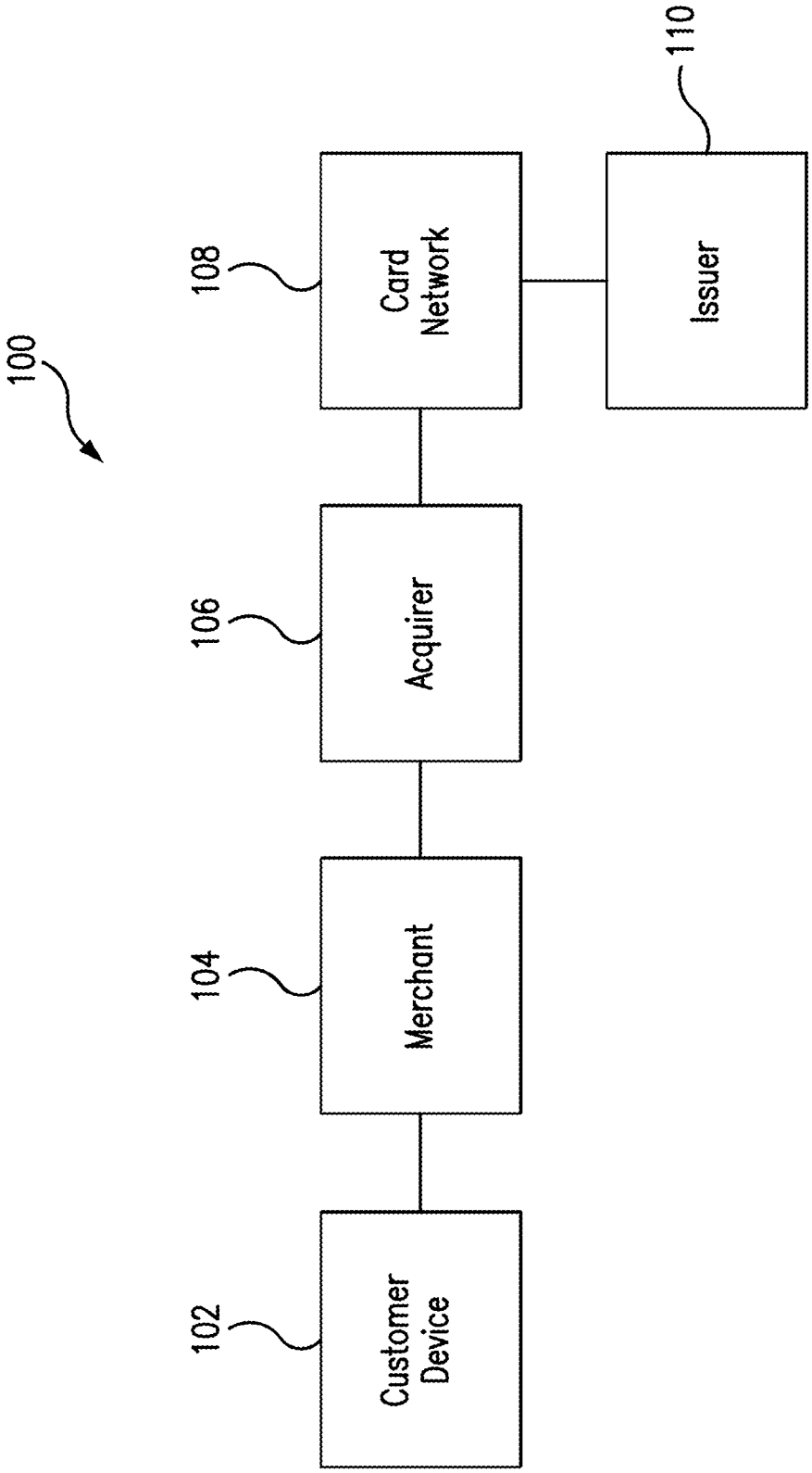


FIG. 1
(Prior Art)

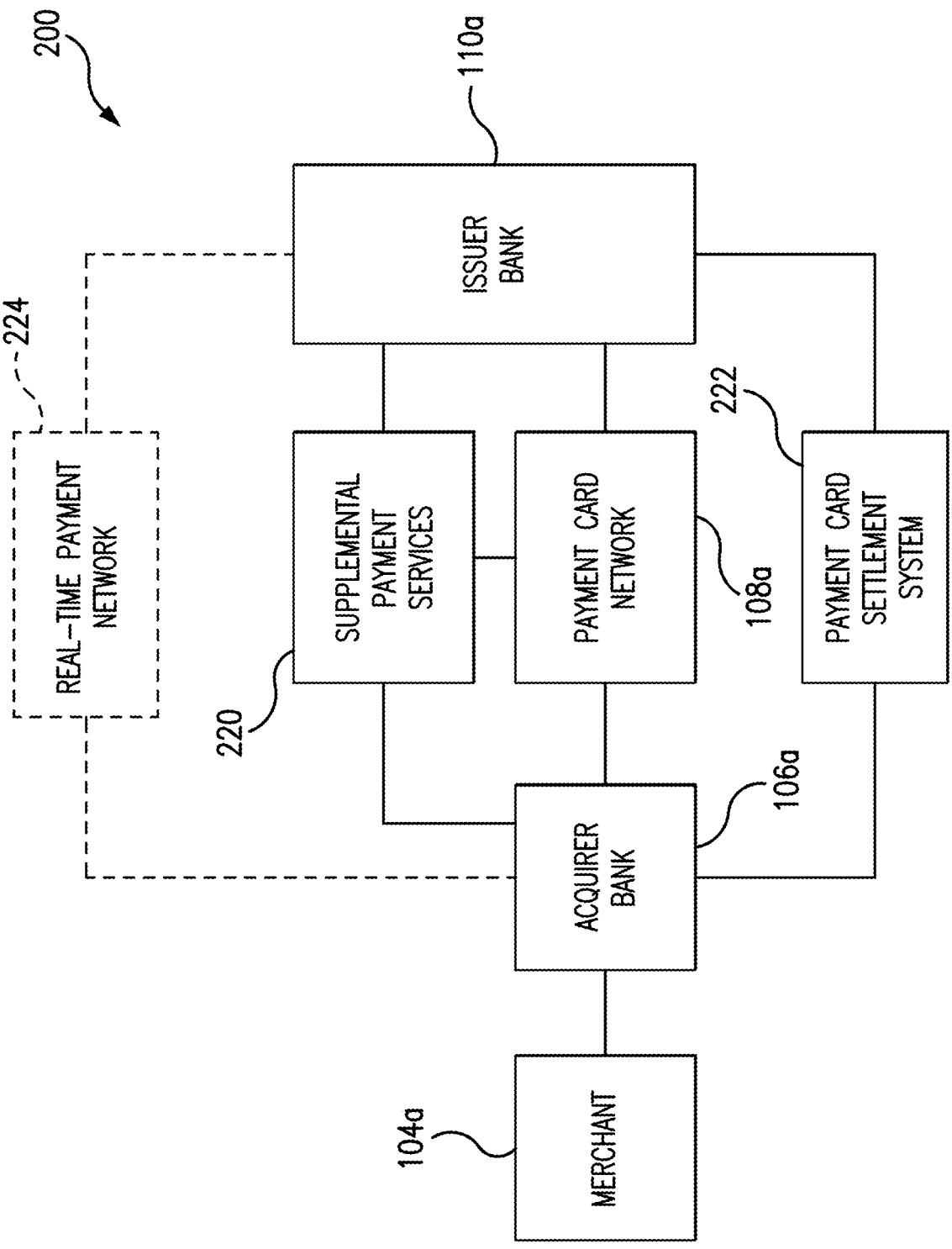

200
110a
ISSUER BANK
224
REAL-TIME PAYMENT NETWORK
220
SUPPLEMENTAL PAYMENT SERVICES
PAYMENT CARD NETWORK
108a
222
PAYMENT CARD SETTLEMENT SYSTEM
106a
ACQUIRER BANK
104a
MERCHANT

FIG. 2

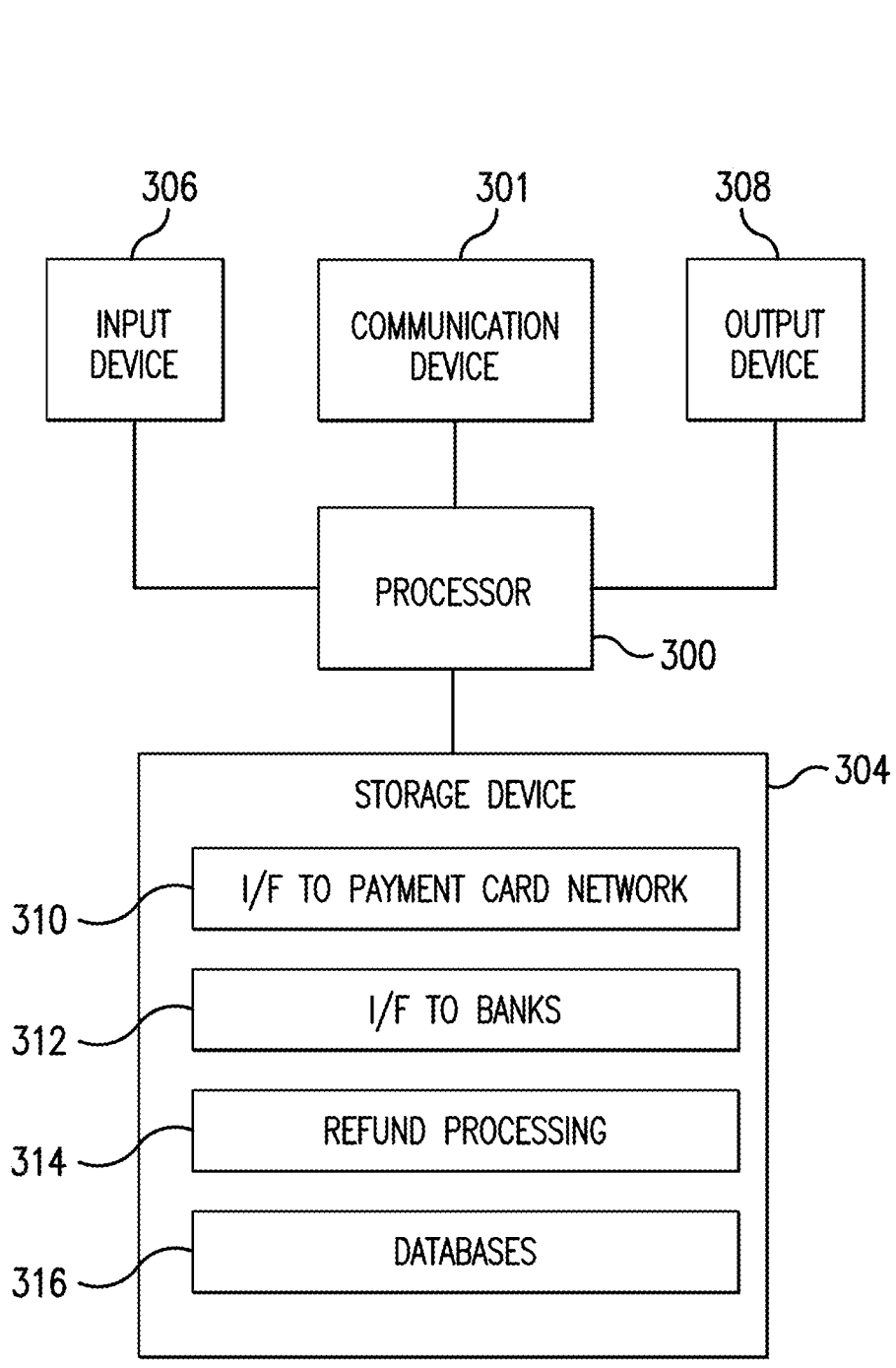

220
306
301
308
INPUT DEVICE
COMMUNICATION DEVICE
OUTPUT DEVICE
PROCESSOR
300
304
STORAGE DEVICE
310
I/F TO PAYMENT CARD NETWORK
312
I/F TO BANKS
314
REFUND PROCESSING
316
DATABASES

FIG. 3

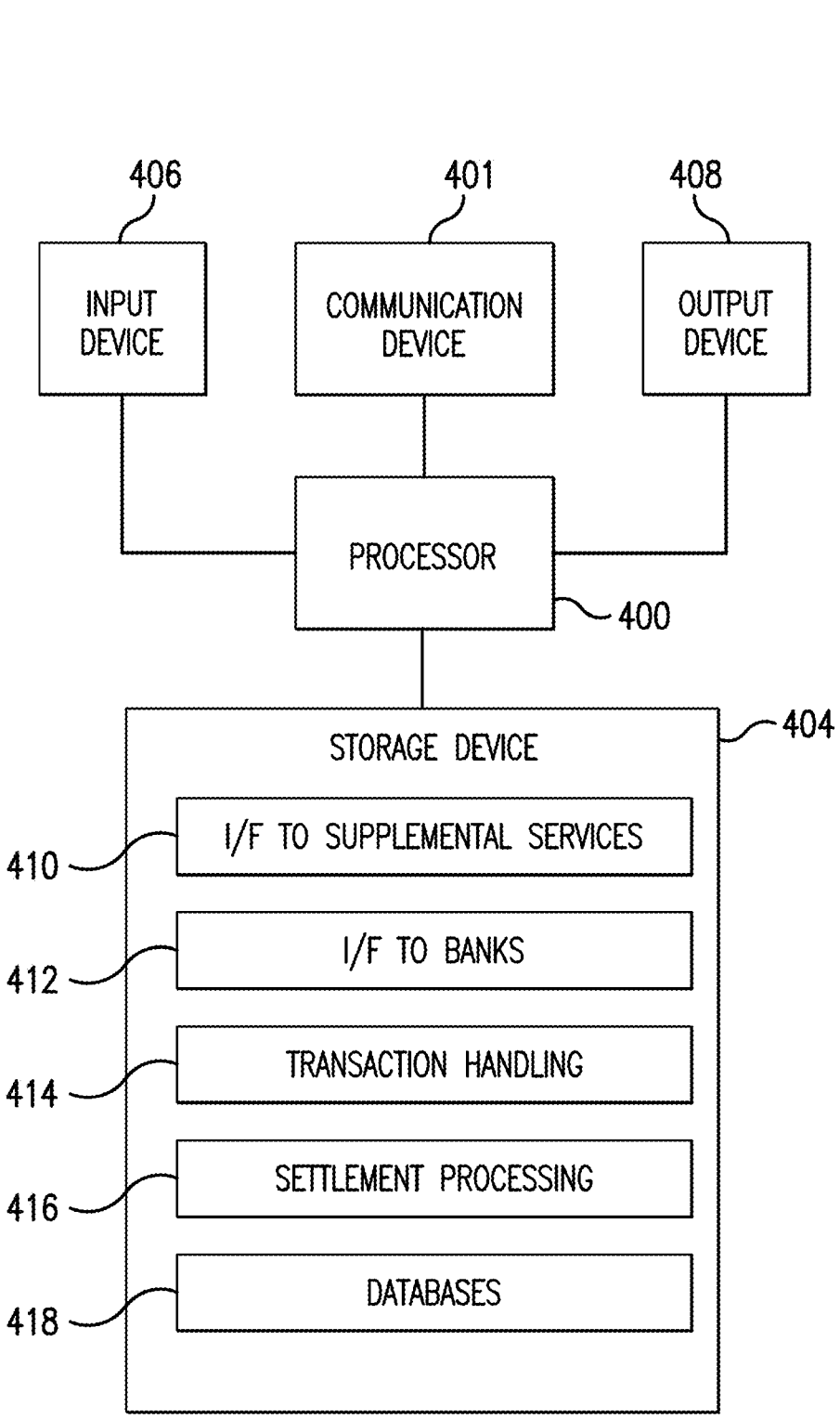

402
406
401
408
INPUT DEVICE
COMMUNICATION DEVICE
OUTPUT DEVICE
PROCESSOR
400
404
STORAGE DEVICE
410
I/F TO SUPPLEMENTAL SERVICES
412
I/F TO BANKS
414
TRANSACTION HANDLING
416
SETTLEMENT PROCESSING
418
DATABASES

FIG. 4

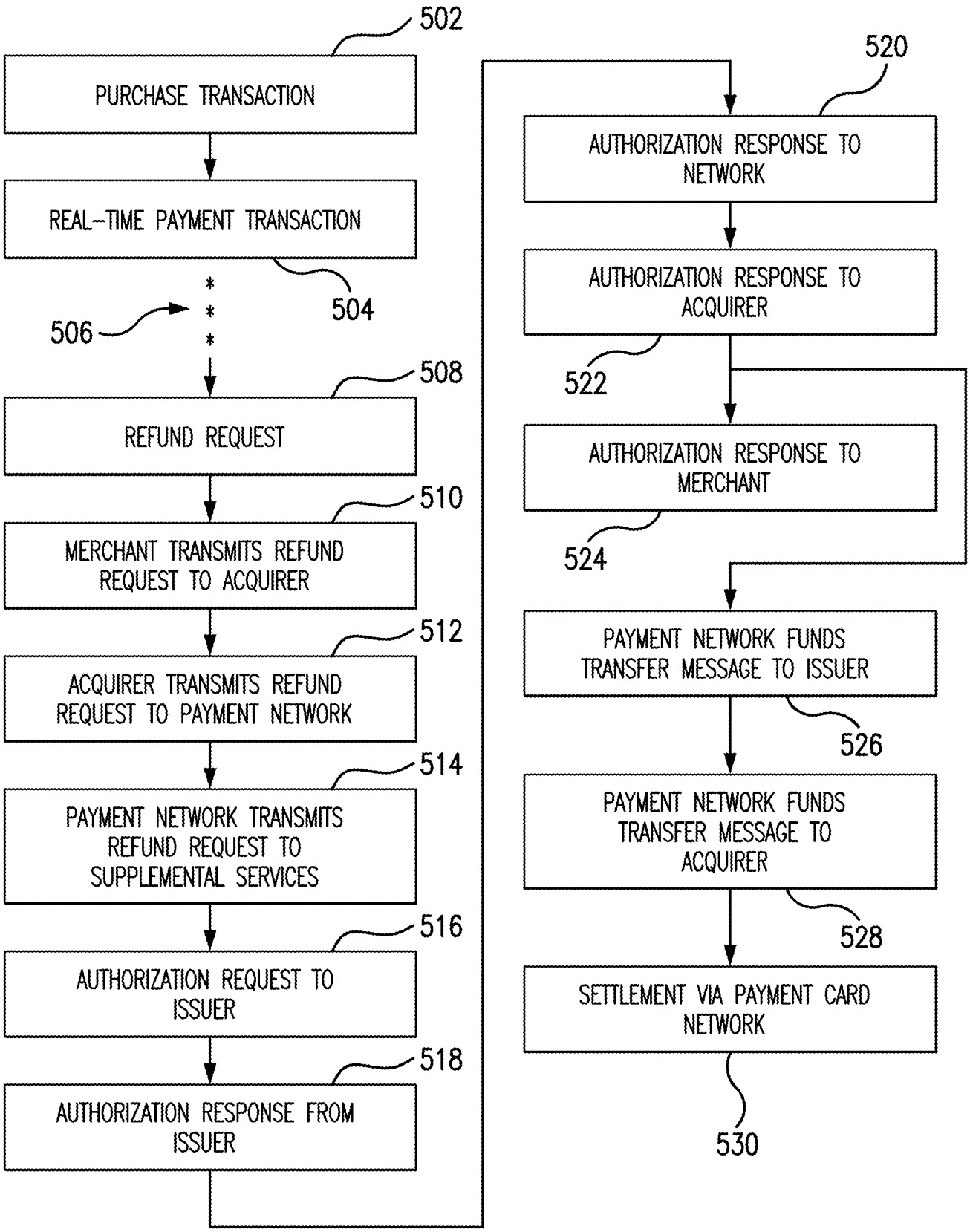

502
PURCHASE TRANSACTION
REAL-TIME PAYMENT TRANSACTION
504
506
508
REFUND REQUEST
510
MERCHANT TRANSMITS REFUND REQUEST TO ACQUIRER
512
ACQUIRER TRANSMITS REFUND REQUEST TO PAYMENT NETWORK
514
PAYMENT NETWORK TRANSMITS REFUND REQUEST TO SUPPLEMENTAL SERVICES
516
AUTHORIZATION REQUEST TO ISSUER
518
AUTHORIZATION RESPONSE FROM ISSUER
520
AUTHORIZATION RESPONSE TO NETWORK
AUTHORIZATION RESPONSE TO ACQUIRER
522
AUTHORIZATION RESPONSE TO MERCHANT
524
PAYMENT NETWORK FUNDS TRANSFER MESSAGE TO ISSUER
526
PAYMENT NETWORK FUNDS TRANSFER MESSAGE TO ACQUIRER
528
SETTLEMENT VIA PAYMENT CARD NETWORK
530

FIG. 5