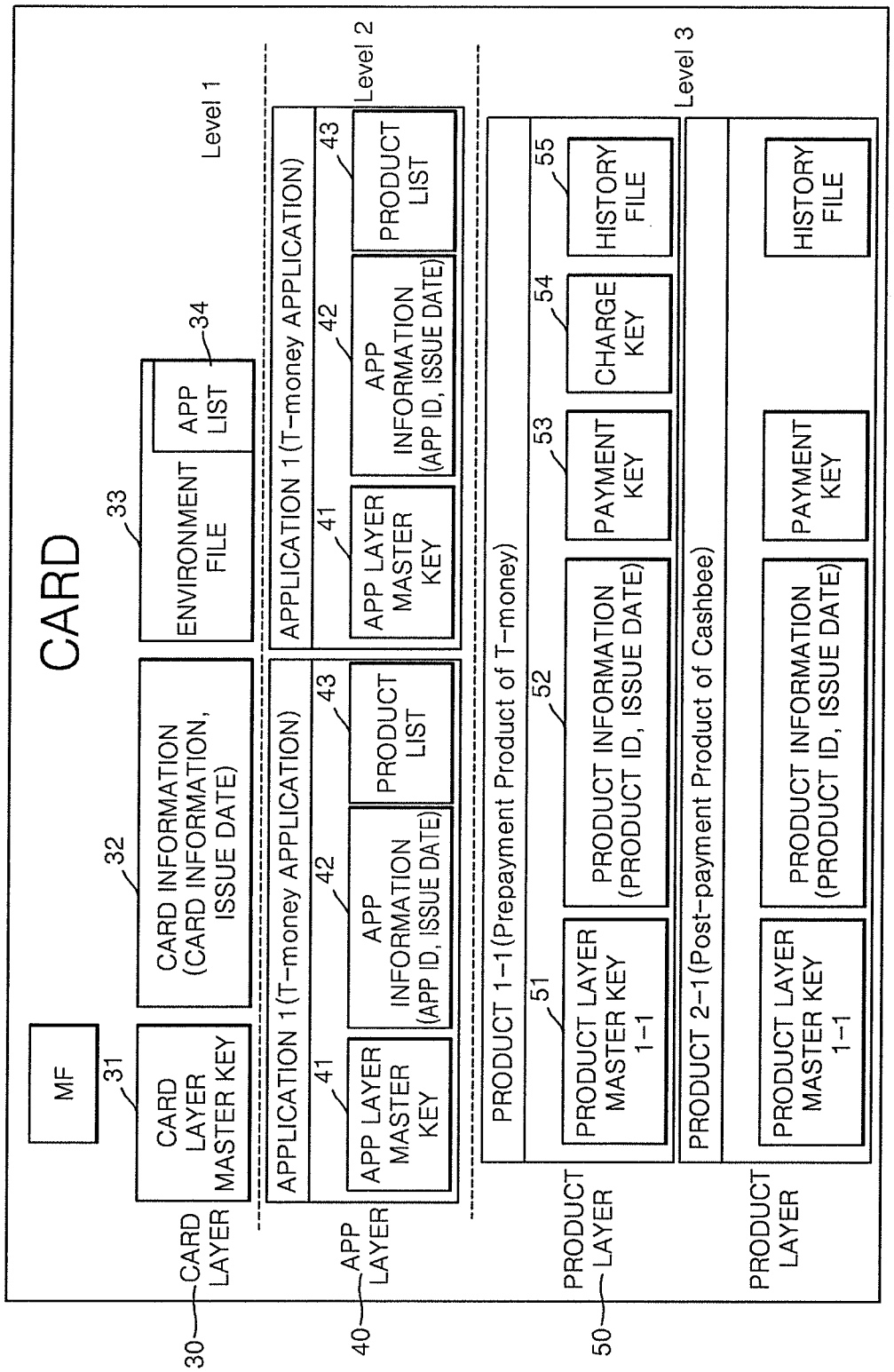

CARD
MF
31
CARD LAYER MASTER KEY
32
CARD INFORMATION (CARD INFORMATION, ISSUE DATE)
33
ENVIRONMENT FILE
34
APP LIST
Level 1
CARD LAYER
30
APPLICATION 1 (T-money APPLICATION)
41
APP LAYER MASTER KEY
42
APP INFORMATION (APP ID, ISSUE DATE)
43
PRODUCT LIST
Level 2
APP LAYER
40
PRODUCT 1-1 (Prepayment Product of T-money)
51
PRODUCT LAYER MASTER KEY 1-1
52
PRODUCT INFORMATION (PRODUCT ID, ISSUE DATE)
53
PAYMENT KEY
54
CHARGE KEY
55
HISTORY FILE
PRODUCT 2-1 (Post-payment Product of Cashbee)
Level 3
PRODUCT LAYER
50

FIG. 18A

TABLE

No.	PRODUCT	PRIORITY ORDER	APP ACCESS ADDRESS
APP 1	PRODUCT 1-1 PRODUCT 1-2 PRODUCT 1-3	1	0x1E
APP 2	PRODUCT 2-1 PRODUCT 2-2 PRODUCT 2-3	2	0x8B

FIG. 18B

TABLE 1

No.	PRODUCT	PRIORITY ORDER	APP ACCESS ADDRESS	PRODUCT ACCESS ADDRESS
APP 1	PRODUCT 1-1	1	0x1E	0x35
	PRODUCT 1-2	2	0x1E	0x51
	PRODUCT 1-3	3	0x1E	0x6E
APP 2	PRODUCT 2-1	4	0x8B	0x76
	PRODUCT 2-2	5	0x8B	0x80
	PRODUCT 2-3	6	0x8B	0x83

TABLE 2

No.	PRODUCT	APP PRIORITY ORDER	PRODUCT PRIORITY ORDER	APP ACCESS ADDRESS	PRODUCT ACCESS ADDRESS
APP 1	PRODUCT 1-1	1	1	0x1E	0x35
	PRODUCT 1-2		2		0x51
	PRODUCT 1-3		3		0x6E
APP 2	PRODUCT 2-1	2	1	0x8B	0x76
	PRODUCT 2-2		2		0x80
	PRODUCT 2-3		3		0x83

FIG. 18C

TABLE

No.	PRIORITY ORDER	PRODUCT ACCESS ADDRESS
PRODUCT 1-1	1	0x35
PRODUCT 1-2	2	0x51
PRODUCT 1-3	3	0x6E

FIG. 18D

TABLE

No.	PRIORITY ORDER	PRODUCT ACCESS ADDRESS
PRODUCT 2-1	1	0x76
PRODUCT 2-2	2	0x80
PRODUCT 2 -3	3	0x83

FIG. 19

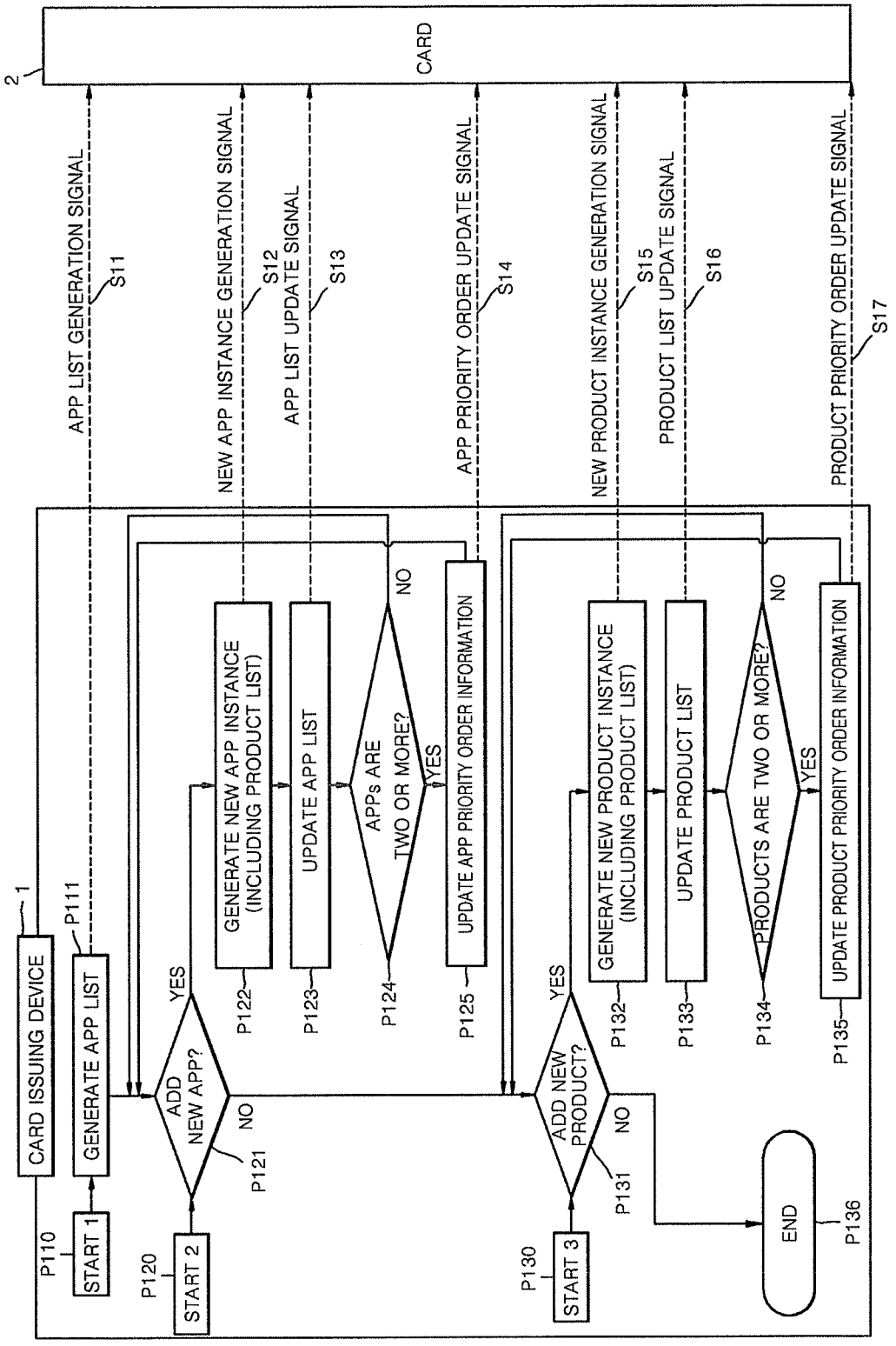
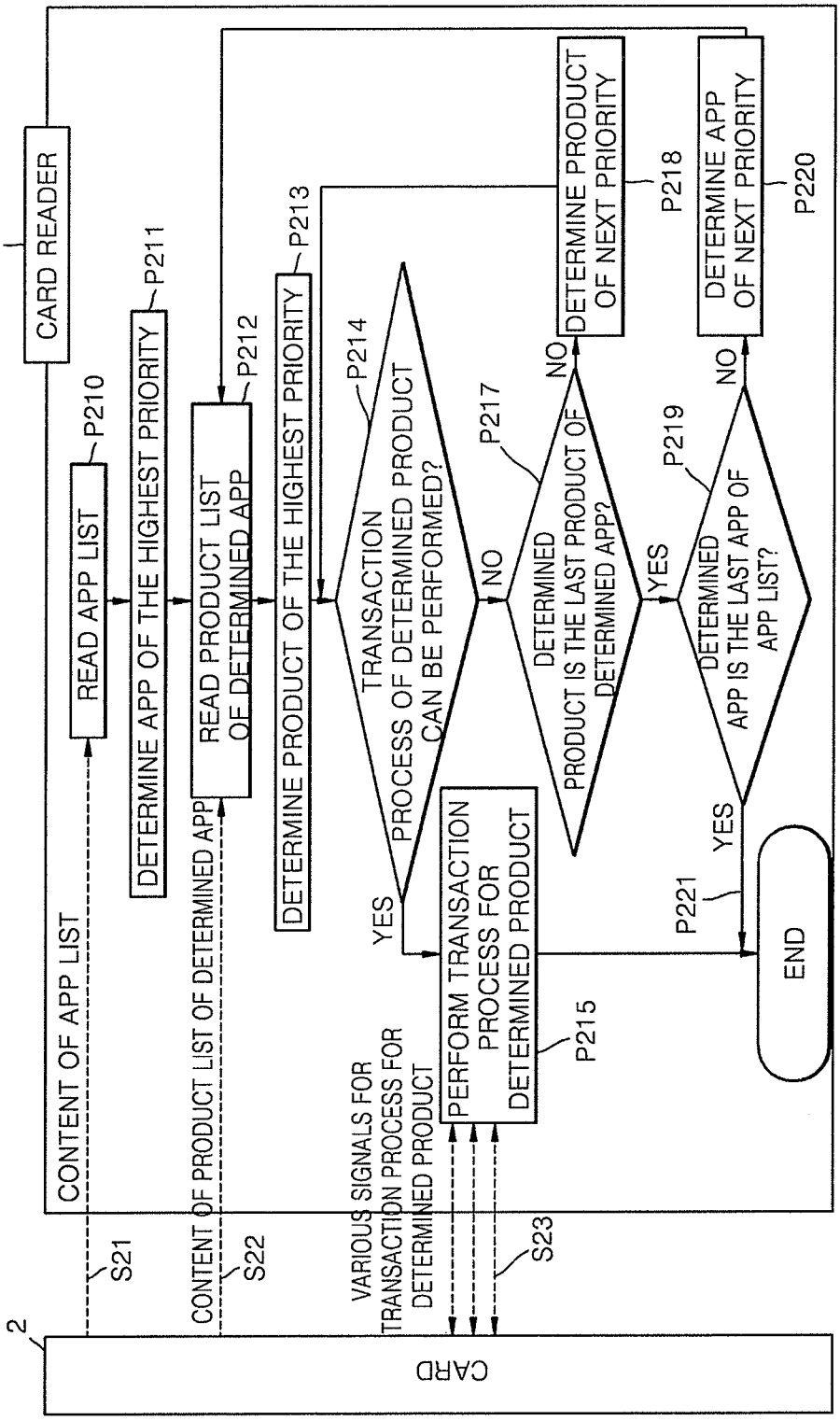

2
CARD
APP LIST GENERATION SIGNAL
S11
NEW APP INSTANCE GENERATION SIGNAL
S12
APP LIST UPDATE SIGNAL
S13
APP PRIORITY ORDER UPDATE SIGNAL
S14
NEW PRODUCT INSTANCE GENERATION SIGNAL
S15
PRODUCT LIST UPDATE SIGNAL
S16
PRODUCT PRIORITY ORDER UPDATE SIGNAL
S17
1
CARD ISSUING DEVICE
P111
GENERATE APP LIST
P110
START 1
P120
START 2
ADD NEW APP?
YES
NO
P121
GENERATE NEW APP INSTANCE (INCLUDING PRODUCT LIST)
P122
UPDATE APP LIST
P123
APPs ARE TWO OR MORE?
YES
NO
P124
UPDATE APP PRIORITY ORDER INFORMATION
P125
P130
START 3
ADD NEW PRODUCT?
YES
NO
P131
GENERATE NEW PRODUCT INSTANCE (INCLUDING PRODUCT LIST)
P132
UPDATE PRODUCT LIST
P133
PRODUCTS ARE TWO OR MORE?
YES
NO
P134
UPDATE PRODUCT PRIORITY ORDER INFORMATION
P135
END
P136

FIG. 20


3
CARD READER
P210
READ APP LIST
P211
DETERMINE APP OF THE HIGHEST PRIORITY
P212
READ PRODUCT LIST OF DETERMINED APP
P213
DETERMINE PRODUCT OF THE HIGHEST PRIORITY
P214
TRANSACTION PROCESS OF DETERMINED PRODUCT CAN BE PERFORMED?
YES
NO
P215
PERFORM TRANSACTION PROCESS FOR DETERMINED PRODUCT
P217
DETERMINED PRODUCT IS THE LAST PRODUCT OF DETERMINED APP?
NO
YES
P218
DETERMINE PRODUCT OF NEXT PRIORITY
P219
DETERMINED APP IS THE LAST APP OF APP LIST?
NO
YES
P220
DETERMINE APP OF NEXT PRIORITY
P221
END
CONTENT OF APP LIST
S21
CONTENT OF PRODUCT LIST OF DETERMINED APP
S22
VARIOUS SIGNALS FOR TRANSACTION PROCESS FOR DETERMINED PRODUCT
S23
2
CARD