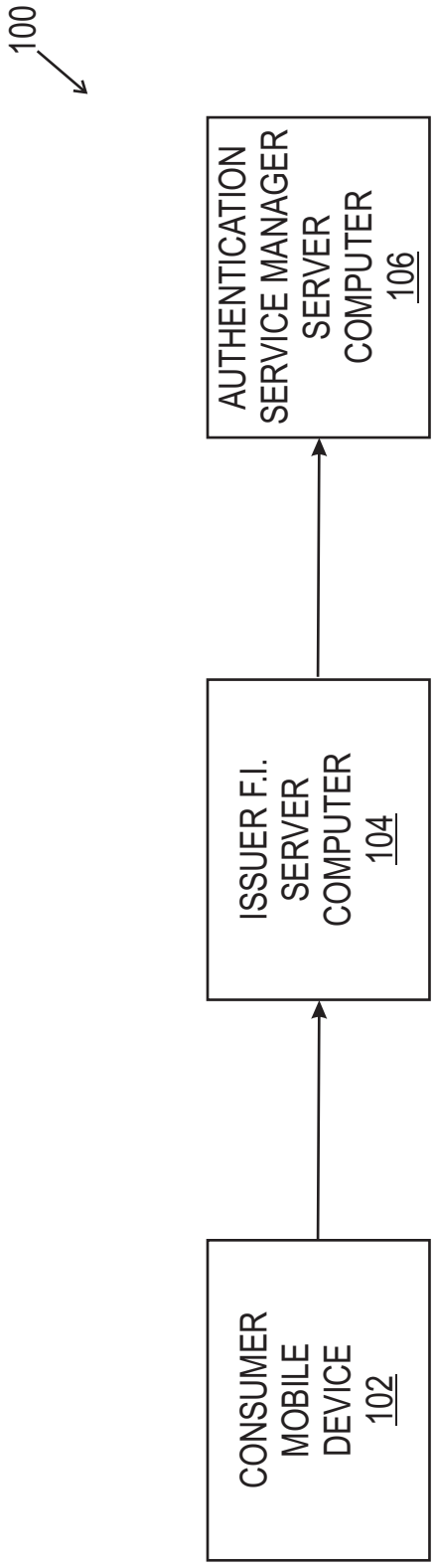
100
CONSUMER MOBILE DEVICE 102
ISSUER F.I. SERVER COMPUTER 104
AUTHENTICATION SERVICE MANAGER SERVER COMPUTER 106

FIG. 1A

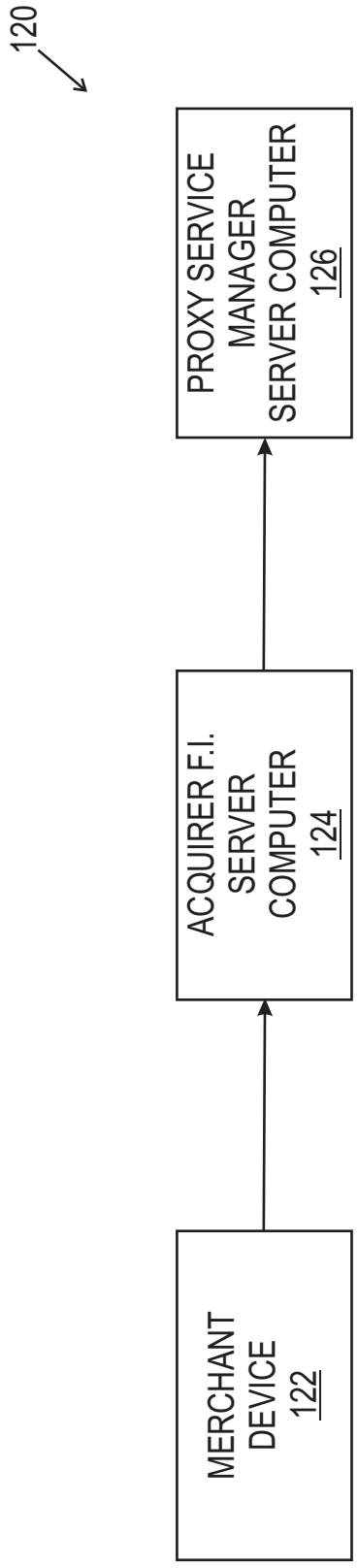
120
MERCHANT DEVICE 122
ACQUIRER F.I. SERVER COMPUTER 124
PROXY SERVICE MANAGER SERVER COMPUTER 126

FIG. 1B

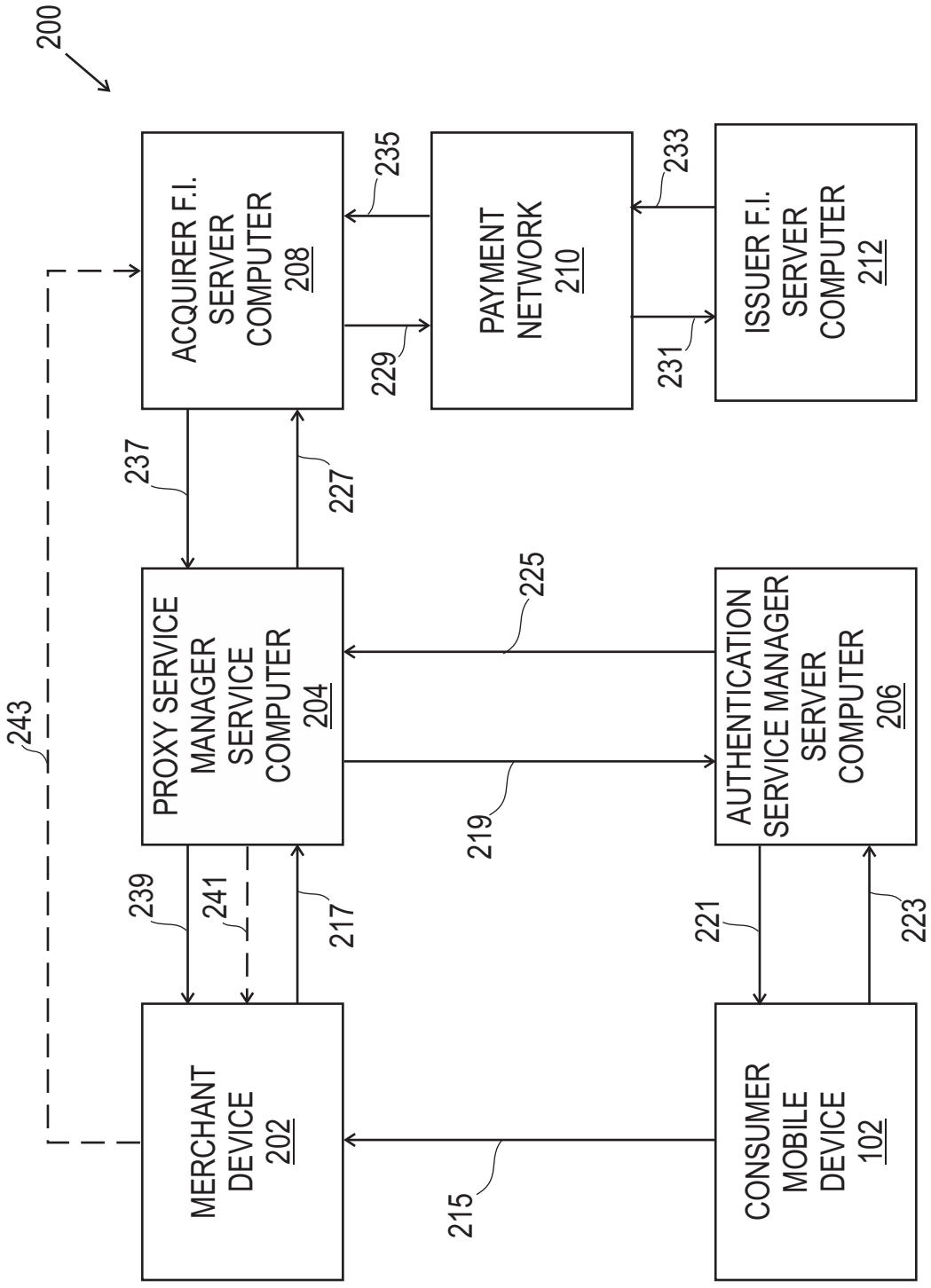
200
ACQUIRER F.I. SERVER COMPUTER 208
PAYMENT NETWORK 210
ISSUER F.I. SERVER COMPUTER 212
PROXY SERVICE MANAGER SERVICE COMPUTER 204
AUTHENTICATION SERVICE MANAGER SERVER COMPUTER 206
MERCHANT DEVICE 202
CONSUMER MOBILE DEVICE 102
235
233
229
231
237
227
225
219
239
241
217
221
223
215
243

FIG. 2

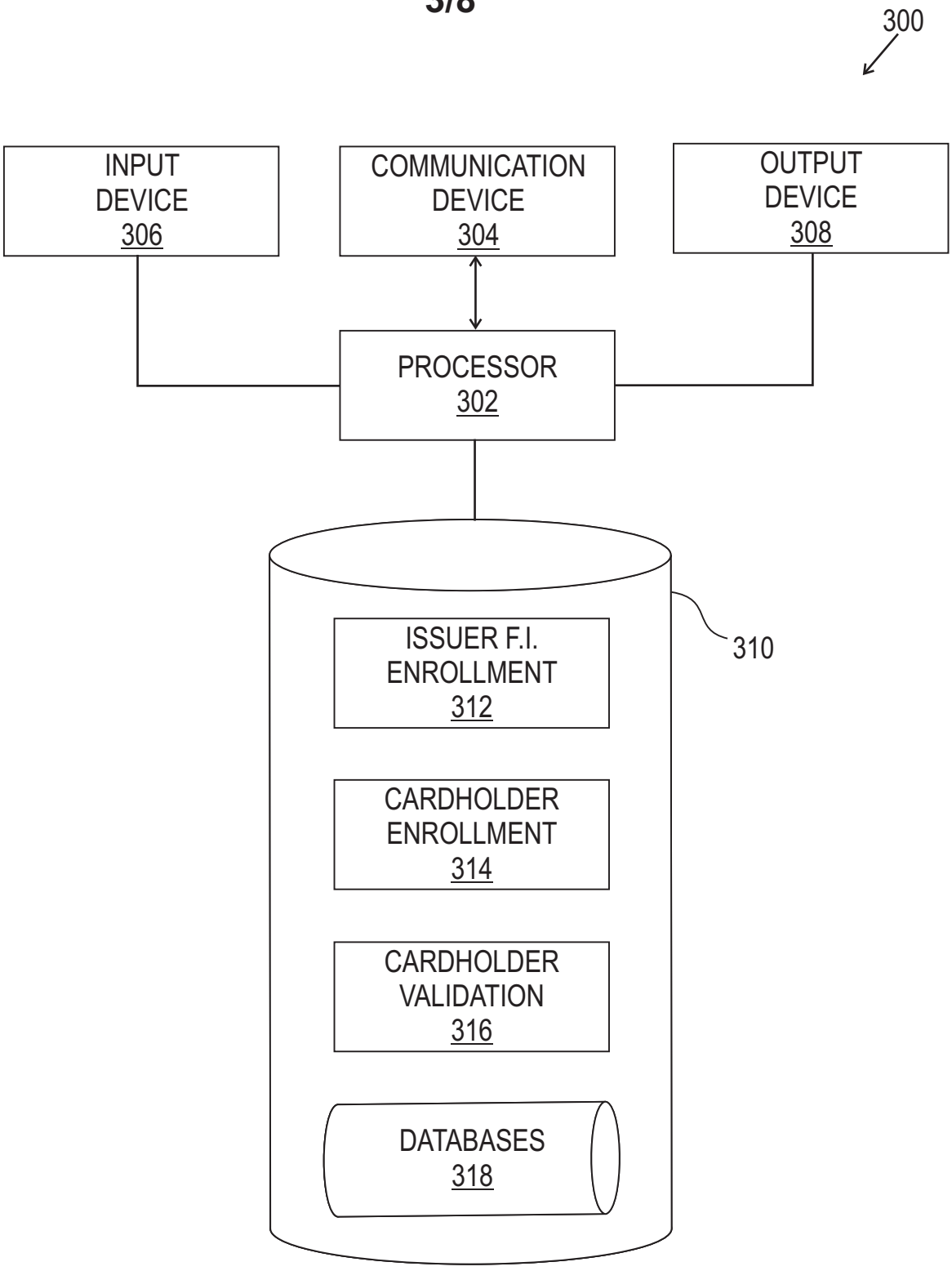
300
INPUT DEVICE 306
COMMUNICATION DEVICE 304
OUTPUT DEVICE 308
PROCESSOR 302
310
ISSUER F.I. ENROLLMENT 312
CARDHOLDER ENROLLMENT 314
CARDHOLDER VALIDATION 316
DATABASES 318

FIG. 3

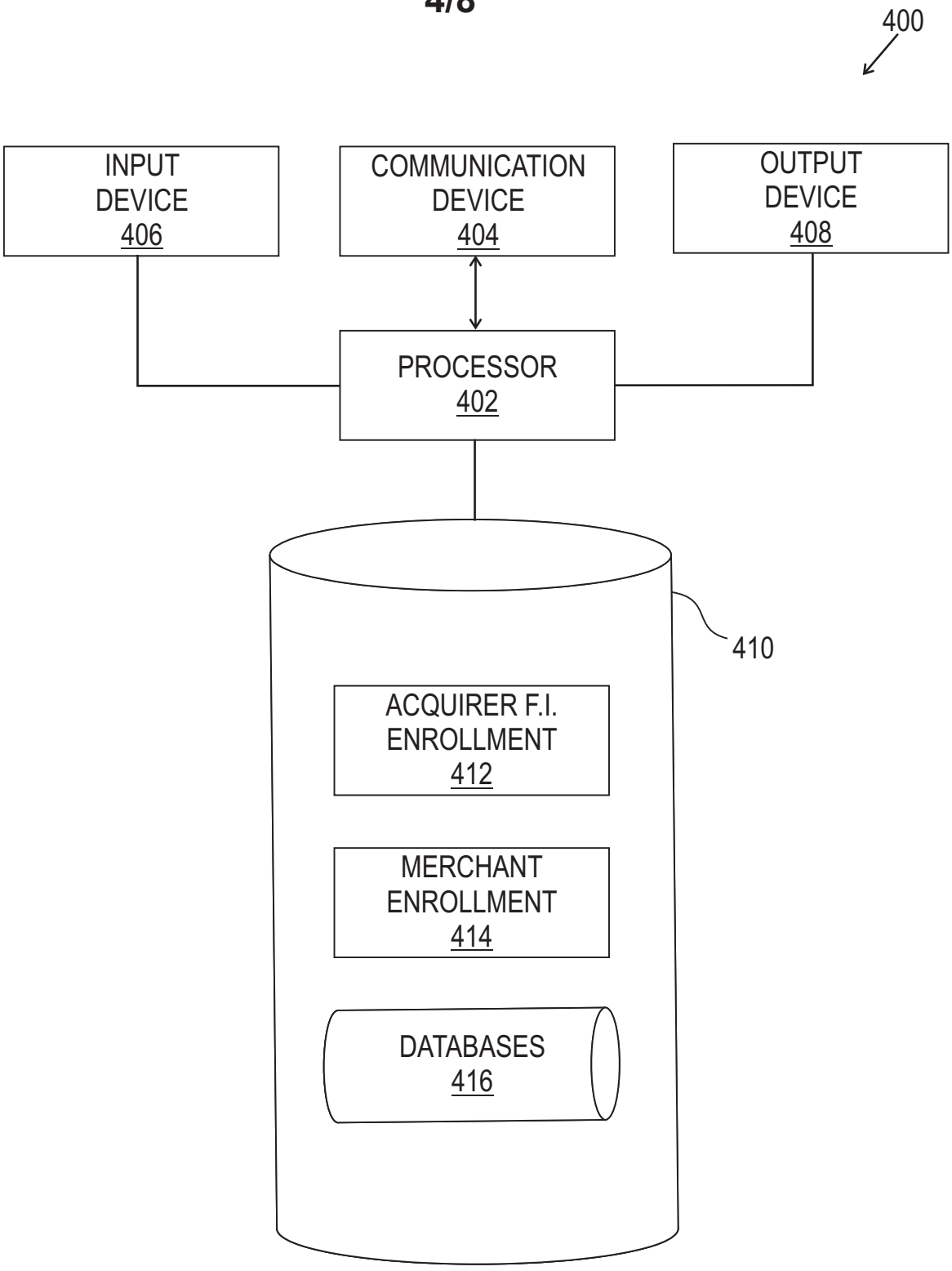
400
INPUT DEVICE 406
COMMUNICATION DEVICE 404
OUTPUT DEVICE 408
PROCESSOR 402
410
ACQUIRER F.I. ENROLLMENT 412
MERCHANT ENROLLMENT 414
DATABASES 416

FIG. 4

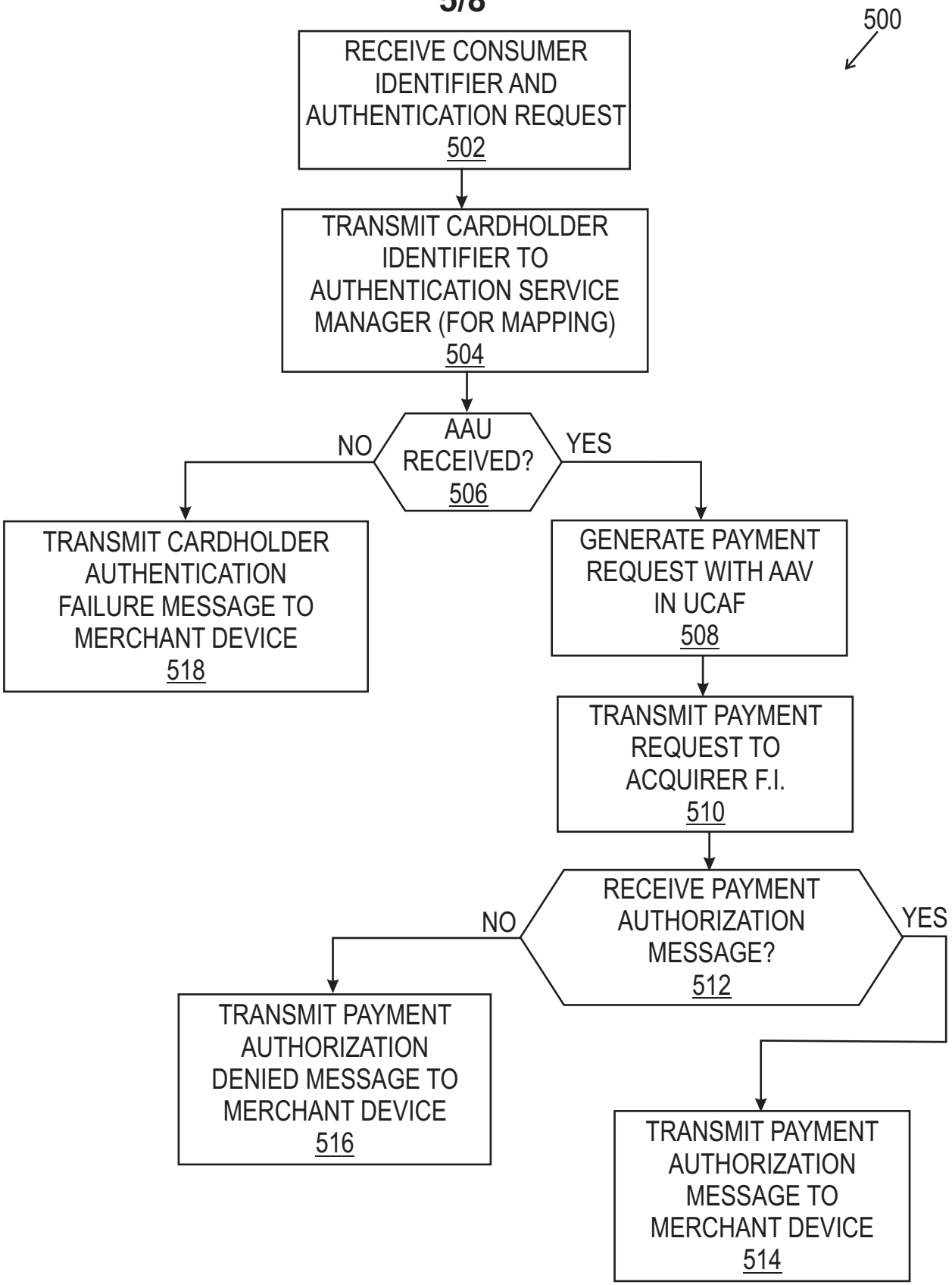
500
RECEIVE CONSUMER IDENTIFIER AND AUTHENTICATION REQUEST
502
TRANSMIT CARDHOLDER IDENTIFIER TO AUTHENTICATION SERVICE MANAGER (FOR MAPPING)
504
AAU RECEIVED?
506
NO
YES
TRANSMIT CARDHOLDER AUTHENTICATION FAILURE MESSAGE TO MERCHANT DEVICE
518
GENERATE PAYMENT REQUEST WITH AAV IN UCAF
508
TRANSMIT PAYMENT REQUEST TO ACQUIRER F.I.
510
RECEIVE PAYMENT AUTHORIZATION MESSAGE?
512
NO
YES
TRANSMIT PAYMENT AUTHORIZATION DENIED MESSAGE TO MERCHANT DEVICE
516
TRANSMIT PAYMENT AUTHORIZATION MESSAGE TO MERCHANT DEVICE
514

FIG. 5

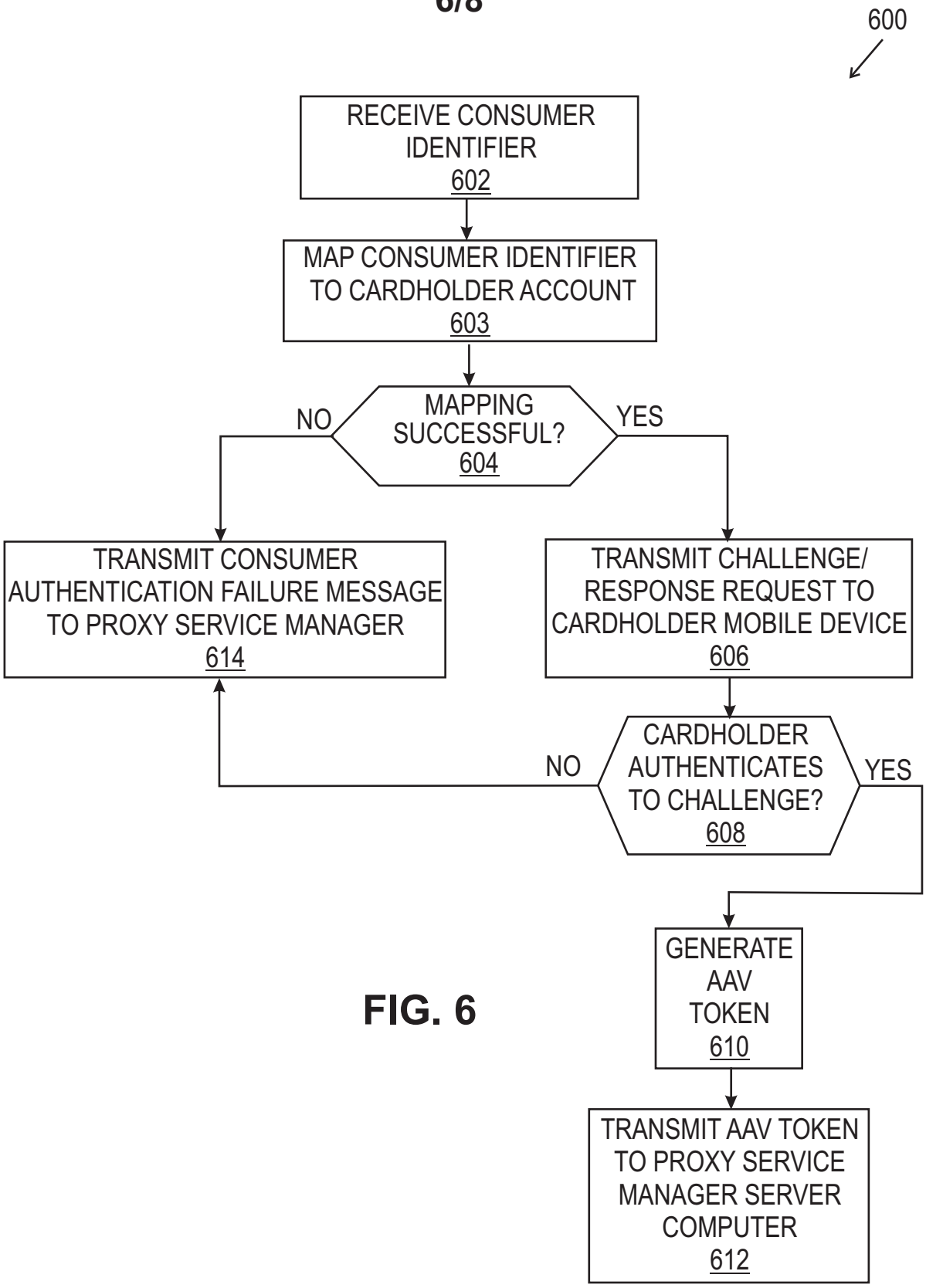
600
RECEIVE CONSUMER IDENTIFIER
602
MAP CONSUMER IDENTIFIER TO CARDHOLDER ACCOUNT
603
MAPPING SUCCESSFUL?
604
NO
YES
TRANSMIT CONSUMER AUTHENTICATION FAILURE MESSAGE TO PROXY SERVICE MANAGER
614
TRANSMIT CHALLENGE/ RESPONSE REQUEST TO CARDHOLDER MOBILE DEVICE
606
CARDHOLDER AUTHENTICATES TO CHALLENGE?
608
NO
YES
GENERATE AAV TOKEN
610
TRANSMIT AAV TOKEN TO PROXY SERVICE MANAGER SERVER COMPUTER
612

FIG. 6

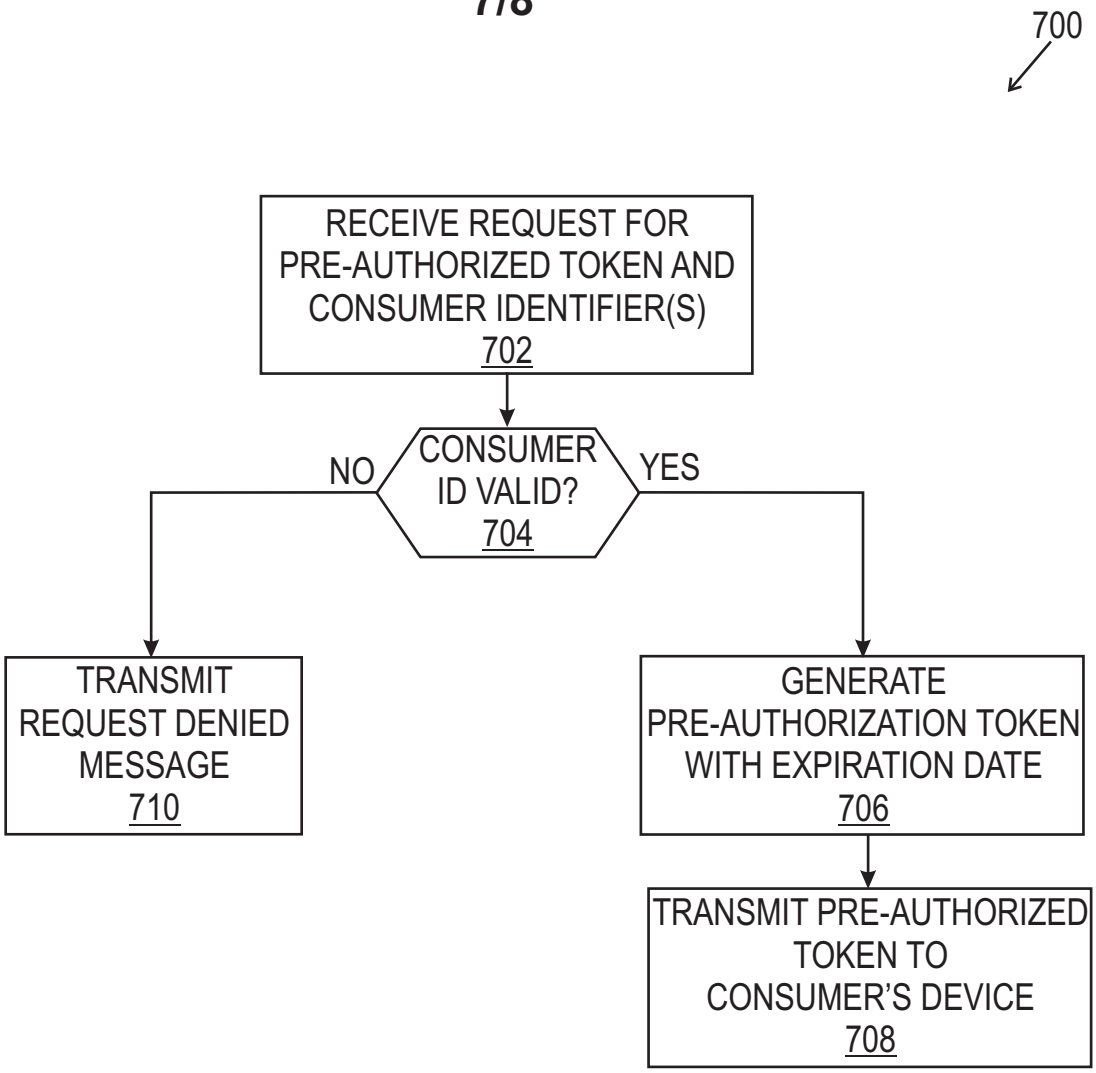
700
RECEIVE REQUEST FOR PRE-AUTHORIZED TOKEN AND CONSUMER IDENTIFIER(S)
702
CONSUMER ID VALID?
704
NO
YES
TRANSMIT REQUEST DENIED MESSAGE
710
GENERATE PRE-AUTHORIZATION TOKEN WITH EXPIRATION DATE
706
TRANSMIT PRE-AUTHORIZED TOKEN TO CONSUMER'S DEVICE
708

FIG. 7

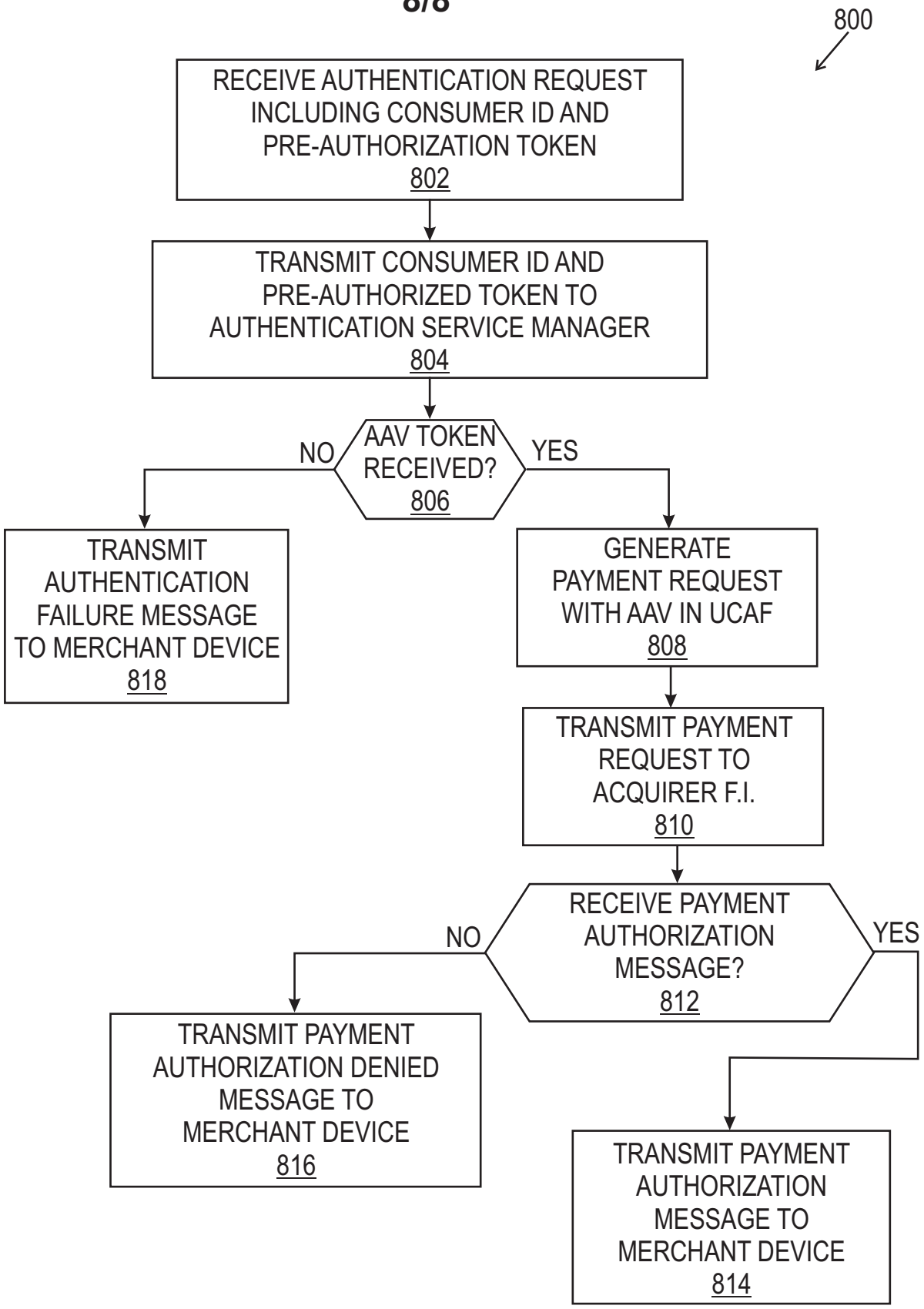
800
RECEIVE AUTHENTICATION REQUEST INCLUDING CONSUMER ID AND PRE-AUTHORIZATION TOKEN
802
TRANSMIT CONSUMER ID AND PRE-AUTHORIZED TOKEN TO AUTHENTICATION SERVICE MANAGER
804
AAV TOKEN RECEIVED?
806
NO
YES
TRANSMIT AUTHENTICATION FAILURE MESSAGE TO MERCHANT DEVICE
818
GENERATE PAYMENT REQUEST WITH AAV IN UCAF
808
TRANSMIT PAYMENT REQUEST TO ACQUIRER F.I.
810
RECEIVE PAYMENT AUTHORIZATION MESSAGE?
812
NO
YES
TRANSMIT PAYMENT AUTHORIZATION DENIED MESSAGE TO MERCHANT DEVICE
816
TRANSMIT PAYMENT AUTHORIZATION MESSAGE TO MERCHANT DEVICE
814

FIG. 8