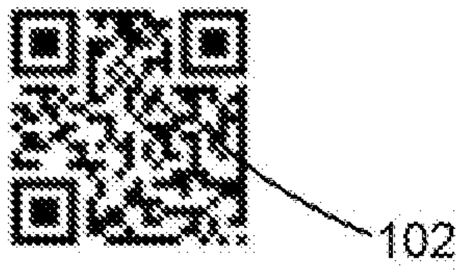
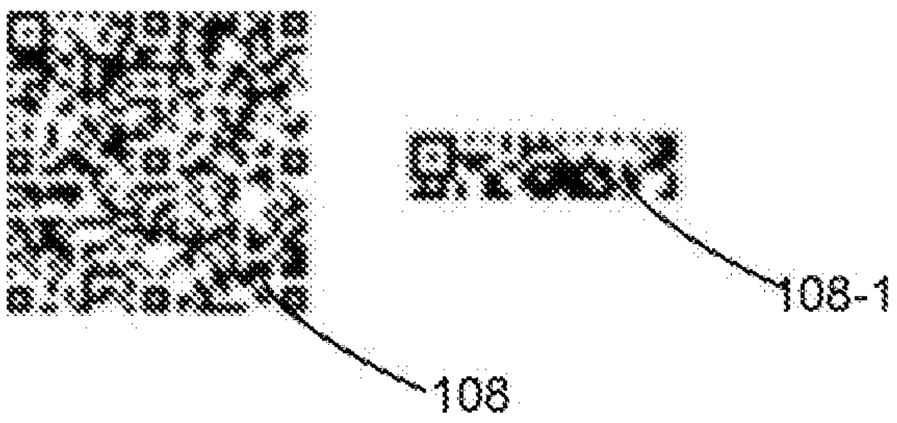
FIG. 1 (PRIOR ART)





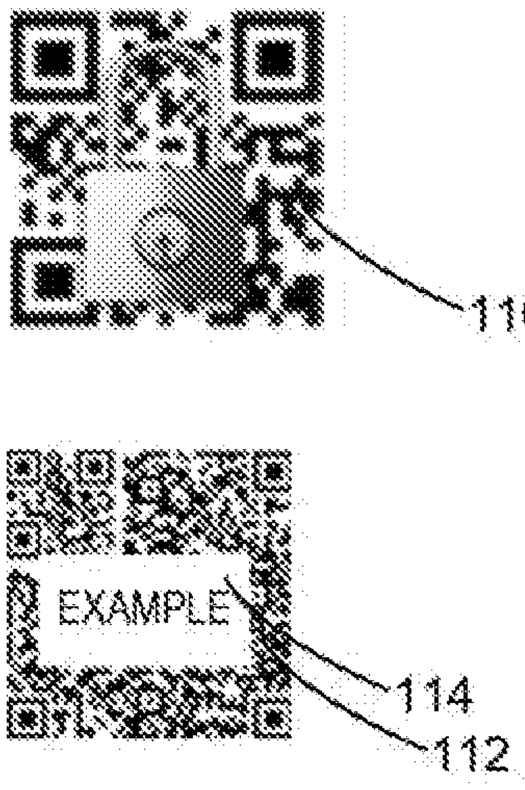


FIG. 2

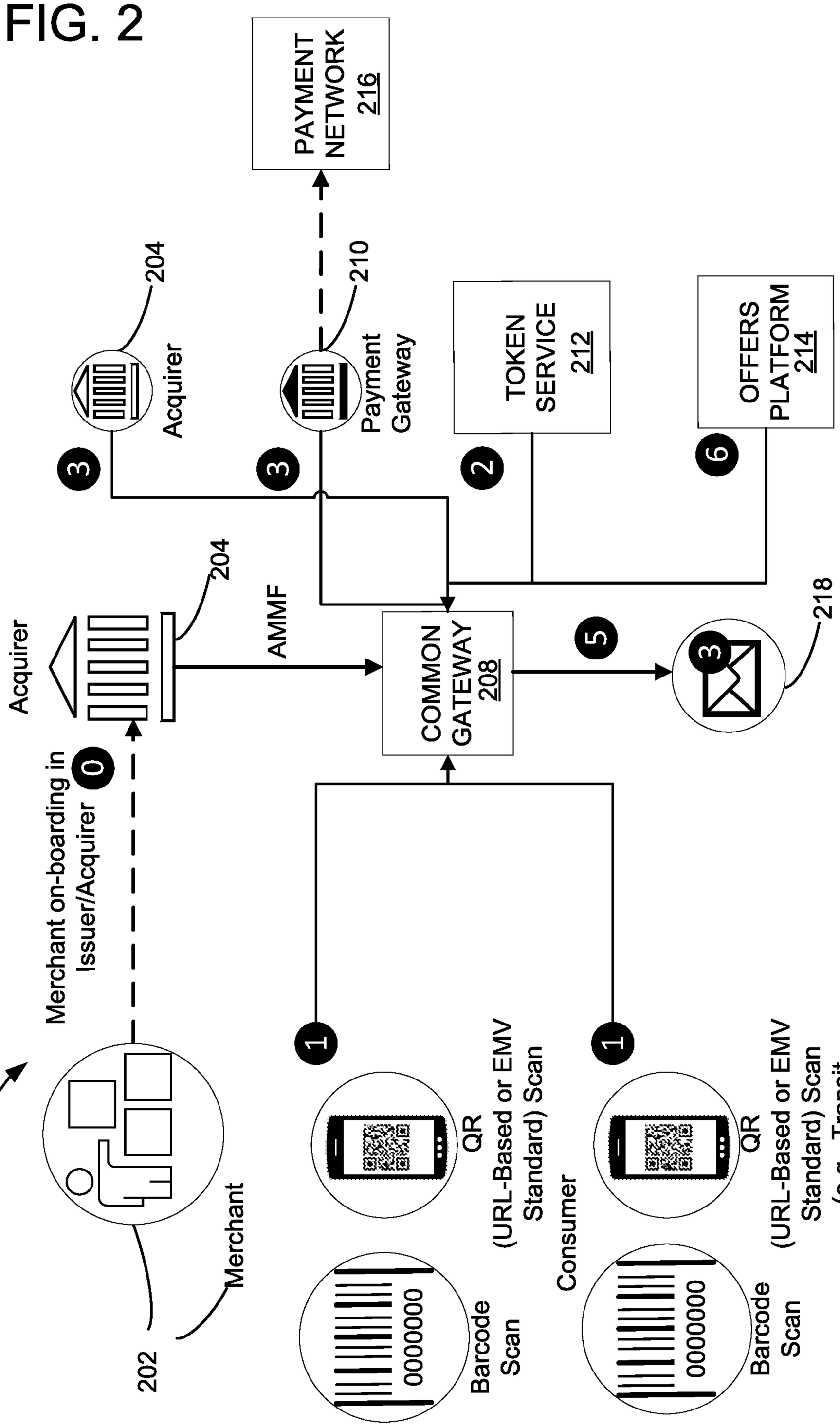

PAYMENT NETWORK 216
204
Acquirer
210
Payment Gateway
TOKEN SERVICE 212
OFFERS PLATFORM 214
204
Acquirer
AMMF
COMMON GATEWAY 208
218
Merchant on-boarding in Issuer/Acquirer
200
202
Merchant
QR
Consumer (URL-Based or EMV Standard) Scan
Barcode Scan
0000000
QR
(URL-Based or EMV Standard) Scan (e.g., Transit Terminals)
Barcode Scan
0000000
206

FIG. 3

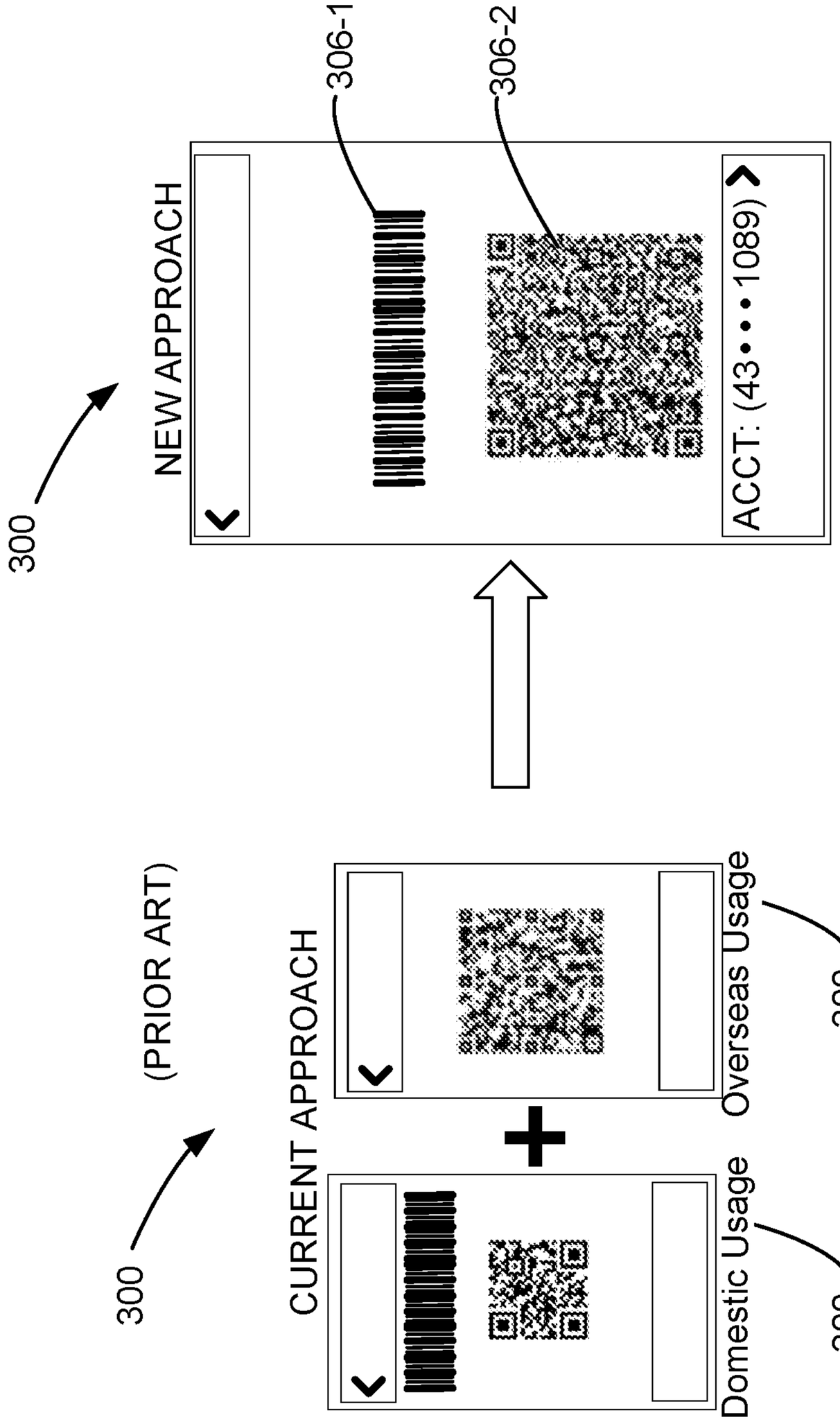

300
NEW APPROACH
306-1
306-2
ACCT: (43 • • • 1089)
(PRIOR ART)
CURRENT APPROACH
Domestic Usage
Overseas Usage
300
300
300

FIG. 4A

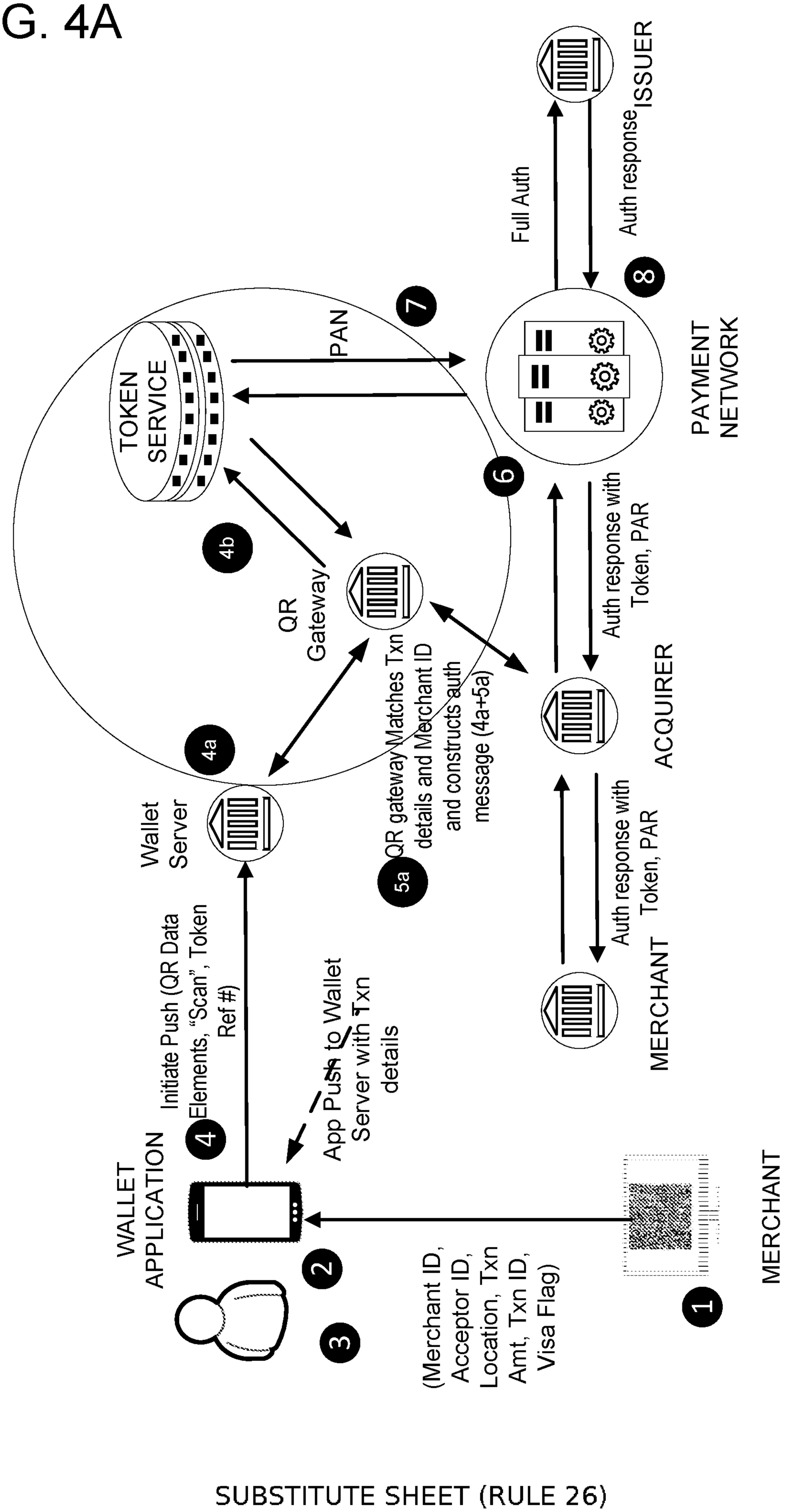

WALLET APPLICATION
MERCHANT
ACQUIRER
PAYMENT NETWORK
ISSUER
TOKEN SERVICE
Wallet Server
QR Gateway
1
2
3
4
4a
4b
5a
6
7
8
(Merchant ID, Acceptor ID, Location, Txn Amt, Txn ID, Visa Flag)
Initiate Push (QR Data Elements, "Scan", Token Ref #)
App Push to Wallet Server with Txn details
QR gateway Matches Txn details and Merchant ID and constructs auth message (4a+5a)
Auth response with Token, PAR
PAN
Full Auth
Auth response
Auth response with Token, PAR

FIG. 4B

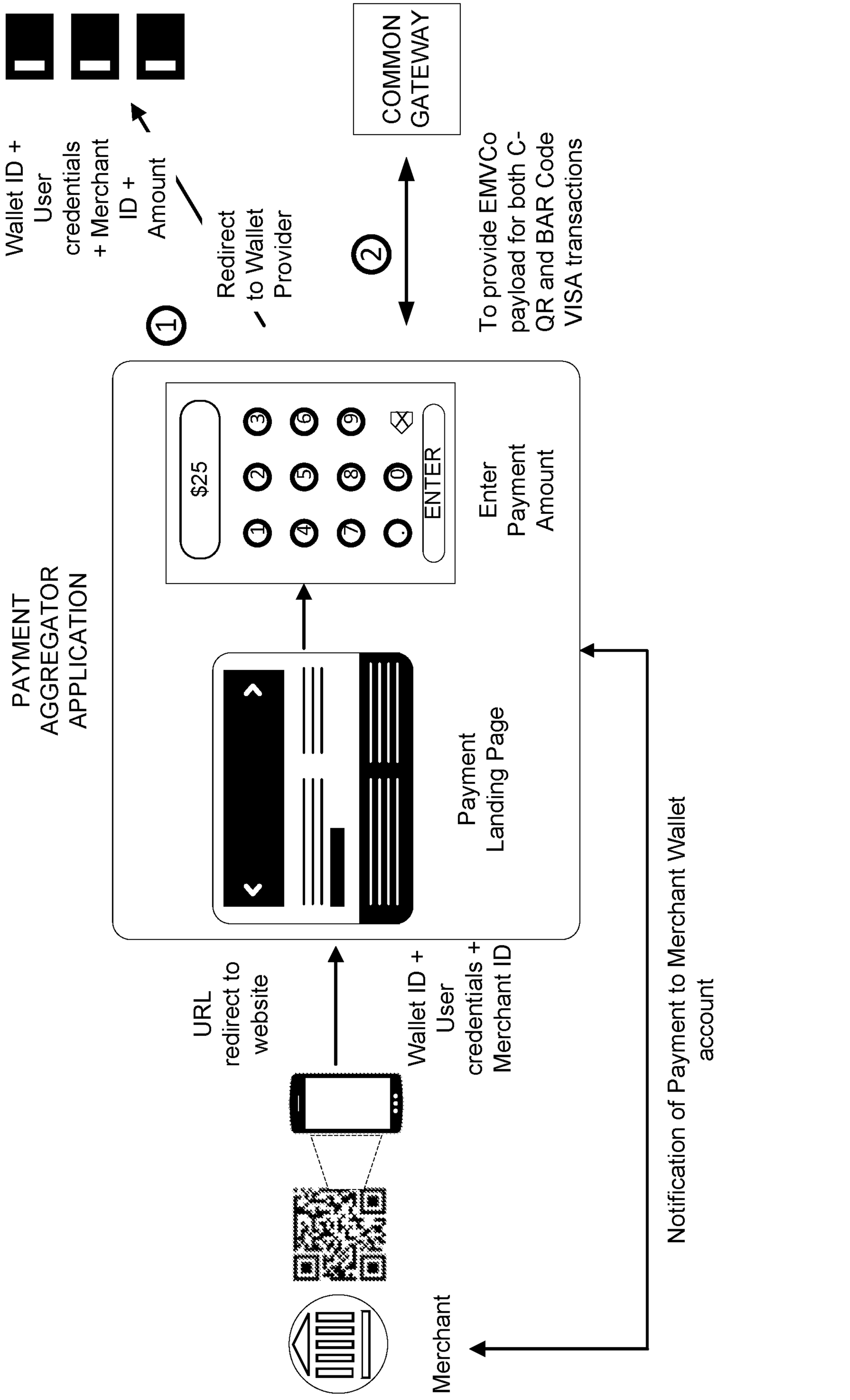

COMMON GATEWAY
Wallet ID + User credentials + Merchant ID + Amount
Redirect to Wallet Provider
1
2
To provide EMVCo payload for both C-QR and BAR Code VISA transactions
PAYMENT AGGREGATOR APPLICATION
$25
ENTER
Enter Payment Amount
Payment Landing Page
URL redirect to website
Wallet ID + User credentials + Merchant ID
Notification of Payment to Merchant Wallet account
Merchant

FIG. 5

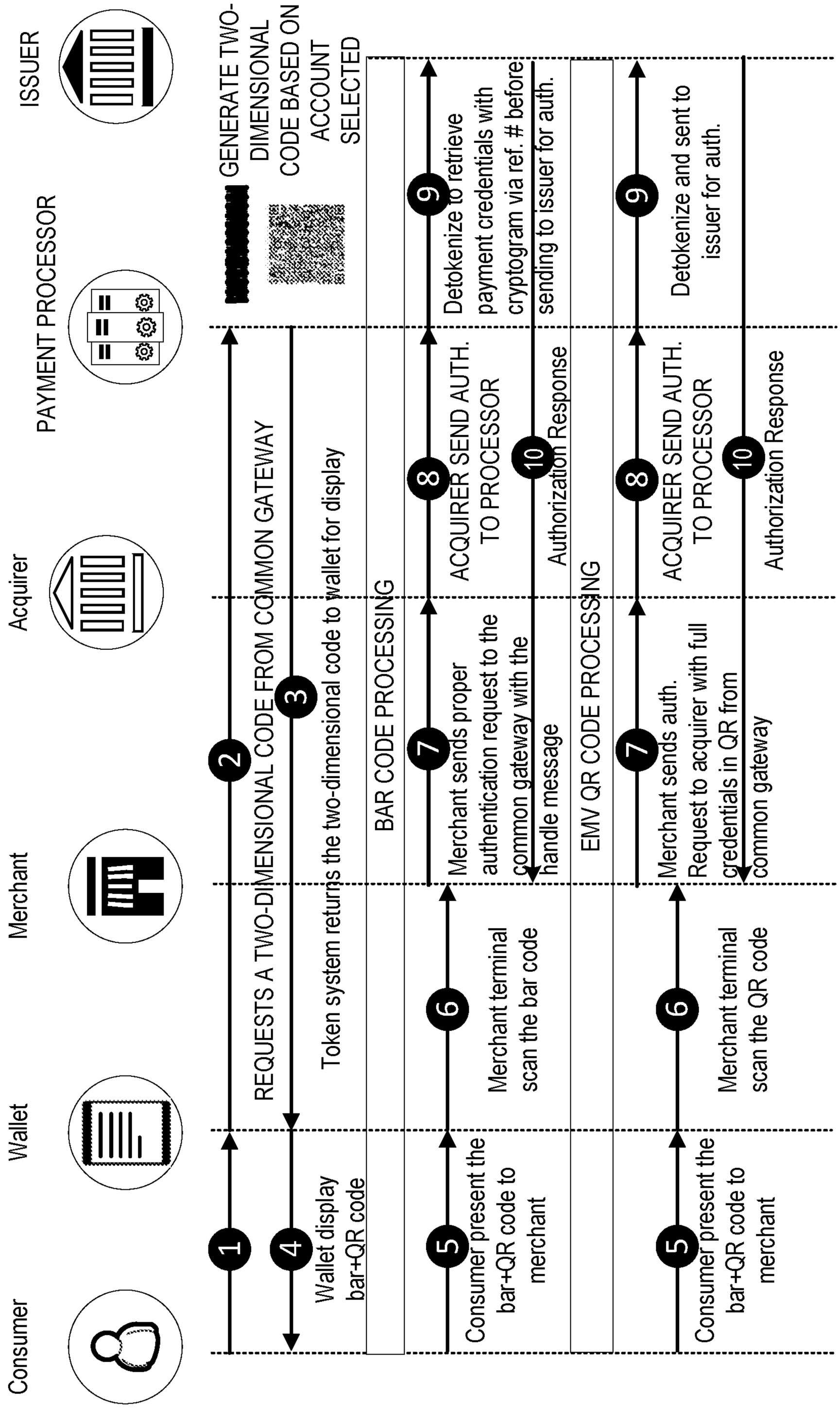

CONSUMER PRESENTED TWO-DIMENSIONAL CODE
Wallet
Merchant
Acquirer
PAYMENT PROCESSOR
ISSUER
Consumer
1 Wallet display bar+QR code
2 REQUESTS A TWO-DIMENSIONAL CODE FROM COMMON GATEWAY
3 Token system returns the two-dimensional code to wallet for display
4 Consumer present the bar+QR code to merchant
5 Merchant terminal scan the bar code
6 Merchant sends proper authentication request to common gateway with the handle message
7 BAR CODE PROCESSING
8 ACQUIRER SEND AUTH. TO PROCESSOR
9 Detokenize to retrieve payment credentials with cryptogram via ref. # before sending to issuer for auth.
10 Authorization Response
5 Consumer present the bar+QR code to merchant
6 Merchant terminal scan the QR code
7 EMV QR CODE PROCESSING
8 ACQUIRER SEND AUTH. TO PROCESSOR
9 Detokenize and sent to issuer for auth.
10 Authorization Response
GENERATE TWO-DIMENSIONAL CODE BASED ON ACCOUNT SELECTED

FIG. 6A

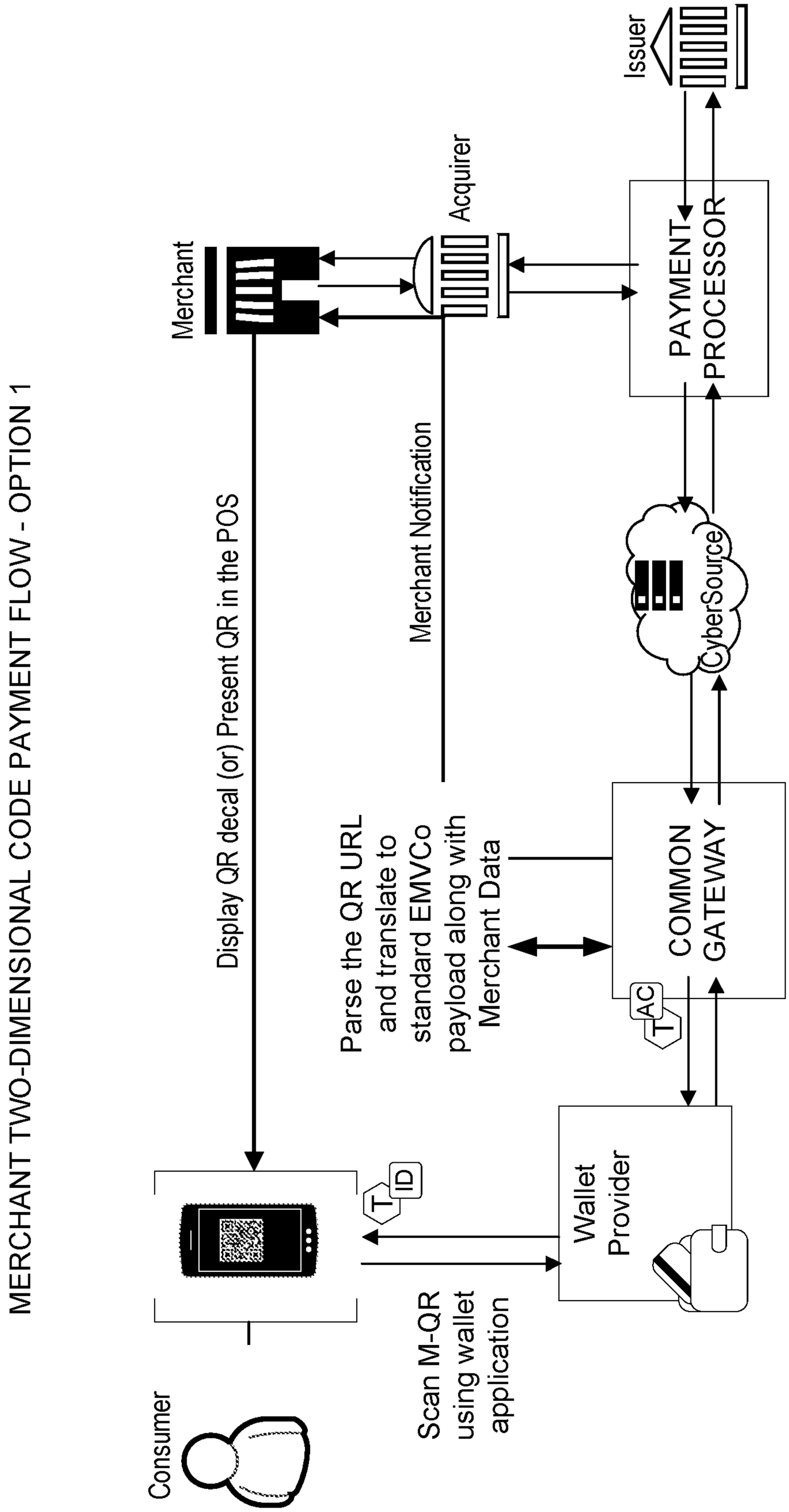

MERCHANT TWO-DIMENSIONAL CODE PAYMENT FLOW - OPTION 1
Consumer
Scan M-QR using wallet application
Wallet Provider
T ID
Display QR decal (or) Present QR in the POS
Merchant
Merchant Notification
Acquirer
Issuer
Parse the QR URL and translate to standard EMVCo payload along with Merchant Data
COMMON GATEWAY
T AC
PAYMENT PROCESSOR
CyberSource

FIG. 6B

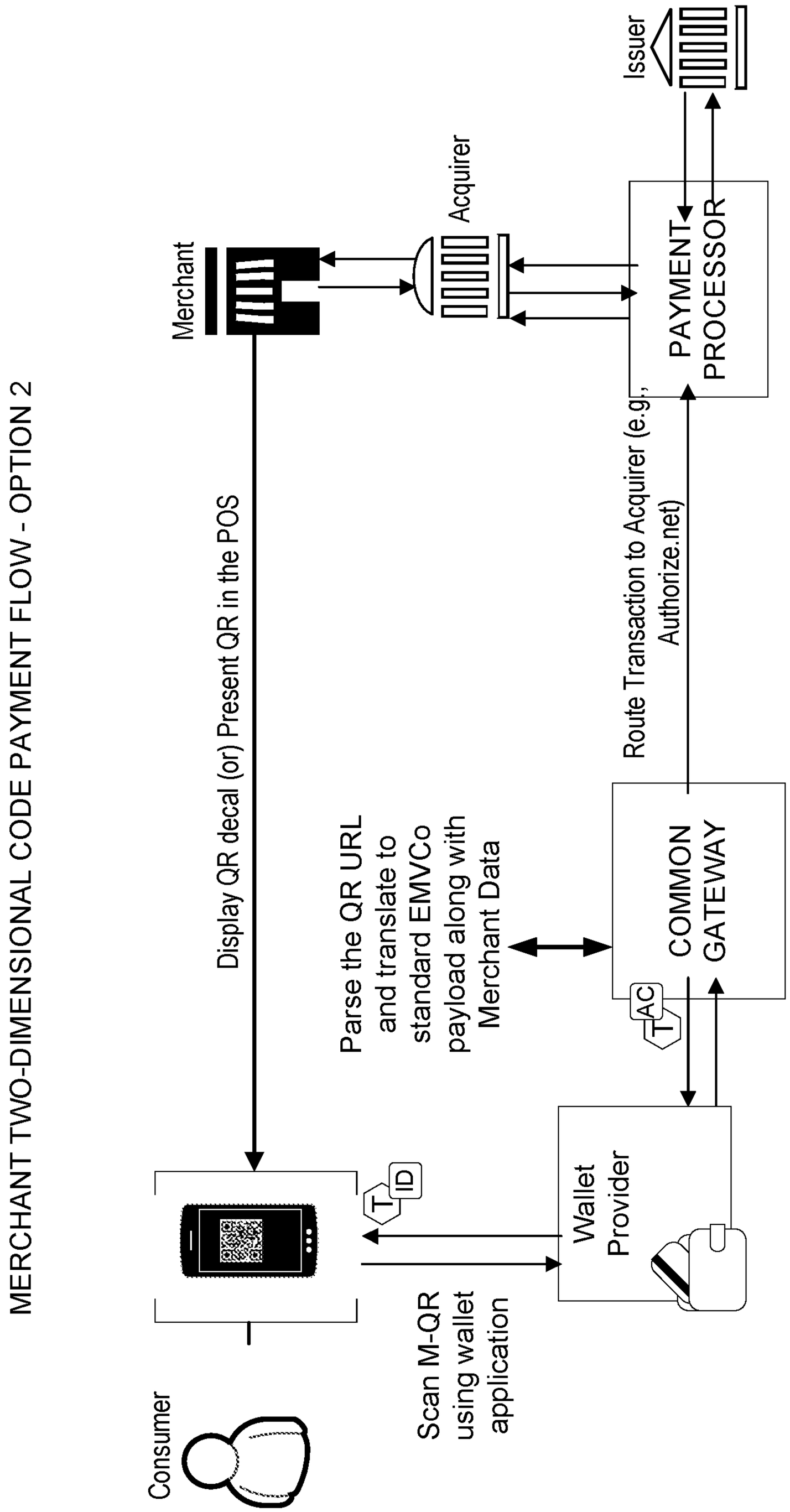

MERCHANT TWO-DIMENSIONAL CODE PAYMENT FLOW - OPTION 2
Consumer
Display QR decal (or) Present QR in the POS
Merchant
Scan M-QR using wallet application
Parse the QR URL and translate to standard EMVCo payload along with Merchant Data
Acquirer
Route Transaction to Acquirer (e.g., Authorize.net)
Issuer
PAYMENT PROCESSOR
COMMON GATEWAY
Wallet Provider
ID
AC

FIG. 6C

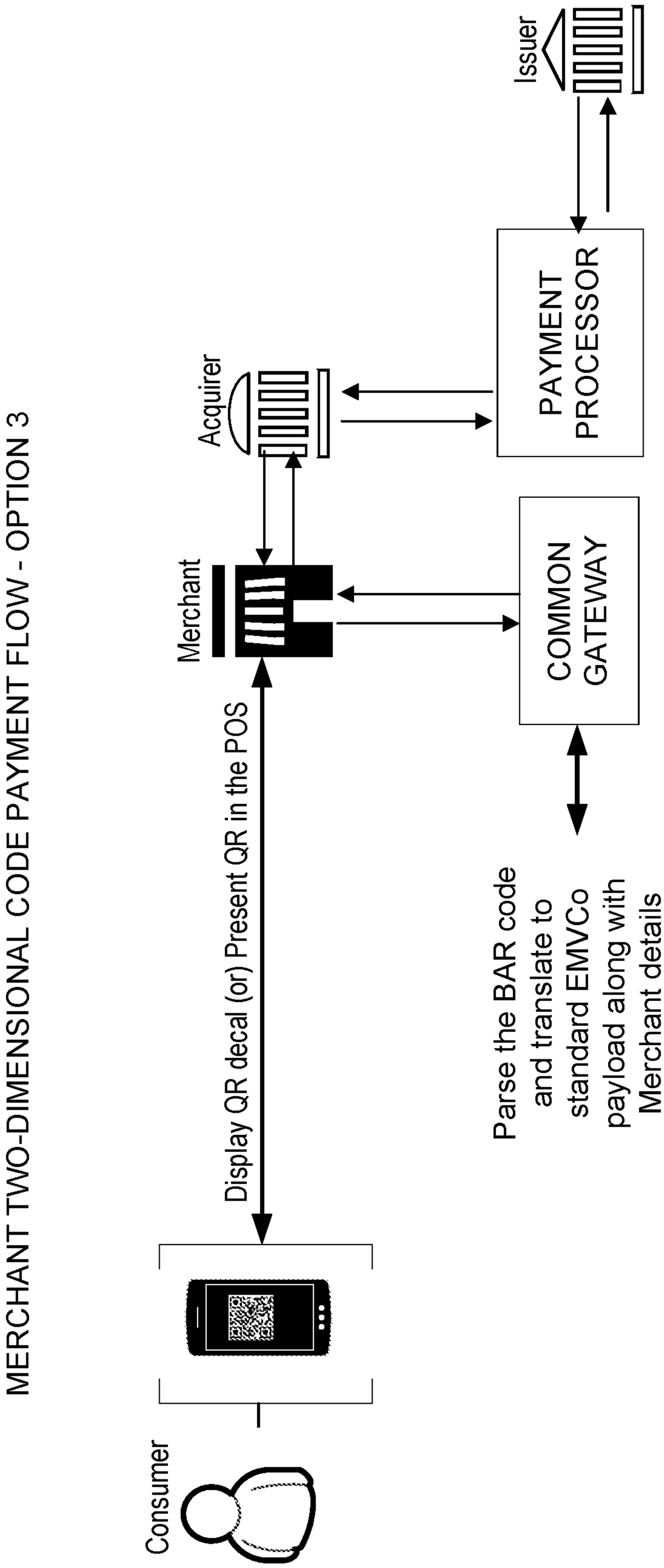

MERCHANT TWO-DIMENSIONAL CODE PAYMENT FLOW - OPTION 3
Consumer
Display QR decal (or) Present QR in the POS
Merchant
Acquirer
Issuer
COMMON GATEWAY
PAYMENT PROCESSOR
Parse the BAR code and translate to standard EMVCo payload along with Merchant details

FIG. 7

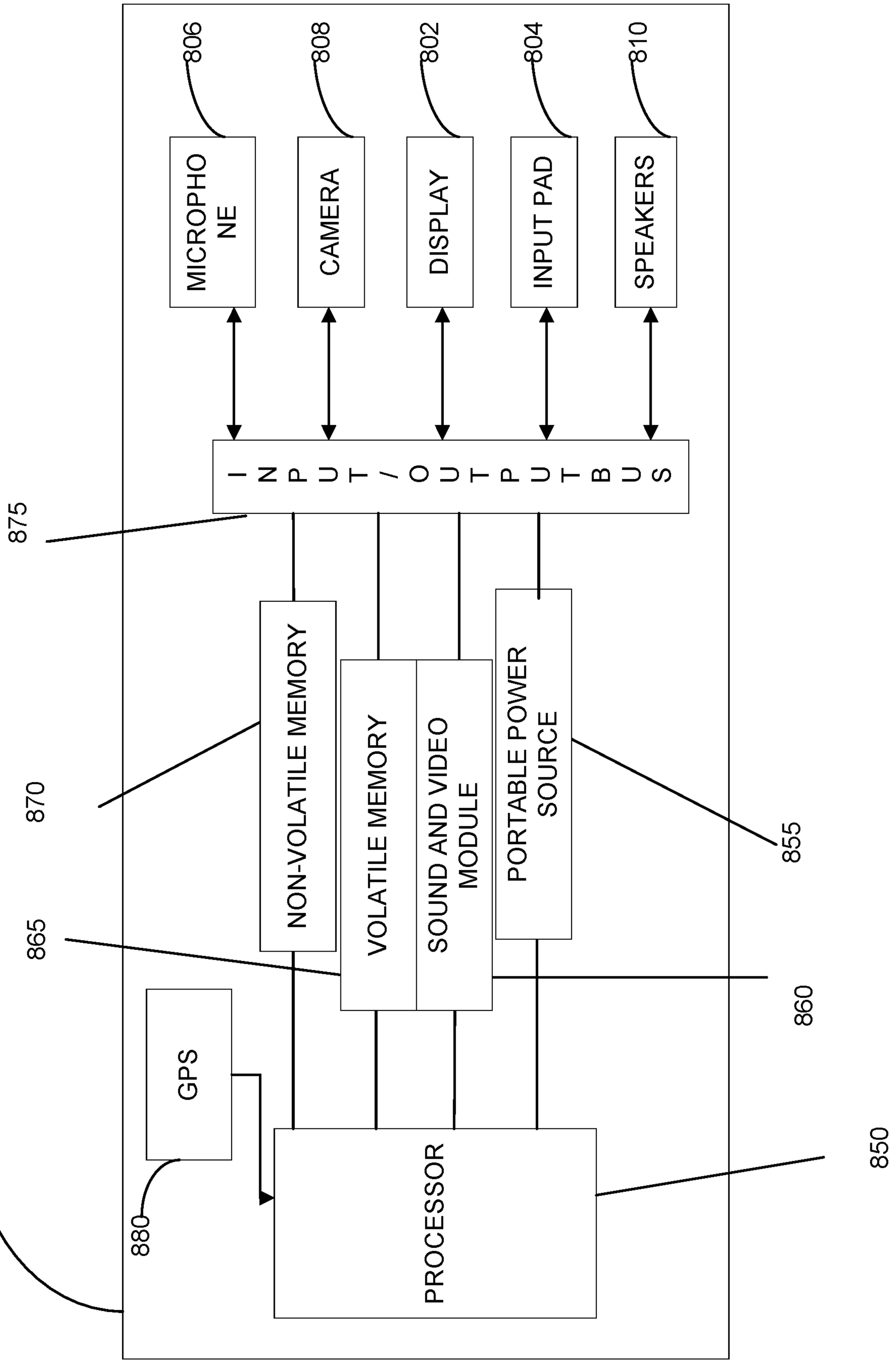

806
808
802
804
810
MICROPHONE
CAMERA
DISPLAY
INPUT PAD
SPEAKERS
875
INPUT/OUTPUT BUS
NON-VOLATILE MEMORY
VOLATILE MEMORY
SOUND AND VIDEO MODULE
PORTABLE POWER SOURCE
870
865
855
860
GPS
801
880
PROCESSOR
850

FIG. 8

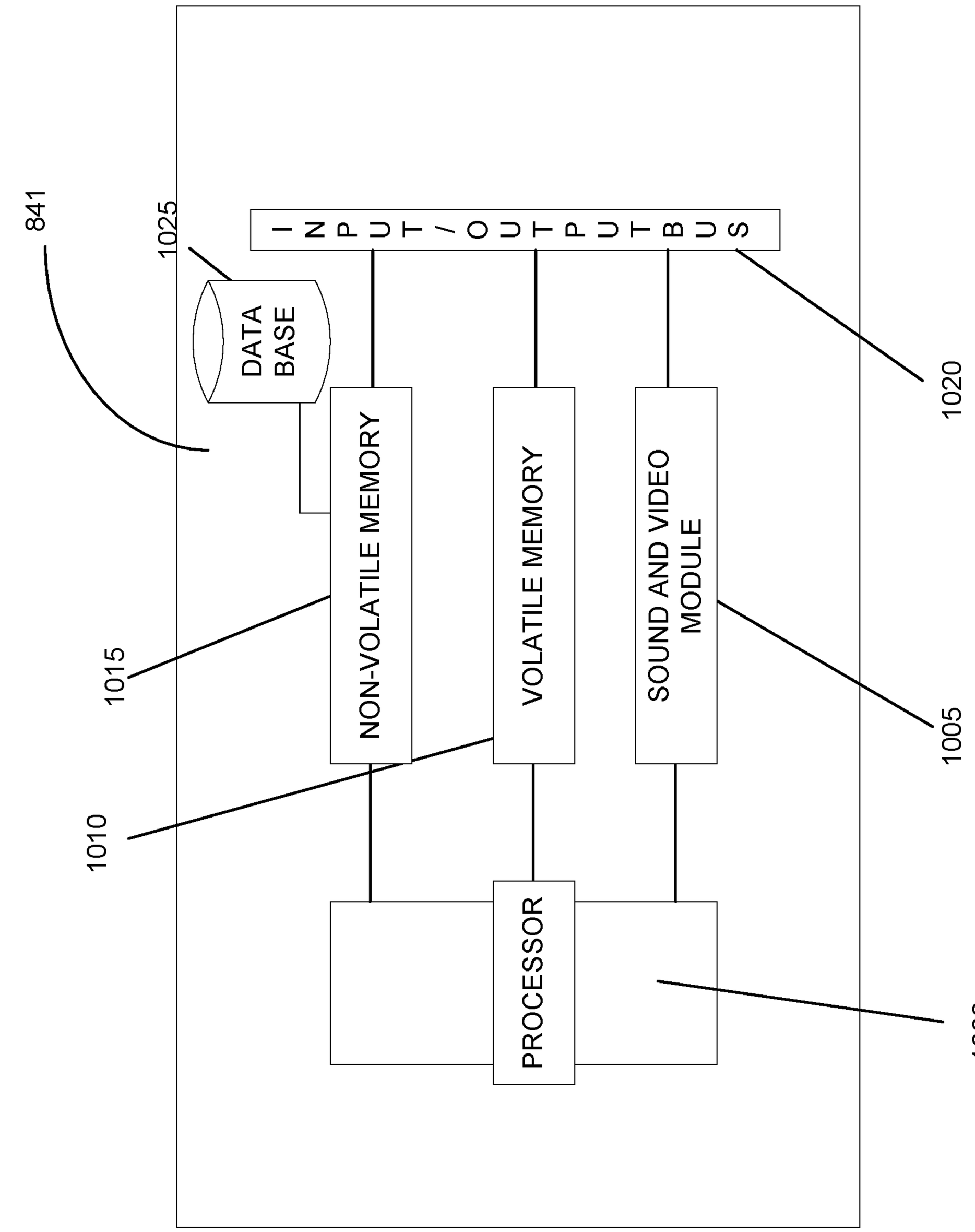
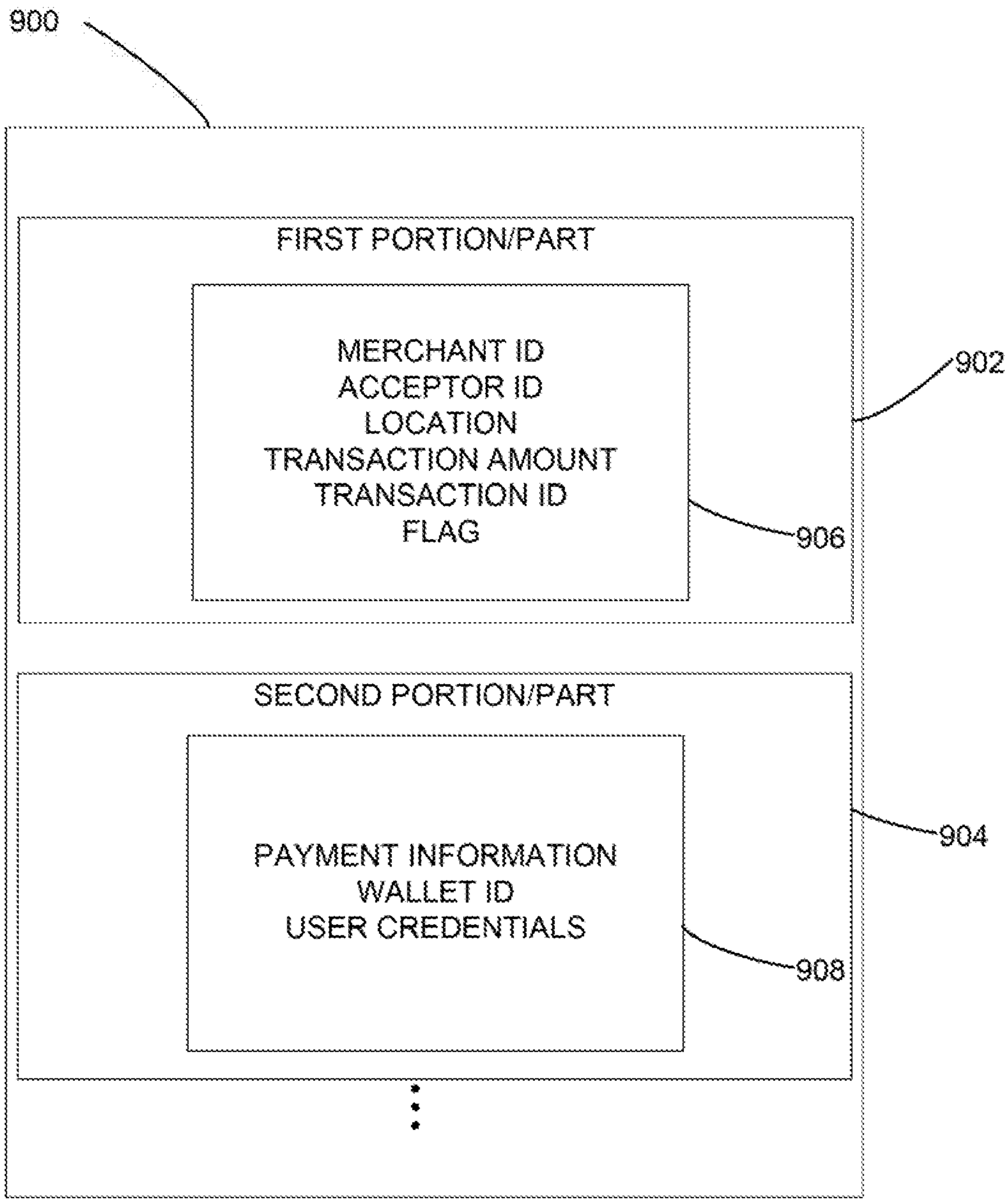

841
1025
DATA BASE
INPUT/OUTPUT BUS
1020
NON-VOLATILE MEMORY
VOLATILE MEMORY
SOUND AND VIDEO MODULE
1015
1010
1005
PROCESSOR
1000

FIG. 9


900
FIRST PORTION/PART
MERCHANT ID
ACCEPTOR ID
LOCATION
TRANSACTION AMOUNT
TRANSACTION ID
FLAG
902
906
SECOND PORTION/PART
PAYMENT INFORMATION
WALLET ID
USER CREDENTIALS
904
908