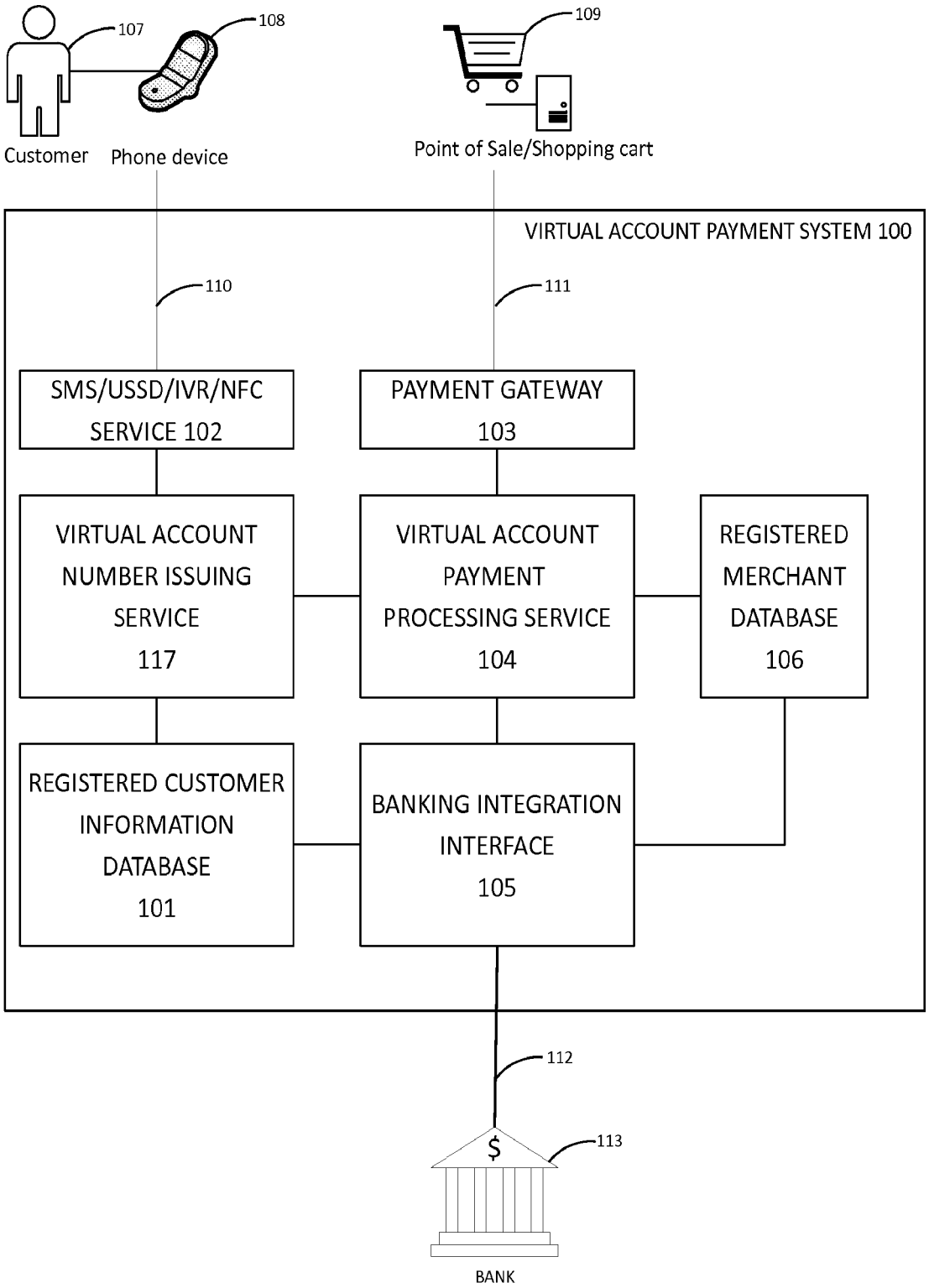

107
108
109
Customer
Phone device
Point of Sale/Shopping cart
VIRTUAL ACCOUNT PAYMENT SYSTEM 100
110
111
SMS/USSD/IVR/NFC SERVICE 102
PAYMENT GATEWAY 103
VIRTUAL ACCOUNT NUMBER ISSUING SERVICE 117
VIRTUAL ACCOUNT PAYMENT PROCESSING SERVICE 104
REGISTERED MERCHANT DATABASE 106
REGISTERED CUSTOMER INFORMATION DATABASE 101
BANKING INTEGRATION INTERFACE 105
112
$
113
BANK

FIG. 1

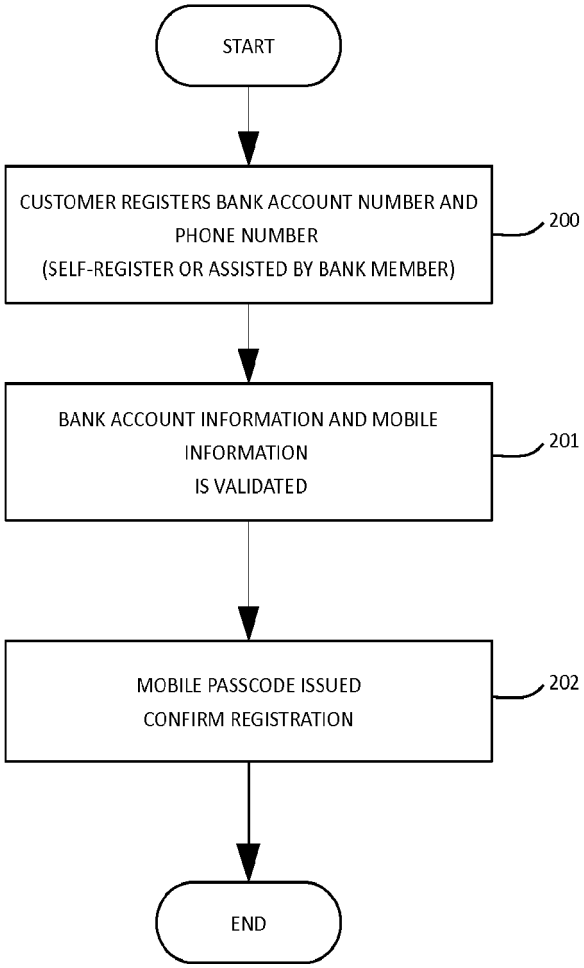

START
CUSTOMER REGISTERS BANK ACCOUNT NUMBER AND PHONE NUMBER (SELF-REGISTER OR ASSISTED BY BANK MEMBER)
200
BANK ACCOUNT INFORMATION AND MOBILE INFORMATION IS VALIDATED
201
MOBILE PASSCODE ISSUED CONFIRM REGISTRATION
202
END

FIG. 2

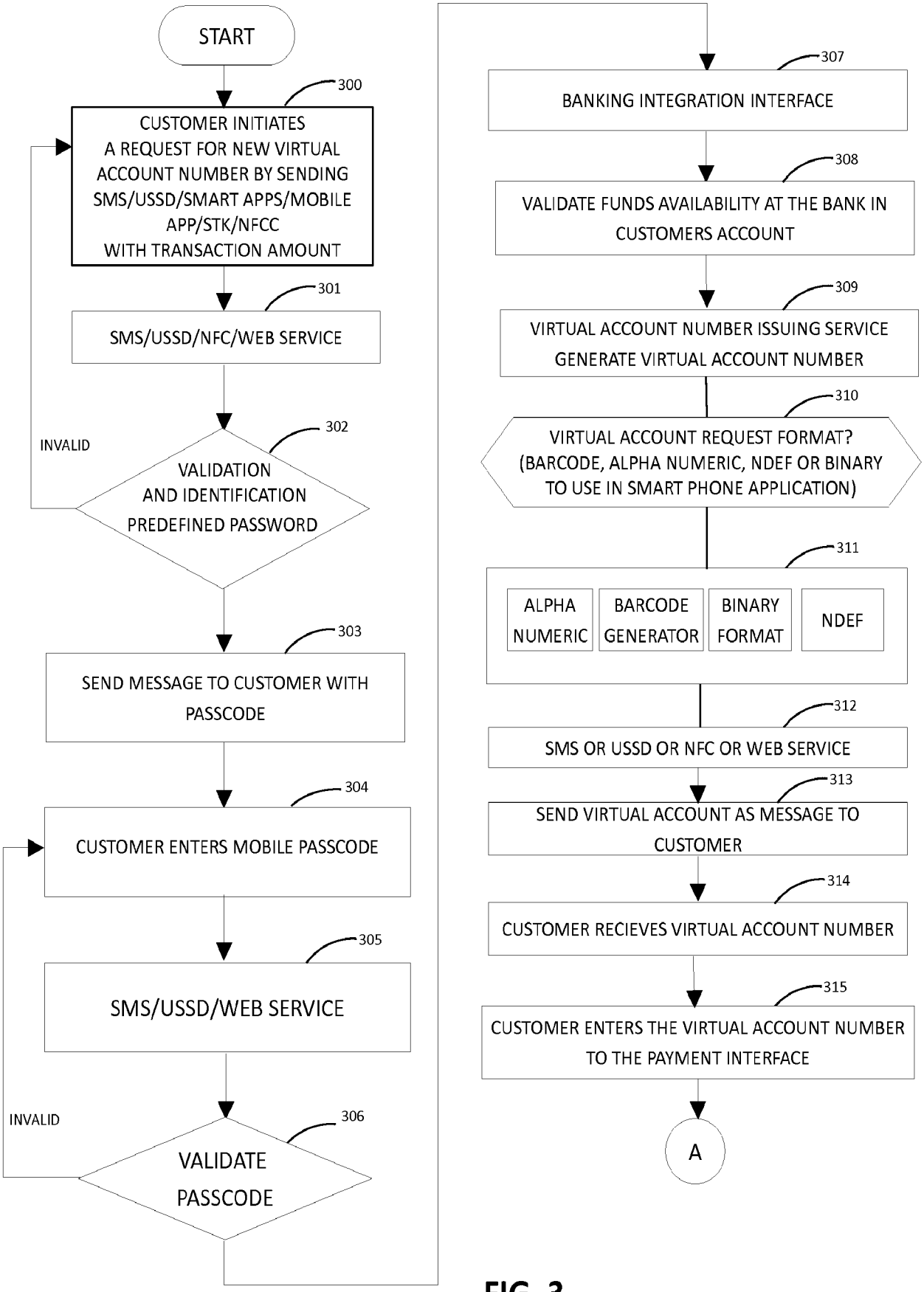

START
300
CUSTOMER INITIATES A REQUEST FOR NEW VIRTUAL ACCOUNT NUMBER BY SENDING SMS/USSD/SMART APPS/MOBILE APP/STK/NFCC WITH TRANSACTION AMOUNT
301
SMS/USSD/NFC/WEB SERVICE
302
INVALID
VALIDATION AND IDENTIFICATION PREDEFINED PASSWORD
303
SEND MESSAGE TO CUSTOMER WITH PASSCODE
304
CUSTOMER ENTERS MOBILE PASSCODE
305
SMS/USSD/WEB SERVICE
306
INVALID
VALIDATE PASSCODE
307
BANKING INTEGRATION INTERFACE
308
VALIDATE FUNDS AVAILABILITY AT THE BANK IN CUSTOMERS ACCOUNT
309
VIRTUAL ACCOUNT NUMBER ISSUING SERVICE GENERATE VIRTUAL ACCOUNT NUMBER
310
VIRTUAL ACCOUNT REQUEST FORMAT? (BARCODE, ALPHA NUMERIC, NDEF OR BINARY TO USE IN SMART PHONE APPLICATION)
311
ALPHA NUMERIC
BARCODE GENERATOR
BINARY FORMAT
NDEF
312
SMS OR USSD OR NFC OR WEB SERVICE
313
SEND VIRTUAL ACCOUNT AS MESSAGE TO CUSTOMER
314
CUSTOMER RECIEVES VIRTUAL ACCOUNT NUMBER
315
CUSTOMER ENTERS THE VIRTUAL ACCOUNT NUMBER TO THE PAYMENT INTERFACE
A

FIG. 3

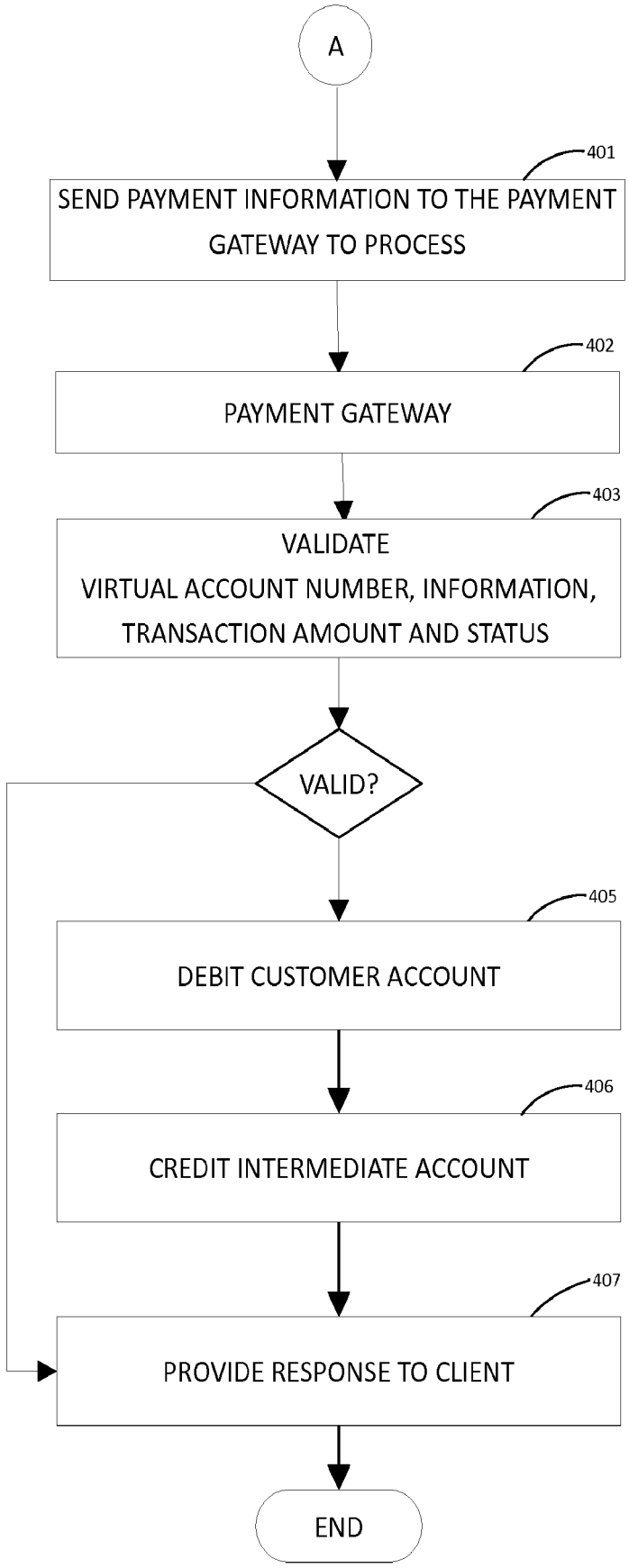

A
401
SEND PAYMENT INFORMATION TO THE PAYMENT GATEWAY TO PROCESS
402
PAYMENT GATEWAY
403
VALIDATE VIRTUAL ACCOUNT NUMBER, INFORMATION, TRANSACTION AMOUNT AND STATUS
VALID?
405
DEBIT CUSTOMER ACCOUNT
406
CREDIT INTERMEDIATE ACCOUNT
407
PROVIDE RESPONSE TO CLIENT
END

FIG. 4

FIG. 5

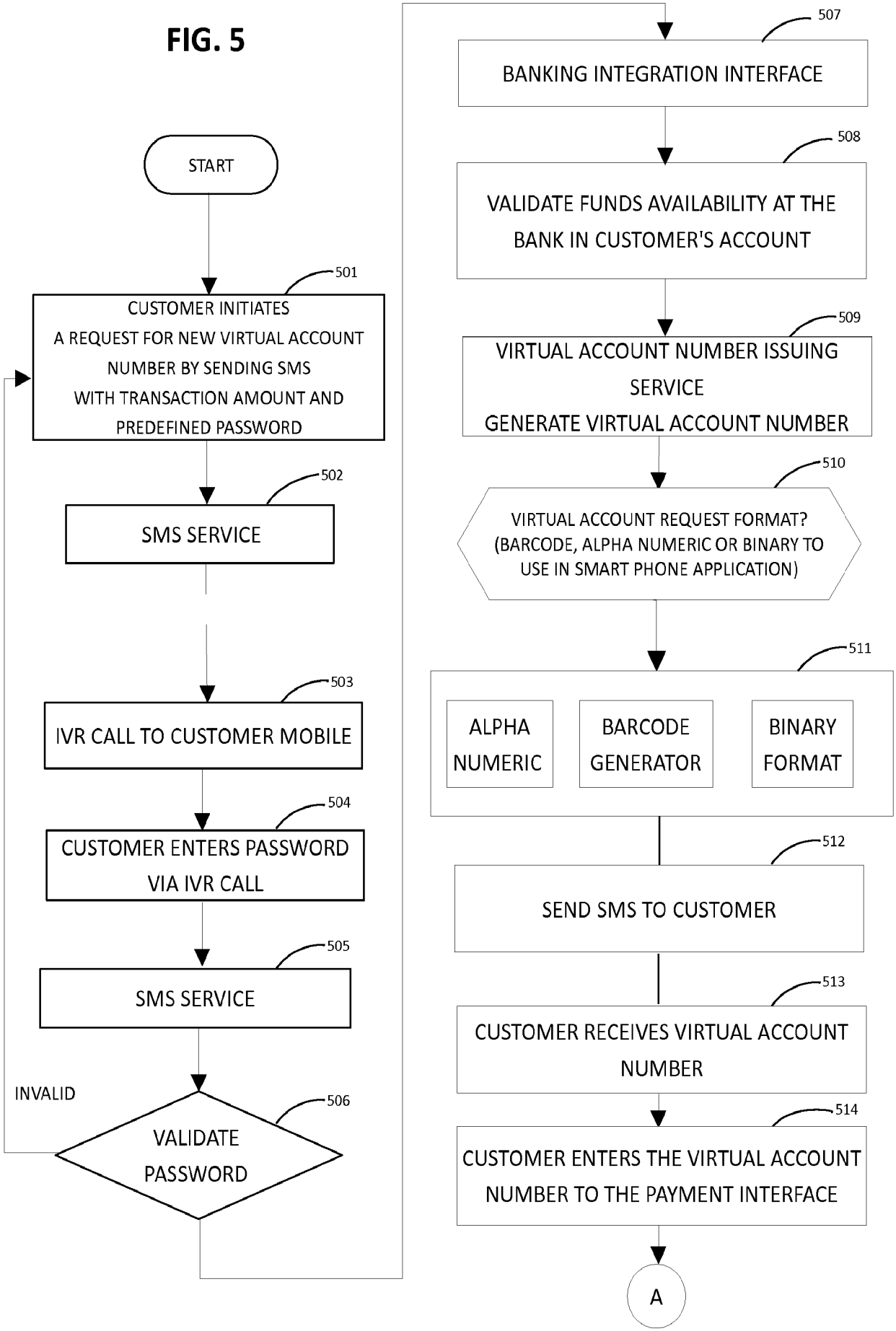
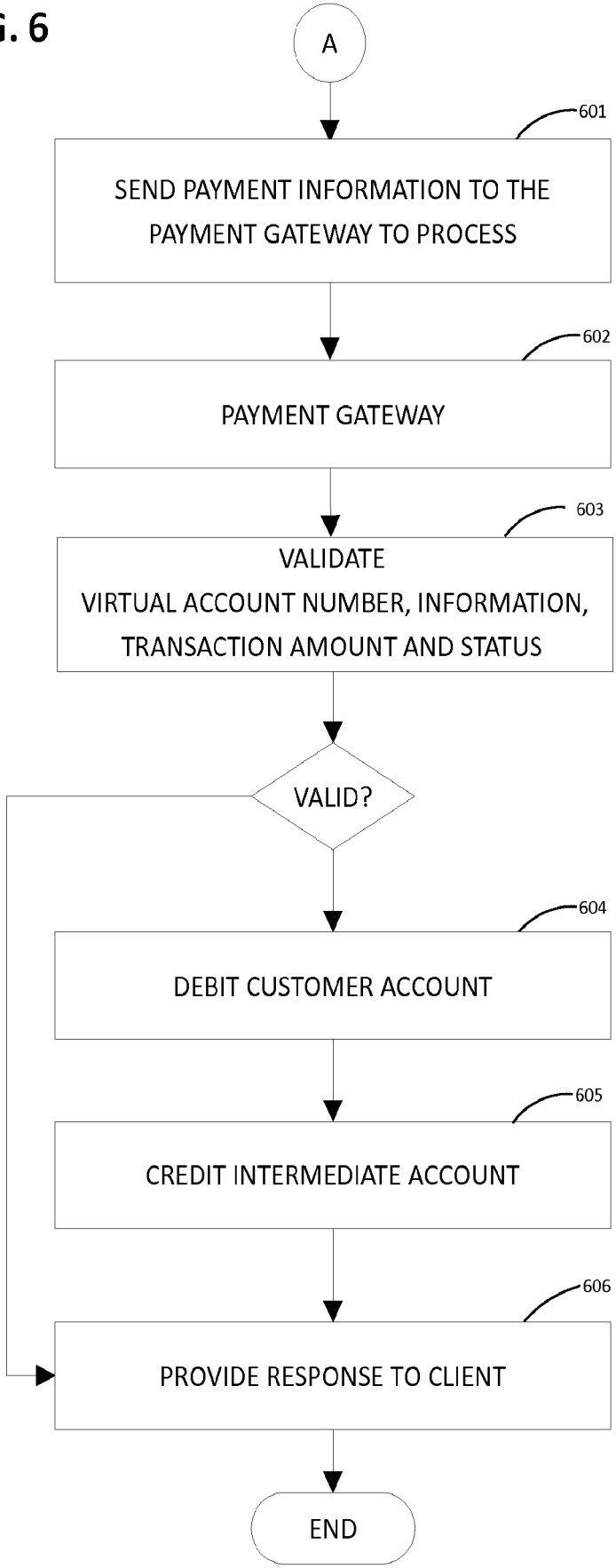

START
501
CUSTOMER INITIATES A REQUEST FOR NEW VIRTUAL ACCOUNT NUMBER BY SENDING SMS WITH TRANSACTION AMOUNT AND PREDEFINED PASSWORD
502
SMS SERVICE
503
IVR CALL TO CUSTOMER MOBILE
504
CUSTOMER ENTERS PASSWORD VIA IVR CALL
505
SMS SERVICE
INVALID
506
VALIDATE PASSWORD
507
BANKING INTEGRATION INTERFACE
508
VALIDATE FUNDS AVAILABILITY AT THE BANK IN CUSTOMER'S ACCOUNT
509
VIRTUAL ACCOUNT NUMBER ISSUING SERVICE GENERATE VIRTUAL ACCOUNT NUMBER
510
VIRTUAL ACCOUNT REQUEST FORMAT? (BARCODE, ALPHA NUMERIC OR BINARY TO USE IN SMART PHONE APPLICATION)
511
ALPHA NUMERIC
BARCODE GENERATOR
BINARY FORMAT
512
SEND SMS TO CUSTOMER
513
CUSTOMER RECEIVES VIRTUAL ACCOUNT NUMBER
514
CUSTOMER ENTERS THE VIRTUAL ACCOUNT NUMBER TO THE PAYMENT INTERFACE
A

FIG. 6


A
601
SEND PAYMENT INFORMATION TO THE PAYMENT GATEWAY TO PROCESS
602
PAYMENT GATEWAY
603
VALIDATE VIRTUAL ACCOUNT NUMBER, INFORMATION, TRANSACTION AMOUNT AND STATUS
VALID?
604
DEBIT CUSTOMER ACCOUNT
605
CREDIT INTERMEDIATE ACCOUNT
606
PROVIDE RESPONSE TO CLIENT
END

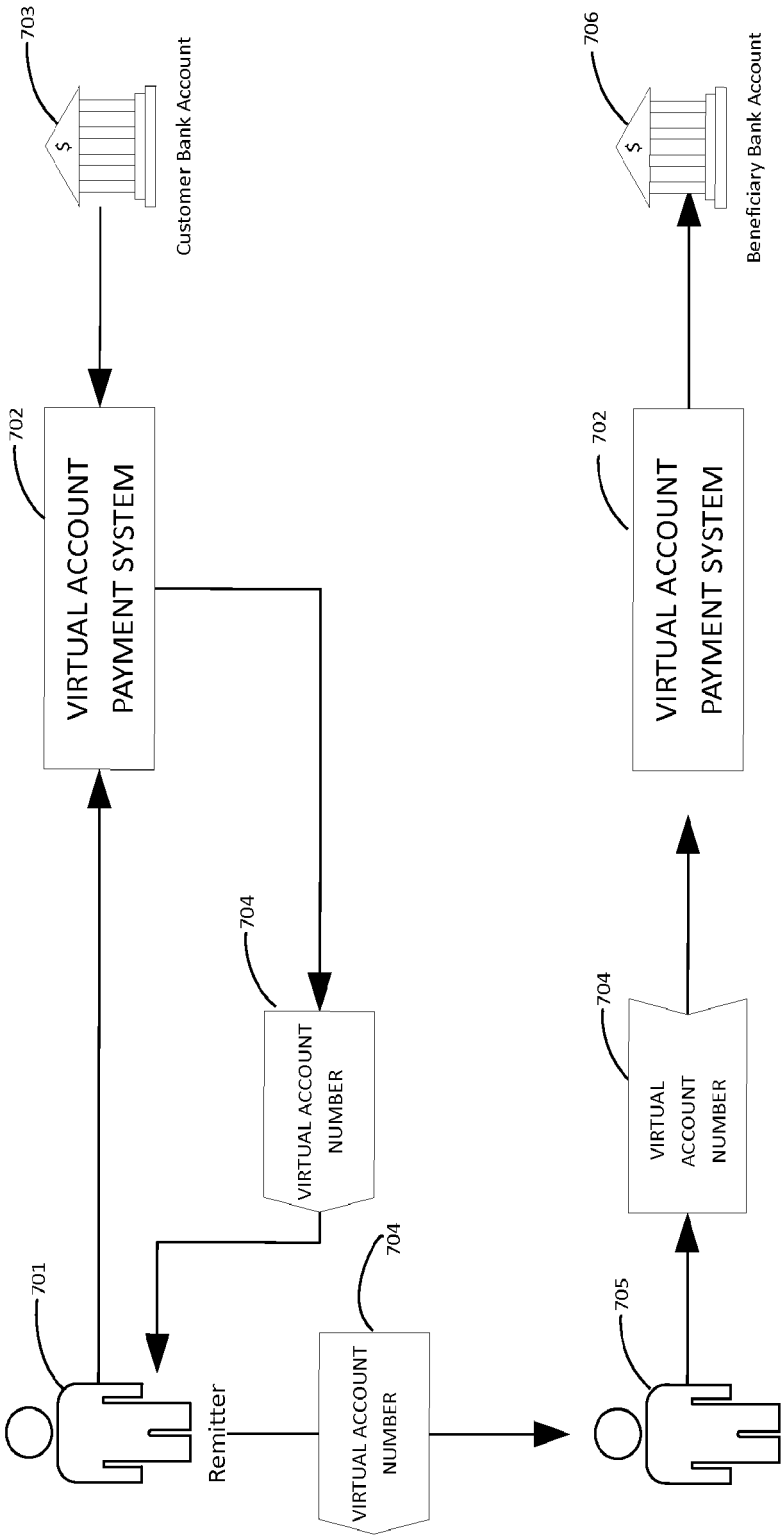

703
Customer Bank Account
706
Beneficiary Bank Account
702
VIRTUAL ACCOUNT PAYMENT SYSTEM
702
VIRTUAL ACCOUNT PAYMENT SYSTEM
704
VIRTUAL ACCOUNT NUMBER
704
VIRTUAL ACCOUNT NUMBER
704
VIRTUAL ACCOUNT NUMBER
701
Remitter
705
Beneficiary

FIG. 7

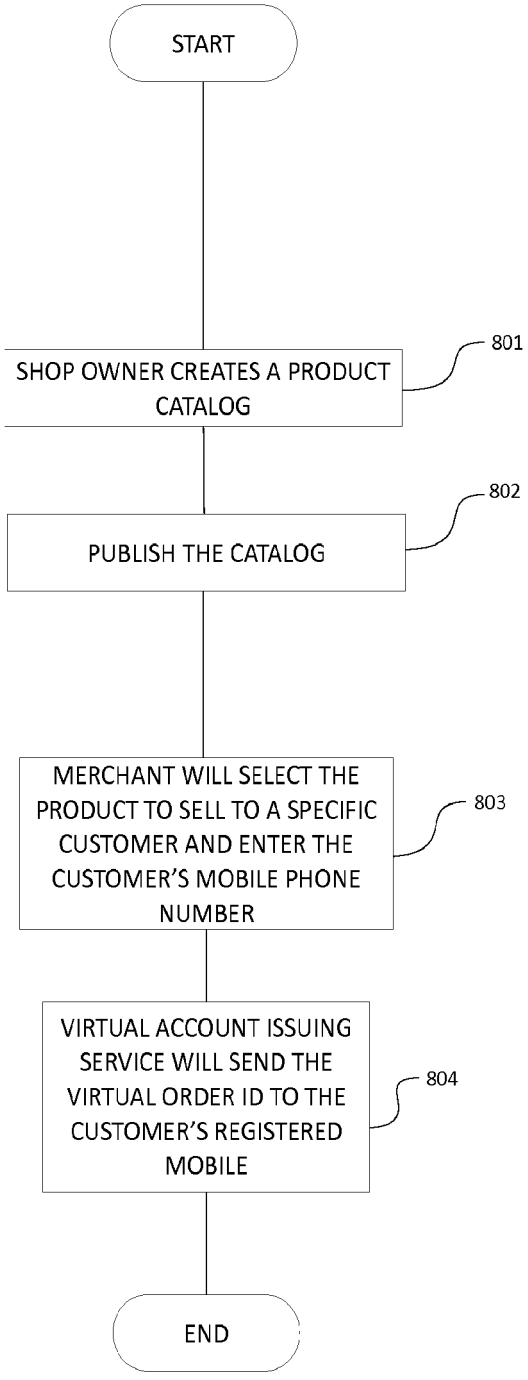

START
SHOP OWNER CREATES A PRODUCT CATALOG
801
PUBLISH THE CATALOG
802
MERCHANT WILL SELECT THE PRODUCT TO SELL TO A SPECIFIC CUSTOMER AND ENTER THE CUSTOMER'S MOBILE PHONE NUMBER
803
VIRTUAL ACCOUNT ISSUING SERVICE WILL SEND THE VIRTUAL ORDER ID TO THE CUSTOMER'S REGISTERED MOBILE
804
END

FIG. 8

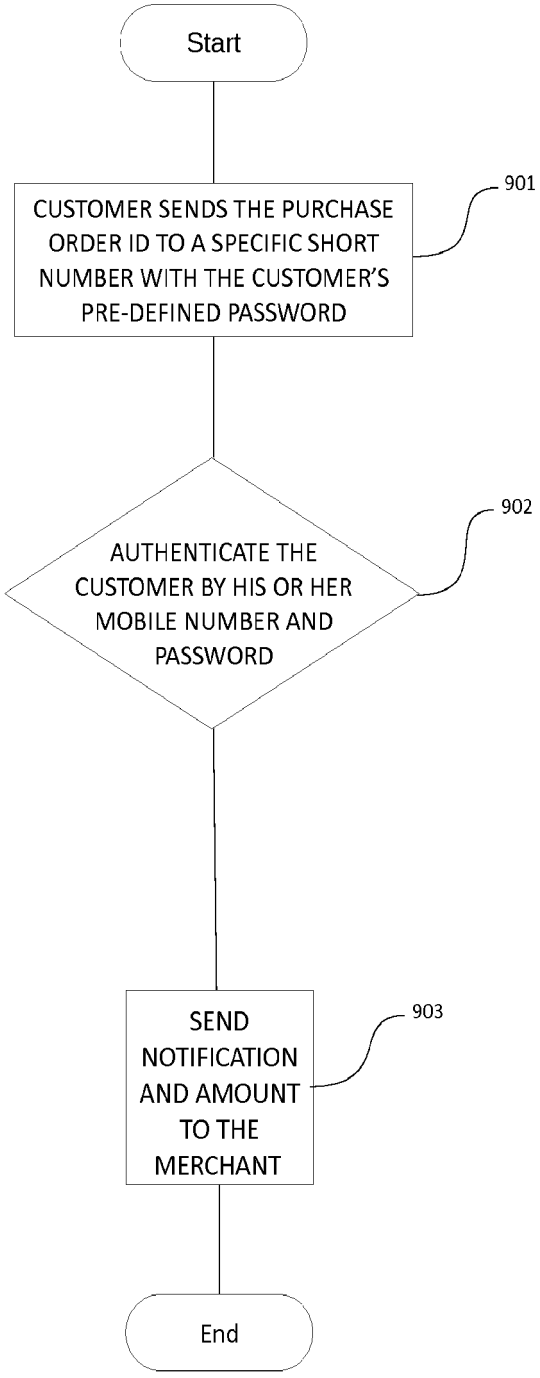

Start
CUSTOMER SENDS THE PURCHASE ORDER ID TO A SPECIFIC SHORT NUMBER WITH THE CUSTOMER'S PRE-DEFINED PASSWORD
901
AUTHENTICATE THE CUSTOMER BY HIS OR HER MOBILE NUMBER AND PASSWORD
902
SEND NOTIFICATION AND AMOUNT TO THE MERCHANT
903
End

FIG. 9

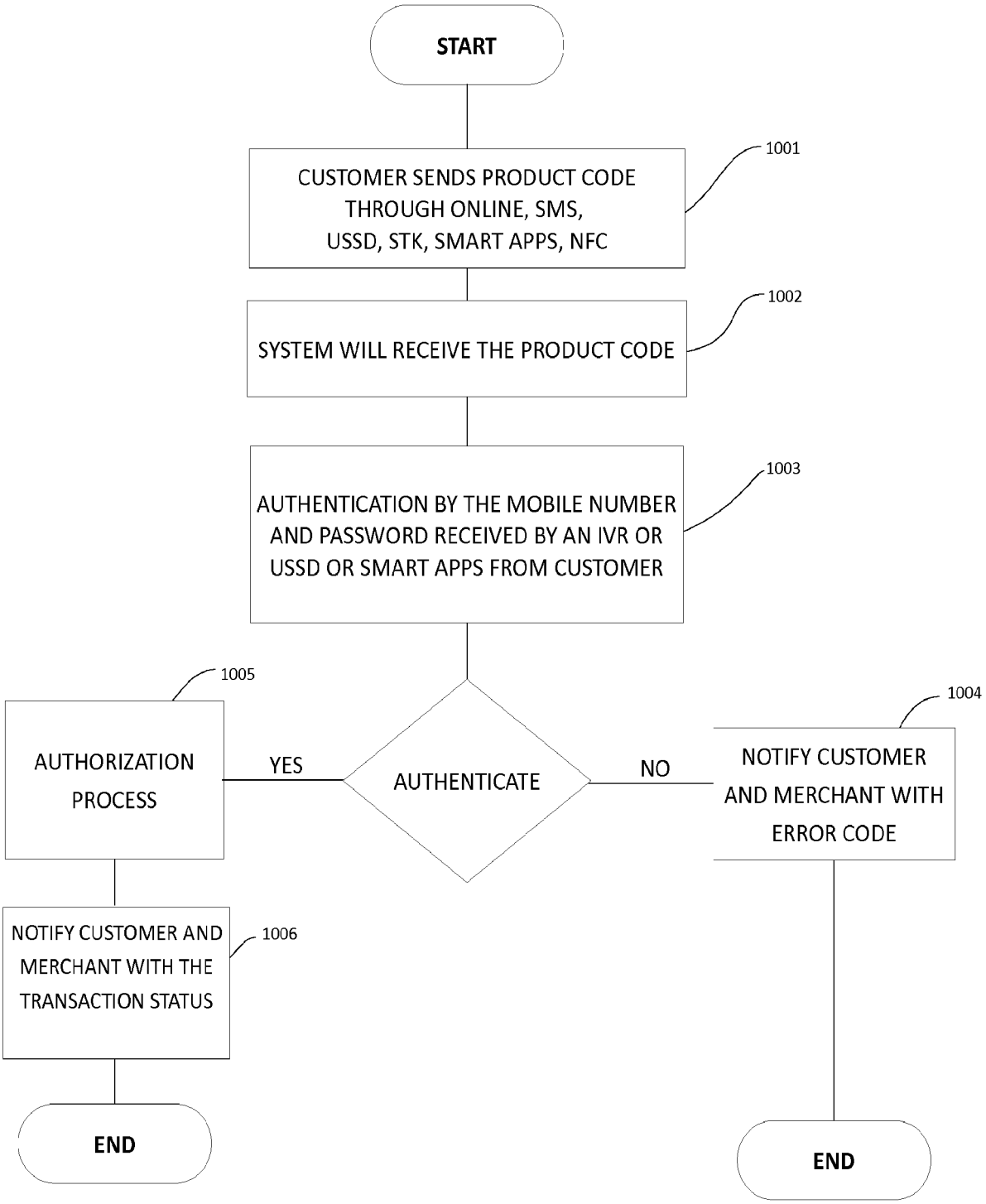

START
CUSTOMER SENDS PRODUCT CODE THROUGH ONLINE, SMS, USSD, STK, SMART APPS, NFC
1001
SYSTEM WILL RECEIVE THE PRODUCT CODE
1002
AUTHENTICATION BY THE MOBILE NUMBER AND PASSWORD RECEIVED BY AN IVR OR USSD OR SMART APPS FROM CUSTOMER
1003
AUTHENTICATE
YES
NO
AUTHORIZATION PROCESS
1005
NOTIFY CUSTOMER AND MERCHANT WITH ERROR CODE
1004
NOTIFY CUSTOMER AND MERCHANT WITH THE TRANSACTION STATUS
1006
END
END

FIG. 10

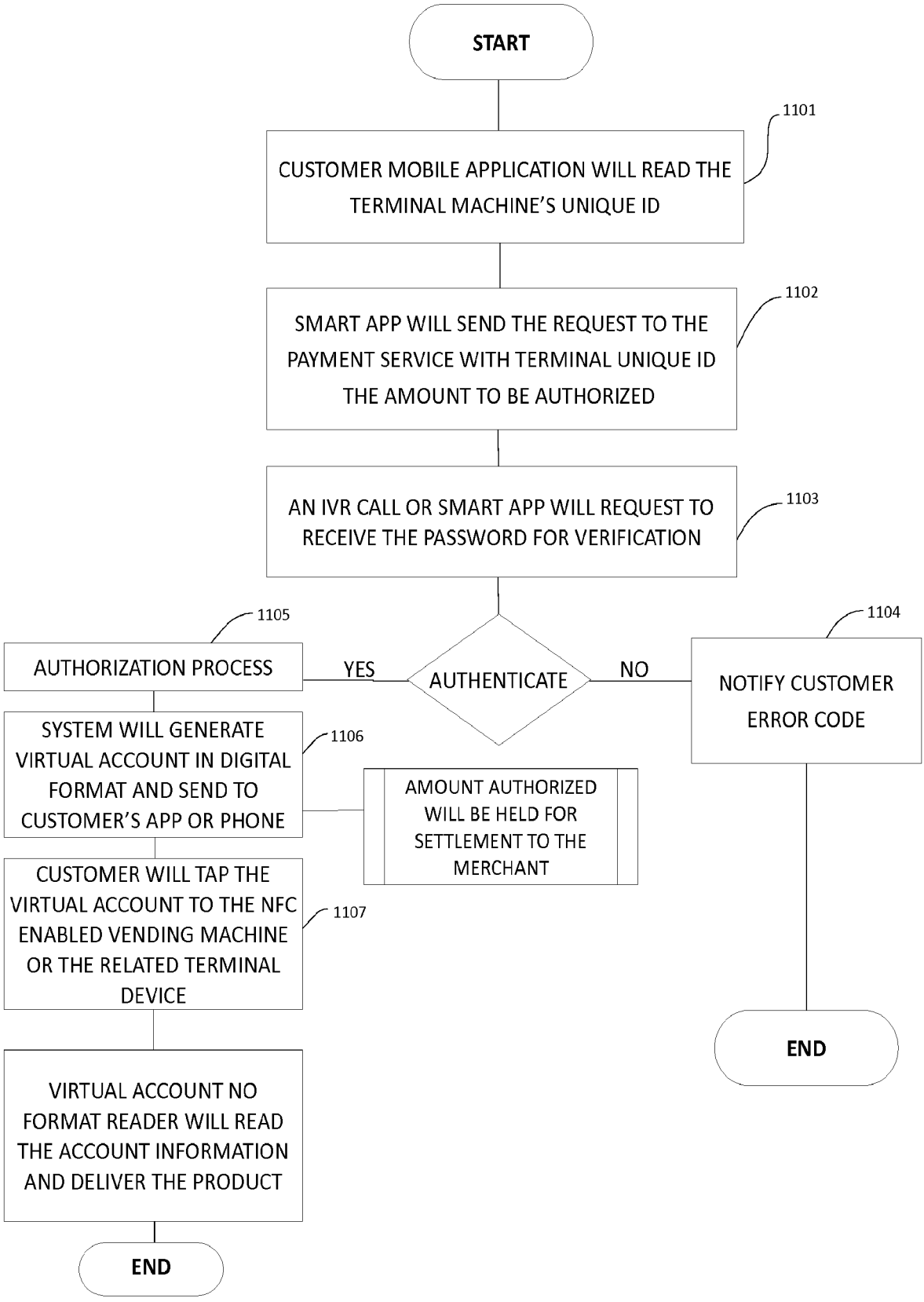

START
CUSTOMER MOBILE APPLICATION WILL READ THE TERMINAL MACHINE'S UNIQUE ID
1101
SMART APP WILL SEND THE REQUEST TO THE PAYMENT SERVICE WITH TERMINAL UNIQUE ID THE AMOUNT TO BE AUTHORIZED
1102
AN IVR CALL OR SMART APP WILL REQUEST TO RECEIVE THE PASSWORD FOR VERIFICATION
1103
AUTHENTICATE
YES
NO
1105
AUTHORIZATION PROCESS
1104
NOTIFY CUSTOMER ERROR CODE
SYSTEM WILL GENERATE VIRTUAL ACCOUNT IN DIGITAL FORMAT AND SEND TO CUSTOMER'S APP OR PHONE
1106
AMOUNT AUTHORIZED WILL BE HELD FOR SETTLEMENT TO THE MERCHANT
CUSTOMER WILL TAP THE VIRTUAL ACCOUNT TO THE NFC ENABLED VENDING MACHINE OR THE RELATED TERMINAL DEVICE
1107
VIRTUAL ACCOUNT NO FORMAT READER WILL READ THE ACCOUNT INFORMATION AND DELIVER THE PRODUCT
END
END

FIG. 11

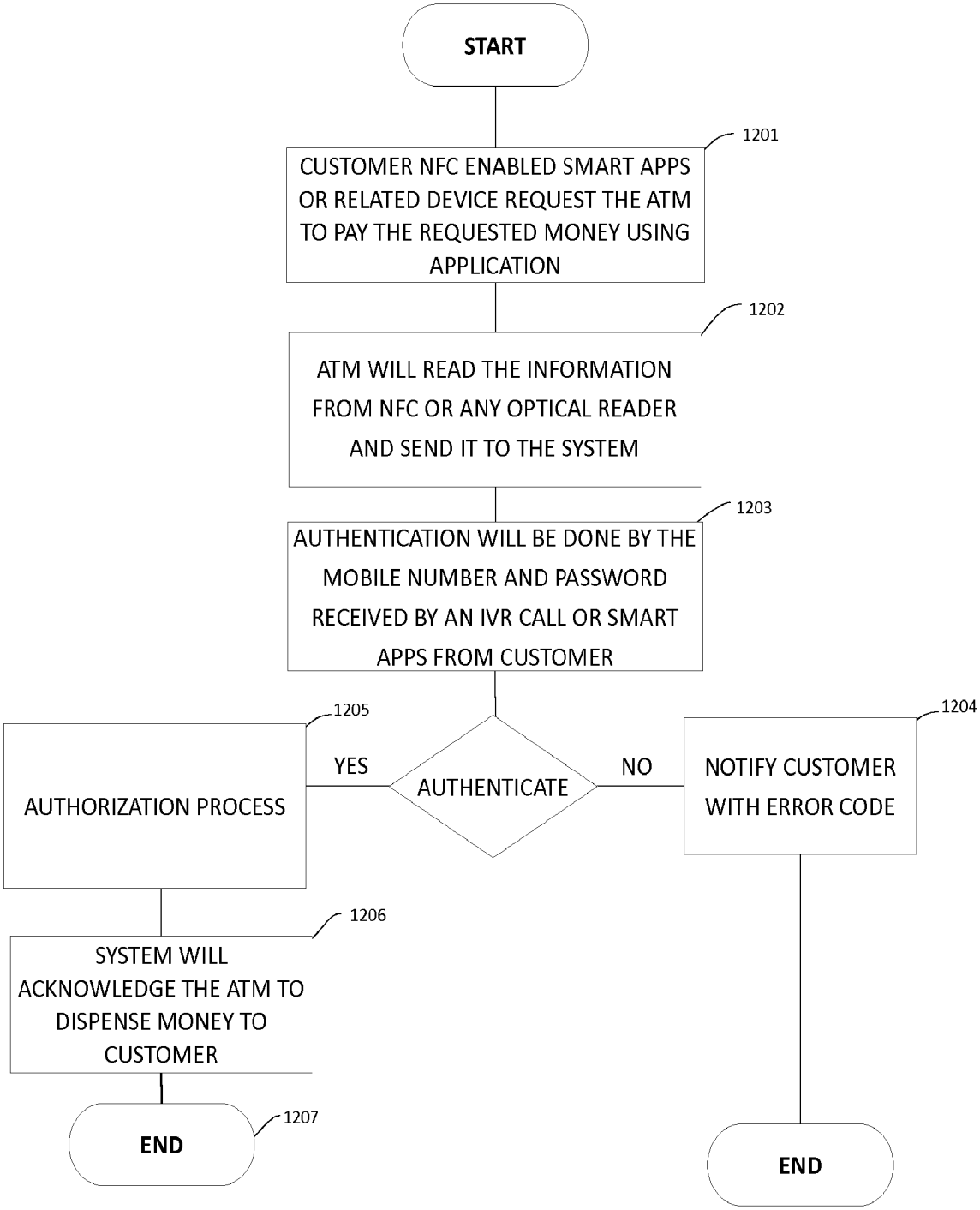

START
1201
CUSTOMER NFC ENABLED SMART APPS OR RELATED DEVICE REQUEST THE ATM TO PAY THE REQUESTED MONEY USING APPLICATION
1202
ATM WILL READ THE INFORMATION FROM NFC OR ANY OPTICAL READER AND SEND IT TO THE SYSTEM
1203
AUTHENTICATION WILL BE DONE BY THE MOBILE NUMBER AND PASSWORD RECEIVED BY AN IVR CALL OR SMART APPS FROM CUSTOMER
AUTHENTICATE
YES
NO
1205
AUTHORIZATION PROCESS
1204
NOTIFY CUSTOMER WITH ERROR CODE
1206
SYSTEM WILL ACKNOWLEDGE THE ATM TO DISPENSE MONEY TO CUSTOMER
1207
END
END

FIG. 12