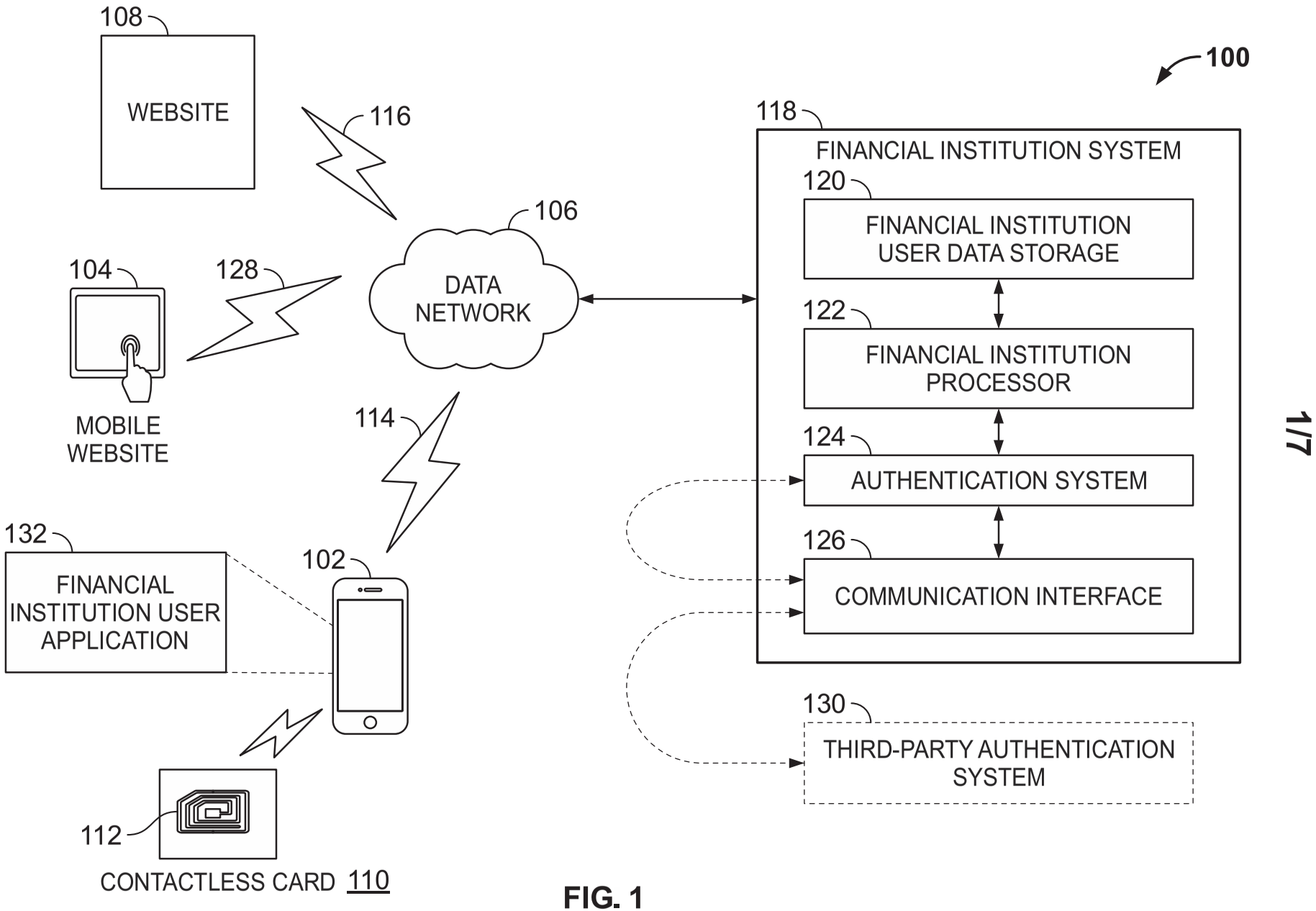

108
WEBSITE
116
100
118
FINANCIAL INSTITUTION SYSTEM
120
FINANCIAL INSTITUTION USER DATA STORAGE
106
DATA NETWORK
104
128
122
FINANCIAL INSTITUTION PROCESSOR
MOBILE WEBSITE
114
124
AUTHENTICATION SYSTEM
132
FINANCIAL INSTITUTION USER APPLICATION
102
126
COMMUNICATION INTERFACE
130
THIRD-PARTY AUTHENTICATION SYSTEM
112
CONTACTLESS CARD 110

FIG. 1

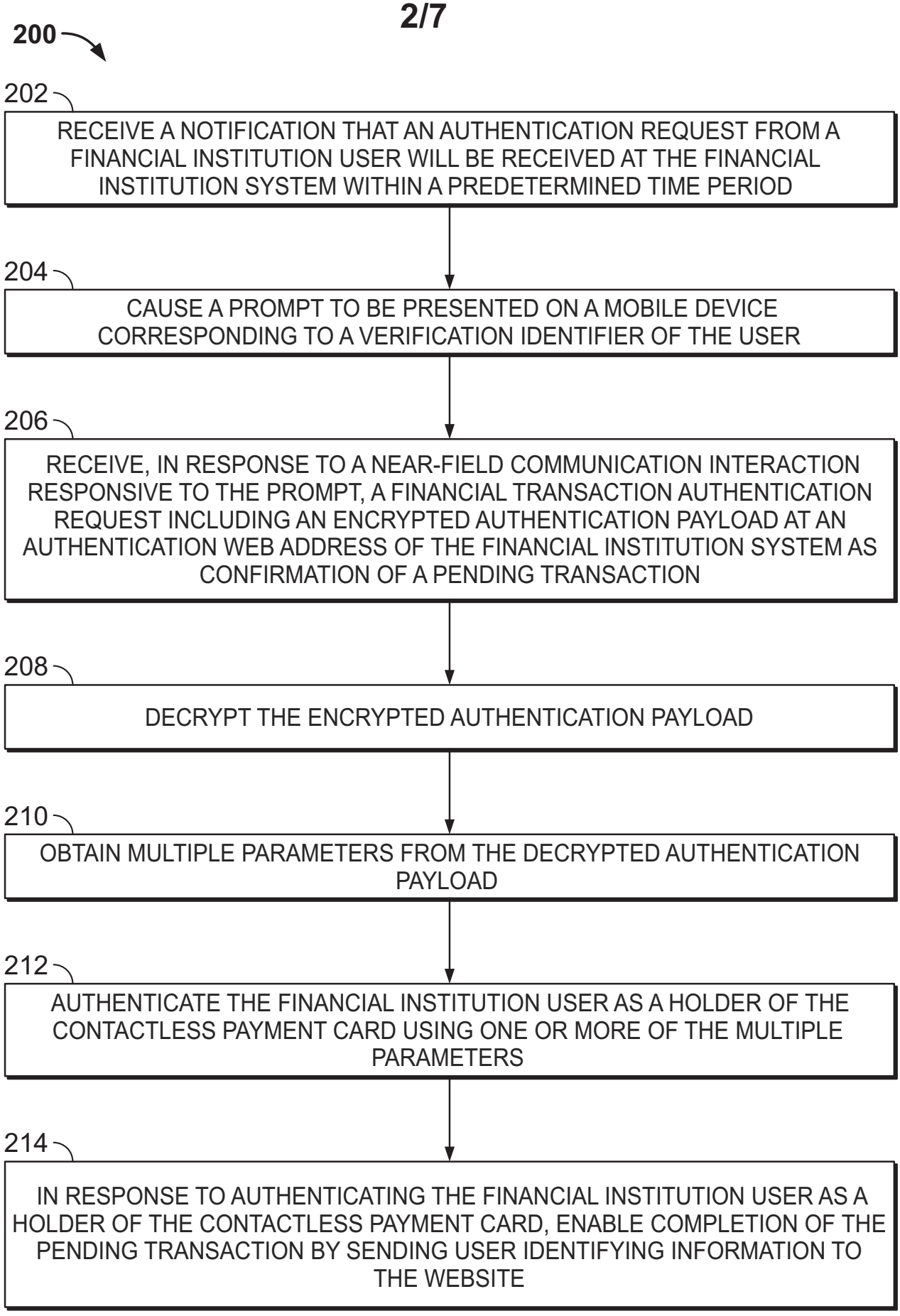

200
202
RECEIVE A NOTIFICATION THAT AN AUTHENTICATION REQUEST FROM A FINANCIAL INSTITUTION USER WILL BE RECEIVED AT THE FINANCIAL INSTITUTION SYSTEM WITHIN A PREDETERMINED TIME PERIOD
204
CAUSE A PROMPT TO BE PRESENTED ON A MOBILE DEVICE CORRESPONDING TO A VERIFICATION IDENTIFIER OF THE USER
206
RECEIVE, IN RESPONSE TO A NEAR-FIELD COMMUNICATION INTERACTION RESPONSIVE TO THE PROMPT, A FINANCIAL TRANSACTION AUTHENTICATION REQUEST INCLUDING AN ENCRYPTED AUTHENTICATION PAYLOAD AT AN AUTHENTICATION WEB ADDRESS OF THE FINANCIAL INSTITUTION SYSTEM AS CONFIRMATION OF A PENDING TRANSACTION
208
DECRYPT THE ENCRYPTED AUTHENTICATION PAYLOAD
210
OBTAIN MULTIPLE PARAMETERS FROM THE DECRYPTED AUTHENTICATION PAYLOAD
212
AUTHENTICATE THE FINANCIAL INSTITUTION USER AS A HOLDER OF THE CONTACTLESS PAYMENT CARD USING ONE OR MORE OF THE MULTIPLE PARAMETERS
214
IN RESPONSE TO AUTHENTICATING THE FINANCIAL INSTITUTION USER AS A HOLDER OF THE CONTACTLESS PAYMENT CARD, ENABLE COMPLETION OF THE PENDING TRANSACTION BY SENDING USER IDENTIFYING INFORMATION TO THE WEBSITE

FIG. 2

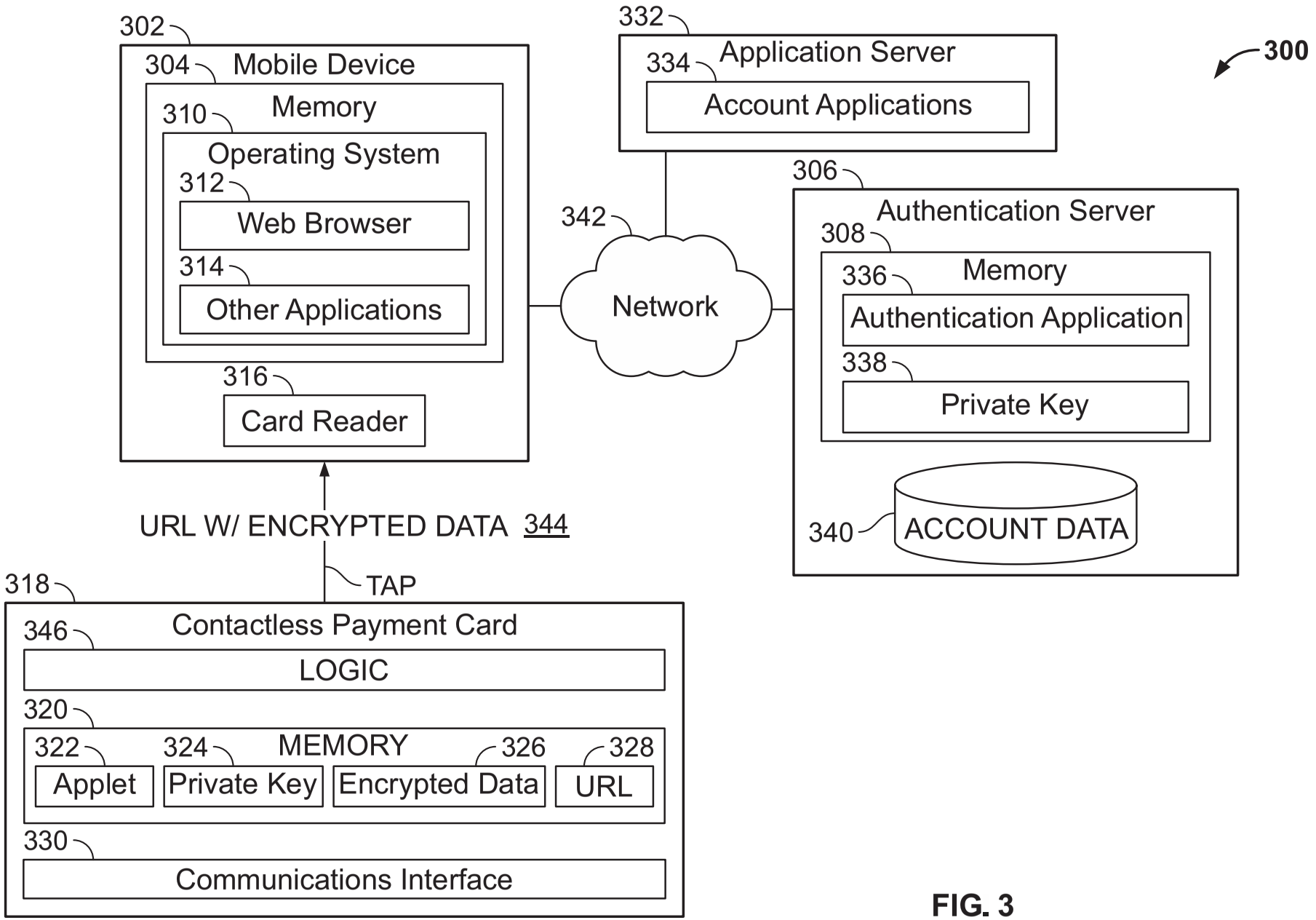

300
302
Mobile Device
304
Memory
310
Operating System
312
Web Browser
314
Other Applications
316
Card Reader
332
Application Server
334
Account Applications
342
Network
306
Authentication Server
308
Memory
336
Authentication Application
338
Private Key
340
ACCOUNT DATA
URL W/ ENCRYPTED DATA 344
TAP
318
Contactless Payment Card
346
LOGIC
320
MEMORY
322
Applet
324
Private Key
326
Encrypted Data
328
URL
330
Communications Interface

FIG. 3

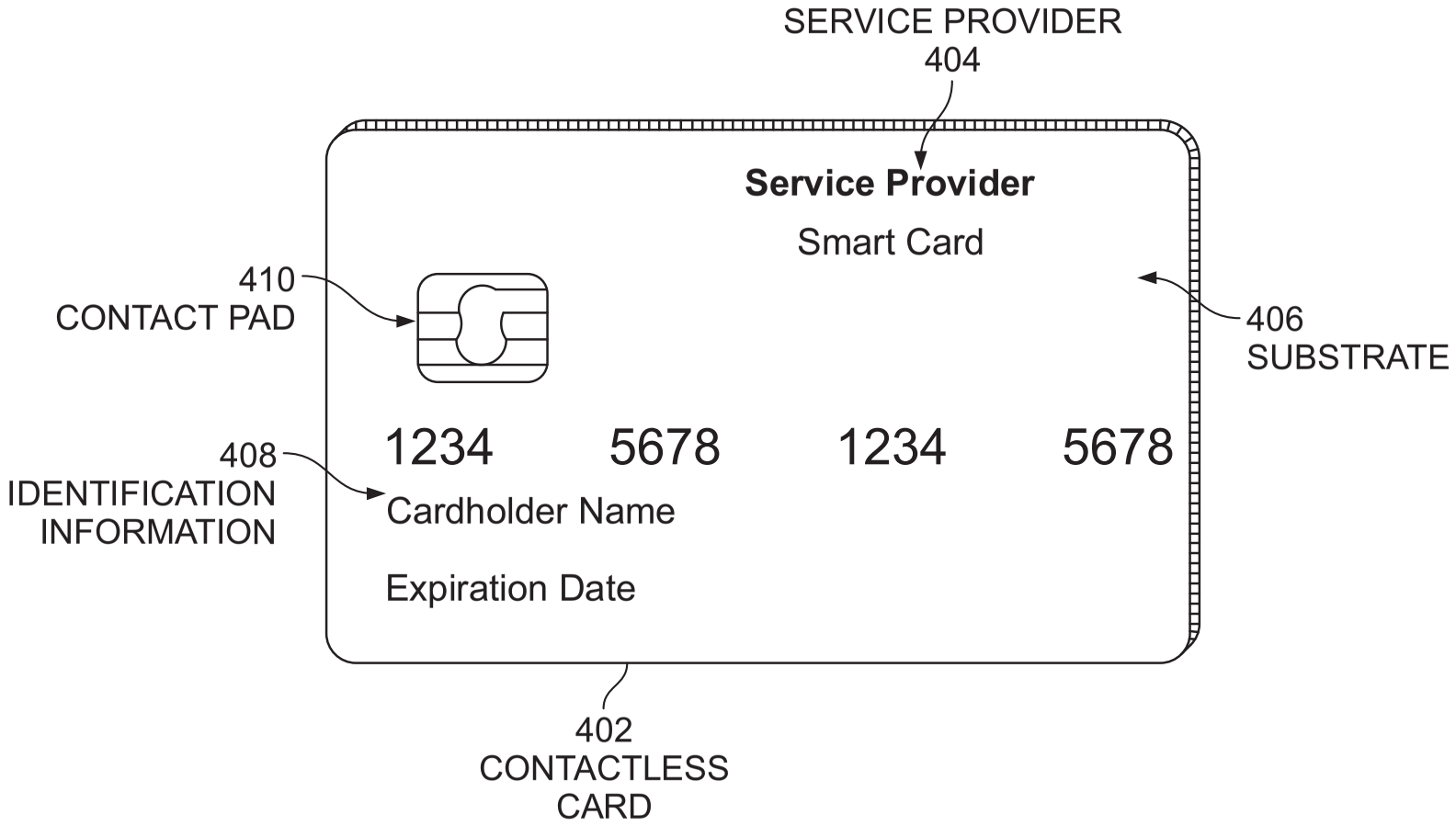

SERVICE PROVIDER
404
Service Provider
Smart Card
410
CONTACT PAD
406
SUBSTRATE
1234 5678 1234 5678
408
IDENTIFICATION
INFORMATION
Cardholder Name
Expiration Date
402
CONTACTLESS
CARD

FIG. 4

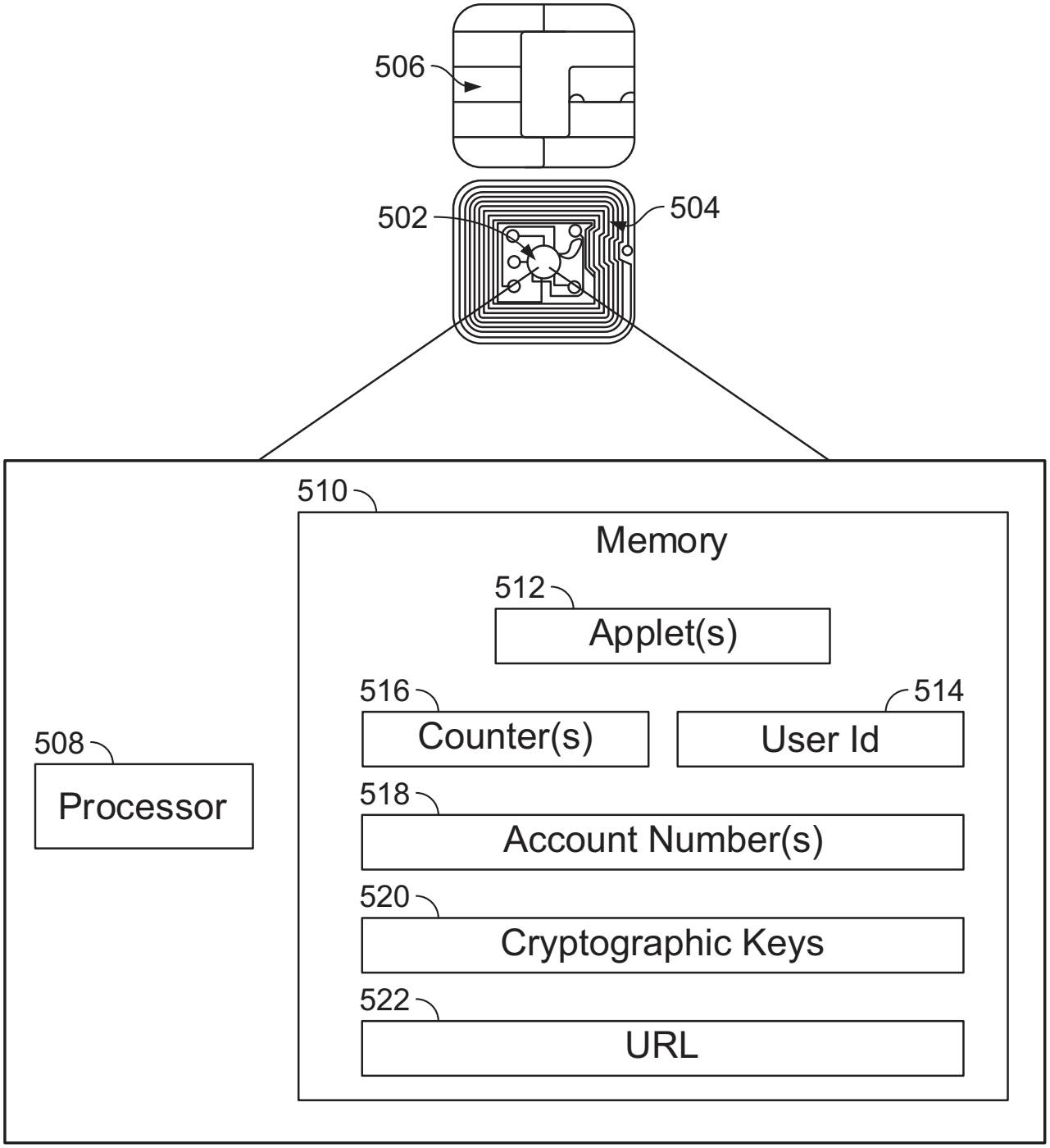

506
502
504
510
Memory
512
Applet(s)
516
Counter(s)
514
User Id
508
Processor
518
Account Number(s)
520
Cryptographic Keys
522
URL

FIG. 5

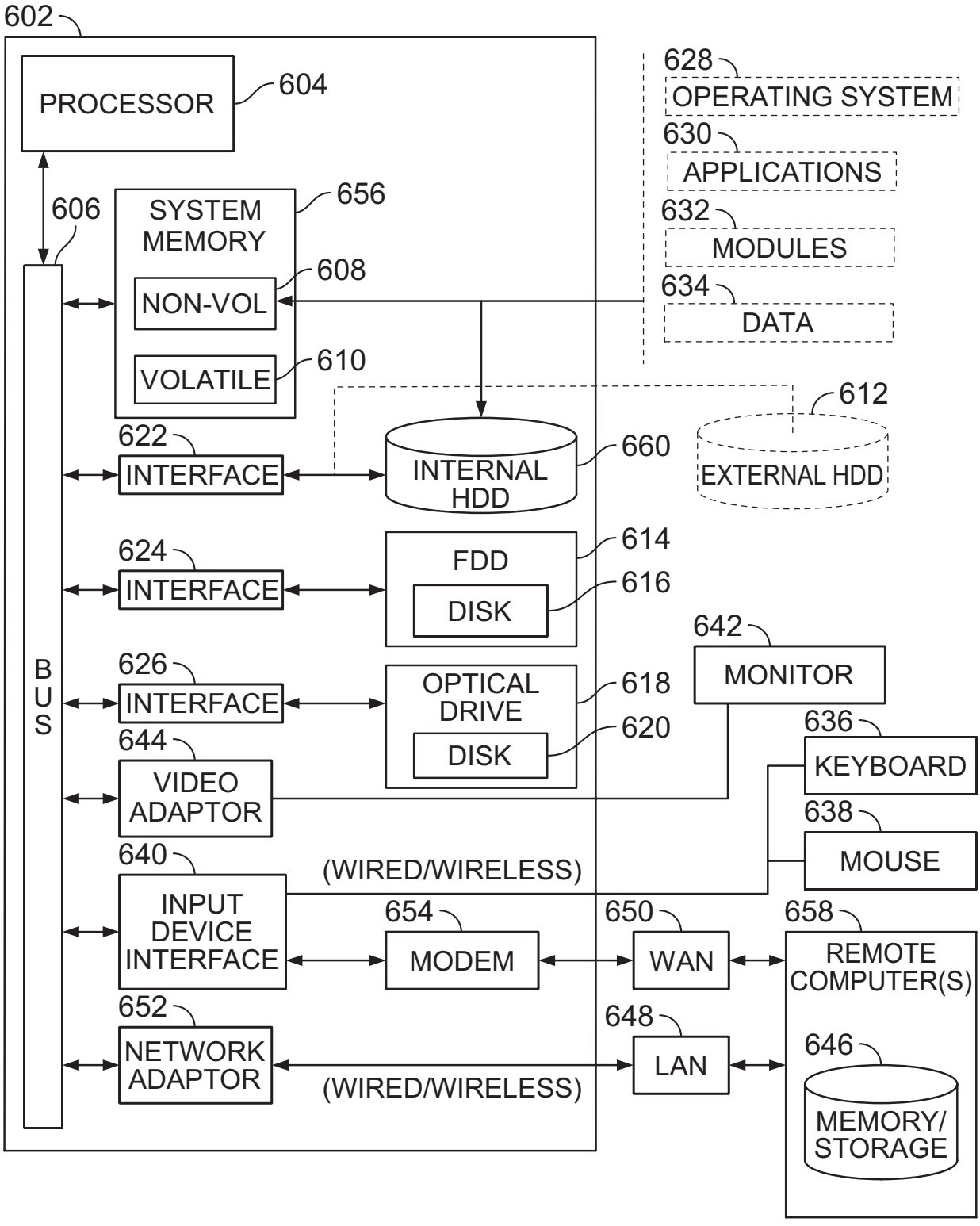

602
PROCESSOR
604
606
SYSTEM MEMORY
656
NON-VOL
608
VOLATILE
610
628
OPERATING SYSTEM
630
APPLICATIONS
632
MODULES
634
DATA
612
EXTERNAL HDD
622
INTERFACE
INTERNAL HDD
660
624
INTERFACE
FDD
614
DISK
616
642
MONITOR
626
INTERFACE
OPTICAL DRIVE
618
DISK
620
636
KEYBOARD
644
VIDEO ADAPTOR
638
MOUSE
640
(WIRED/WIRELESS)
INPUT DEVICE INTERFACE
654
MODEM
650
WAN
658
REMOTE COMPUTER(S)
652
NETWORK ADAPTOR
648
LAN
646
(WIRED/WIRELESS)
MEMORY/ STORAGE
BUS

FIG. 6

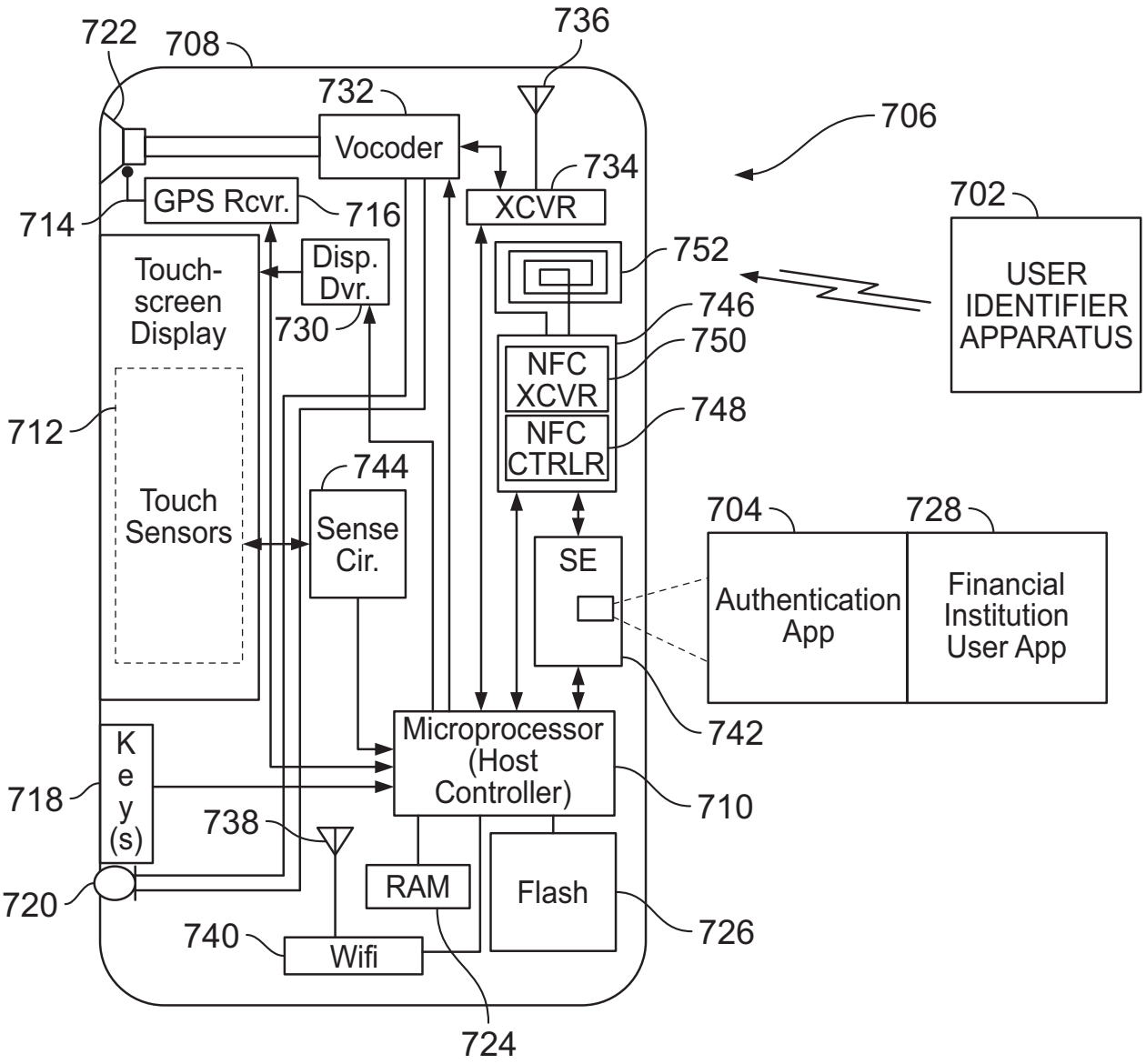

722
708
736
732
Vocoder
706
734
XCVR
714
GPS Rcvr.
716
702
Touch-
screen
Display
Disp.
Dvr.
752
USER
IDENTIFIER
APPARATUS
730
746
750
NFC
XCVR
712
748
NFC
CTRLR
744
Touch
Sensors
Sense
Cir.
704
728
SE
Authentication
App
Financial
Institution
User App
742
Microprocessor
(Host
Controller)
K
e
y
(s)
718
710
738
720
RAM
Flash
726
740
Wifi
724

FIG. 7