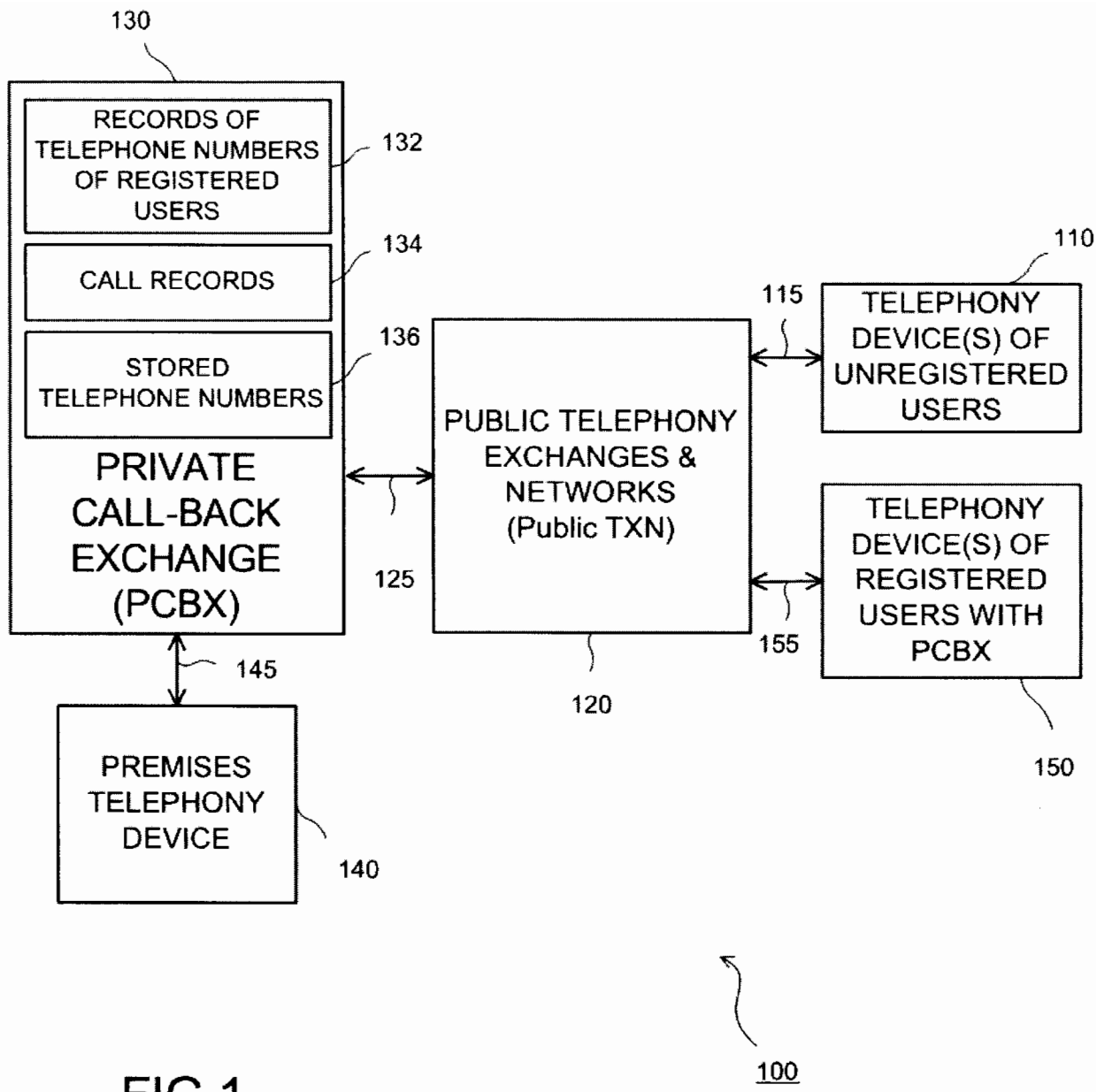

130
RECORDS OF TELEPHONE NUMBERS OF REGISTERED USERS
132
CALL RECORDS
134
STORED TELEPHONE NUMBERS
136
PRIVATE CALL-BACK EXCHANGE (PCBX)
125
145
PREMISES TELEPHONY DEVICE
140
PUBLIC TELEPHONY EXCHANGES & NETWORKS (Public TXN)
120
115
110
TELEPHONY DEVICE(S) OF UNREGISTERED USERS
155
TELEPHONY DEVICE(S) OF REGISTERED USERS WITH PCBX
150
100

FIG.1

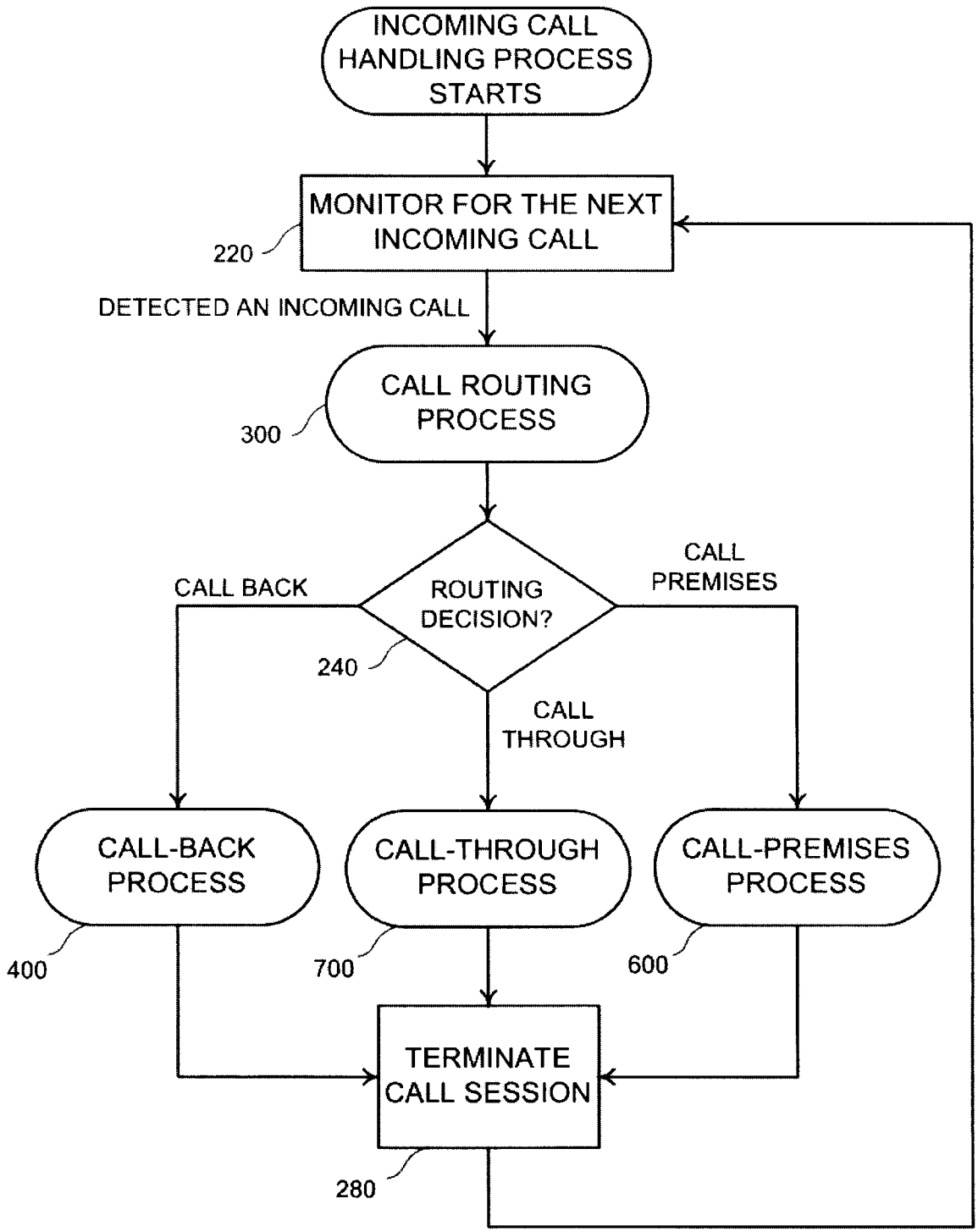

INCOMING CALL HANDLING PROCESS STARTS
MONITOR FOR THE NEXT INCOMING CALL
220
DETECTED AN INCOMING CALL
CALL ROUTING PROCESS
300
ROUTING DECISION?
240
CALL BACK
CALL THROUGH
CALL PREMISES
CALL-BACK PROCESS
400
CALL-THROUGH PROCESS
700
CALL-PREMISES PROCESS
600
TERMINATE CALL SESSION
280

FIG.2

200

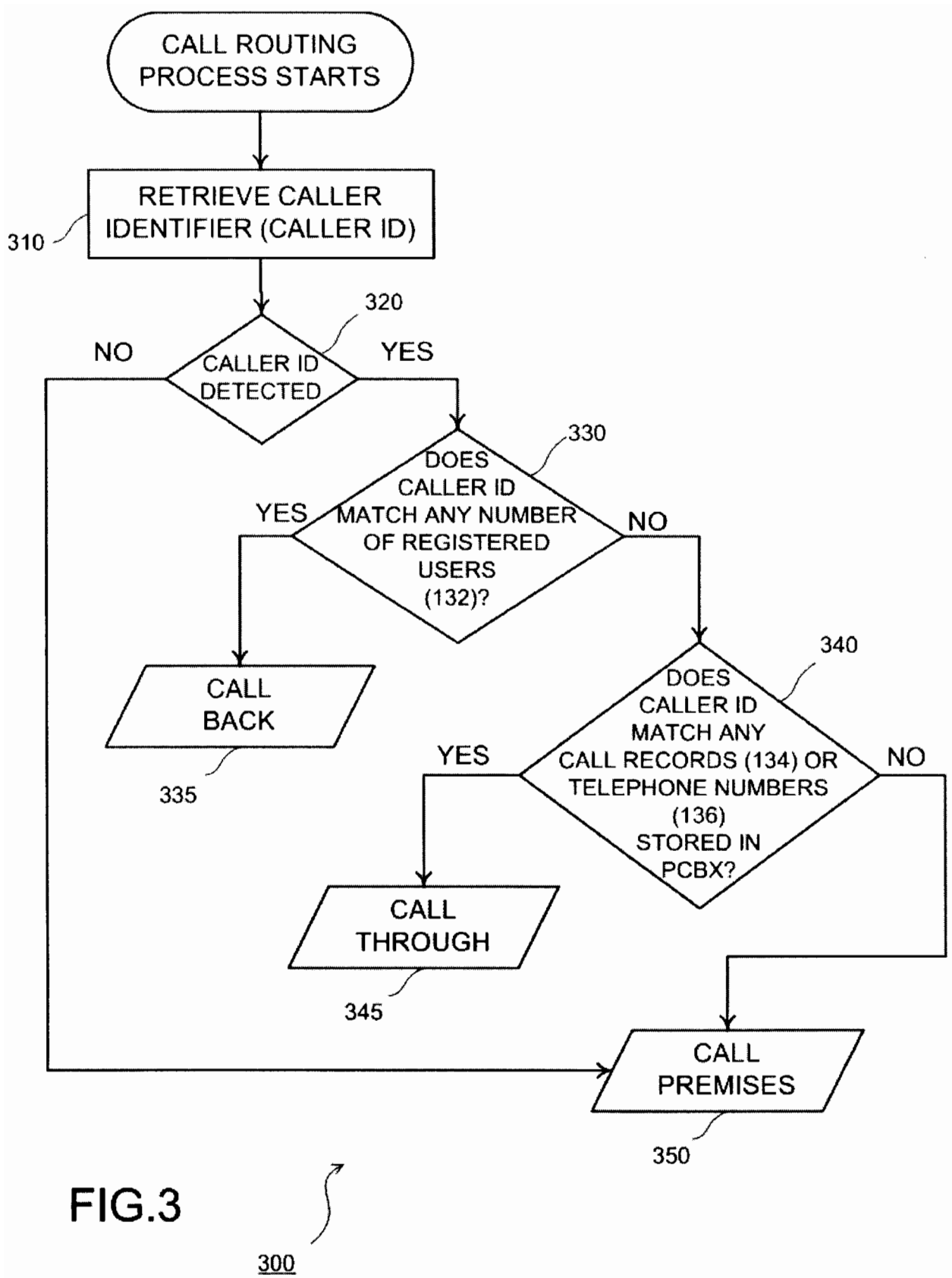

CALL ROUTING PROCESS STARTS
RETRIEVE CALLER IDENTIFIER (CALLER ID)
310
320
CALLER ID DETECTED
NO
YES
330
DOES CALLER ID MATCH ANY NUMBER OF REGISTERED USERS (132)?
YES
NO
CALL BACK
335
340
DOES CALLER ID MATCH ANY CALL RECORDS (134) OR TELEPHONE NUMBERS (136) STORED IN PCBX?
YES
NO
CALL THROUGH
345
CALL PREMISES
350
300

FIG.3

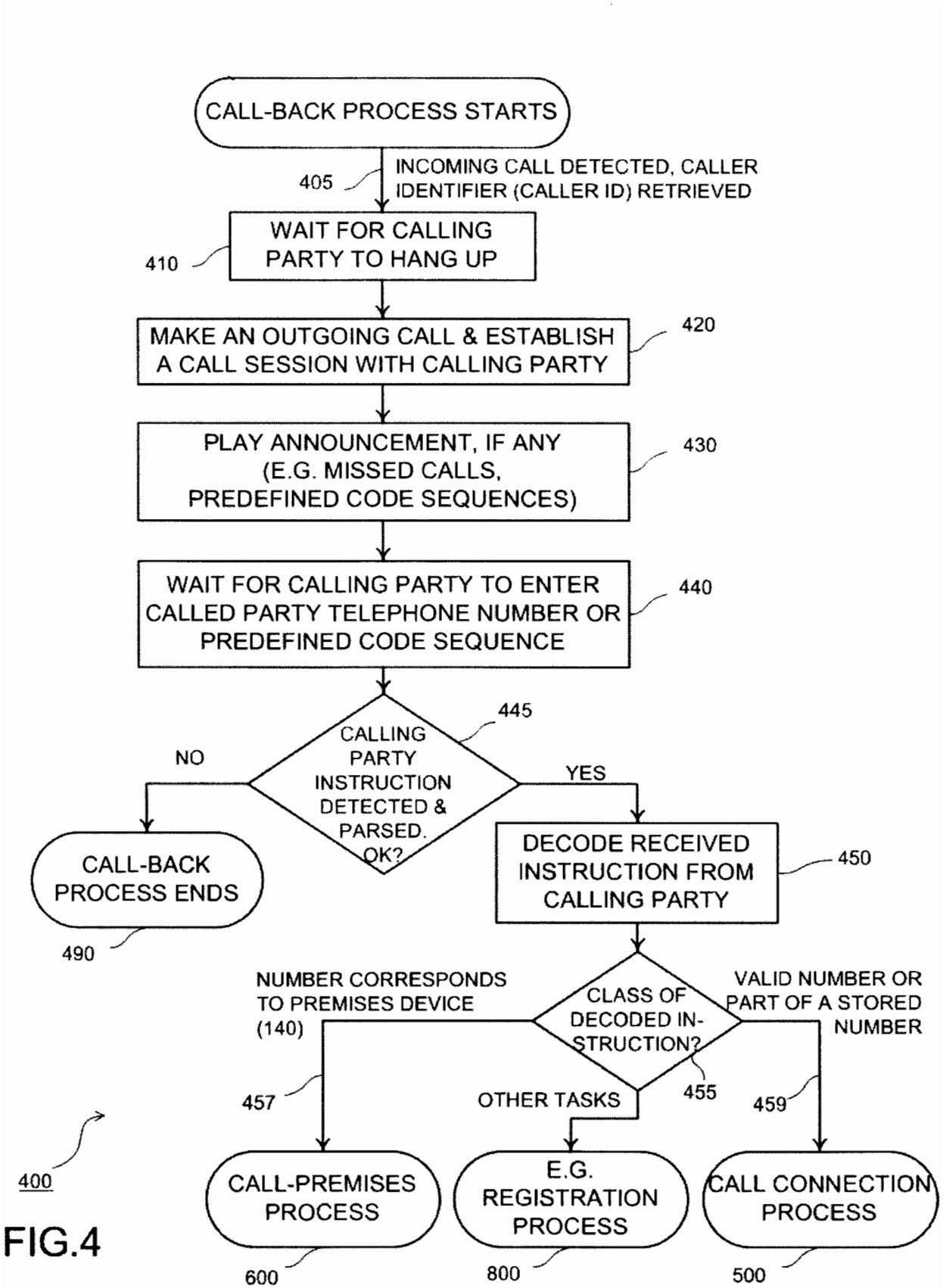

CALL-BACK PROCESS STARTS
405
INCOMING CALL DETECTED, CALLER IDENTIFIER (CALLER ID) RETRIEVED
410
WAIT FOR CALLING PARTY TO HANG UP
MAKE AN OUTGOING CALL & ESTABLISH A CALL SESSION WITH CALLING PARTY
420
PLAY ANNOUNCEMENT, IF ANY (E.G. MISSED CALLS, PREDEFINED CODE SEQUENCES)
430
WAIT FOR CALLING PARTY TO ENTER CALLED PARTY TELEPHONE NUMBER OR PREDEFINED CODE SEQUENCE
440
445
CALLING PARTY INSTRUCTION DETECTED & PARSED. OK?
NO
YES
CALL-BACK PROCESS ENDS
490
DECODE RECEIVED INSTRUCTION FROM CALLING PARTY
450
NUMBER CORRESPONDS TO PREMISES DEVICE (140)
CLASS OF DECODED IN-STRUCTION?
VALID NUMBER OR PART OF A STORED NUMBER
457
OTHER TASKS
455
459
400
CALL-PREMISES PROCESS
600
E.G. REGISTRATION PROCESS
800
CALL CONNECTION PROCESS
500

FIG.4

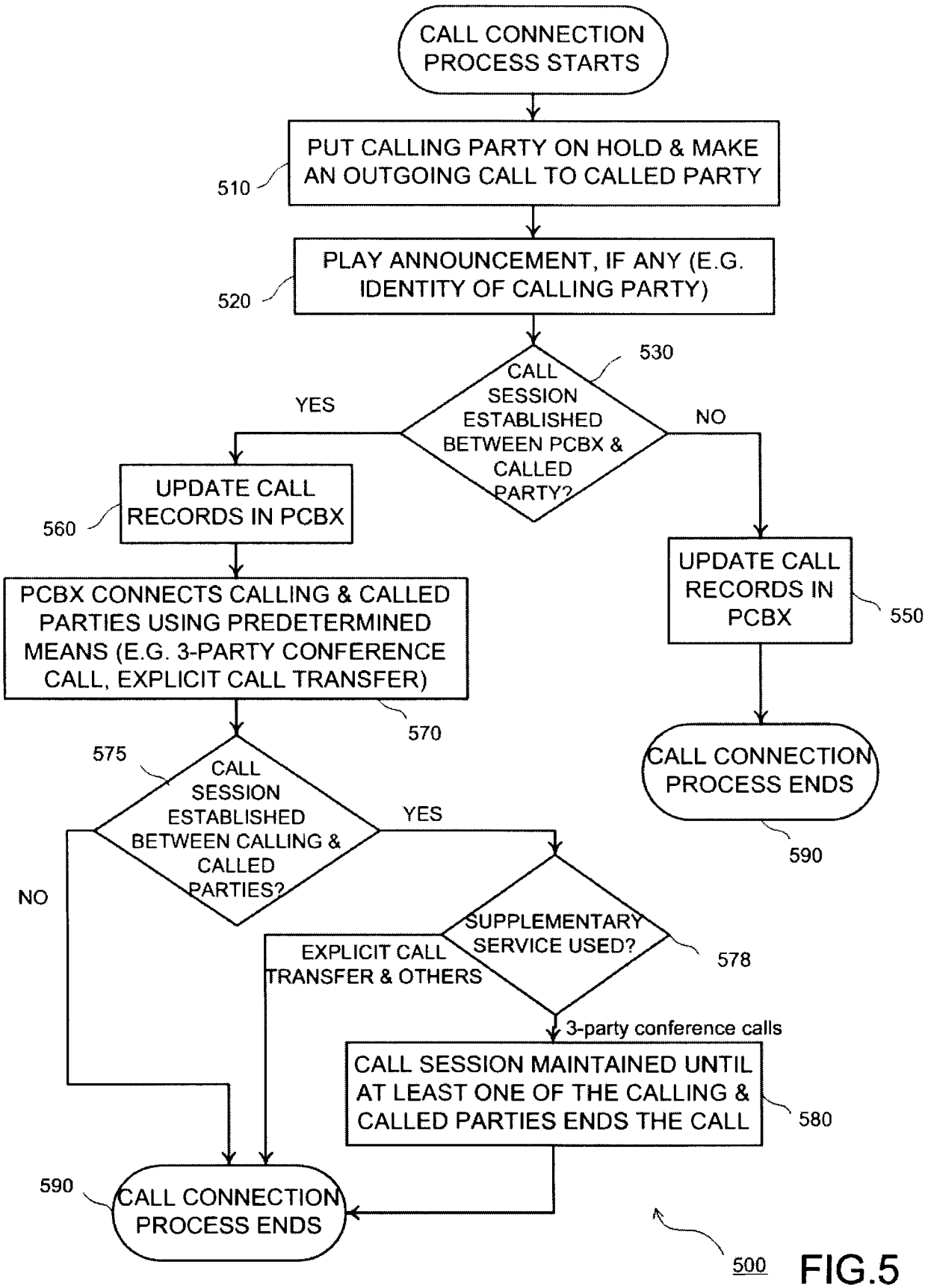

CALL CONNECTION PROCESS STARTS
PUT CALLING PARTY ON HOLD & MAKE AN OUTGOING CALL TO CALLED PARTY
510
PLAY ANNOUNCEMENT, IF ANY (E.G. IDENTITY OF CALLING PARTY)
520
CALL SESSION ESTABLISHED BETWEEN PCBX & CALLED PARTY?
530
YES
NO
UPDATE CALL RECORDS IN PCBX
560
PCBX CONNECTS CALLING & CALLED PARTIES USING PREDETERMINED MEANS (E.G. 3-PARTY CONFERENCE CALL, EXPLICIT CALL TRANSFER)
570
UPDATE CALL RECORDS IN PCBX
550
CALL CONNECTION PROCESS ENDS
590
575
CALL SESSION ESTABLISHED BETWEEN CALLING & CALLED PARTIES?
YES
NO
SUPPLEMENTARY SERVICE USED?
578
EXPLICIT CALL TRANSFER & OTHERS
3-party conference calls
CALL SESSION MAINTAINED UNTIL AT LEAST ONE OF THE CALLING & CALLED PARTIES ENDS THE CALL
580
590
CALL CONNECTION PROCESS ENDS
500

FIG.5

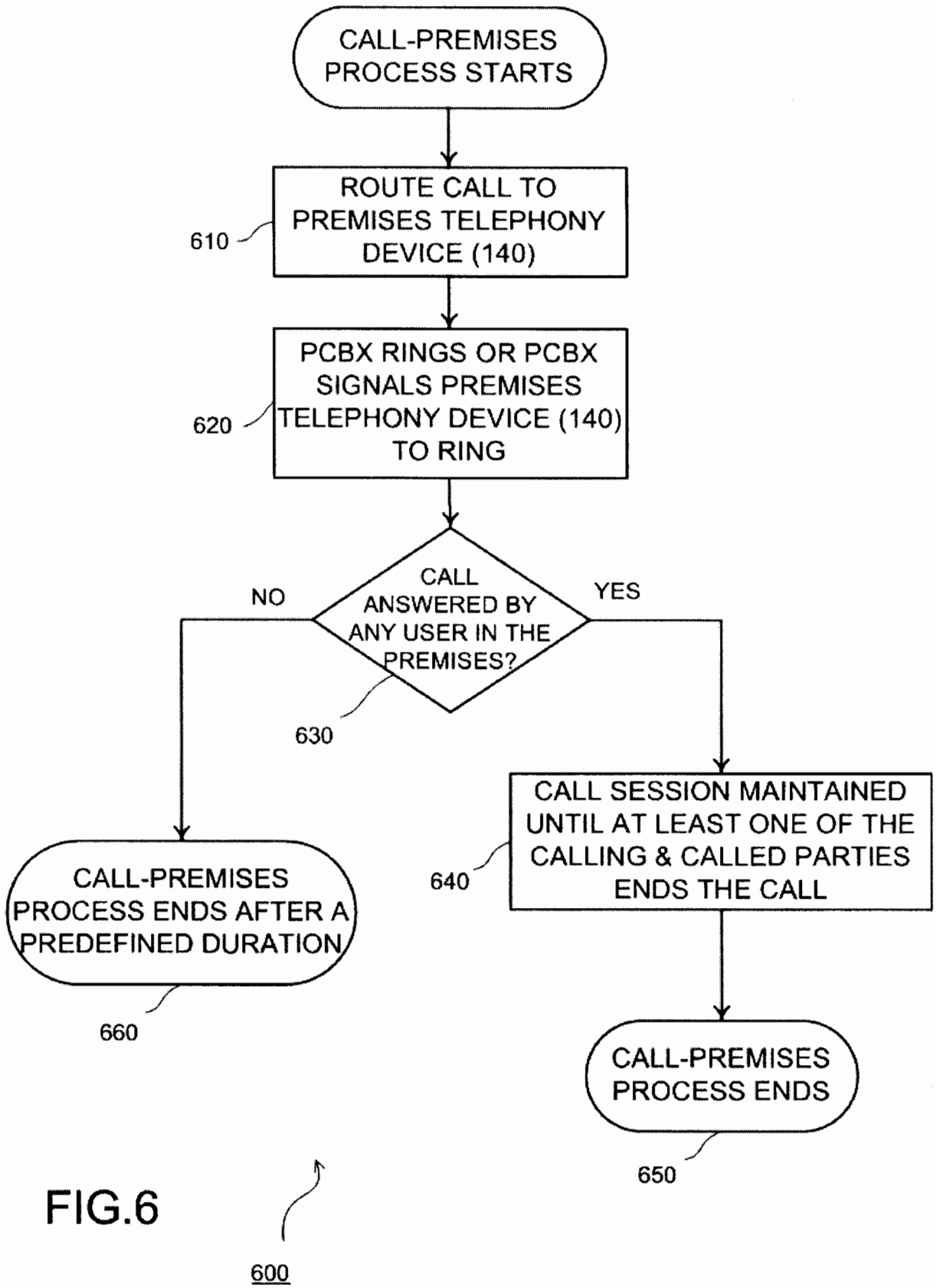

CALL-PREMISES PROCESS STARTS
ROUTE CALL TO PREMISES TELEPHONY DEVICE (140)
610
PCBX RINGS OR PCBX SIGNALS PREMISES TELEPHONY DEVICE (140) TO RING
620
CALL ANSWERED BY ANY USER IN THE PREMISES?
630
NO
YES
CALL-PREMISES PROCESS ENDS AFTER A PREDEFINED DURATION
660
CALL SESSION MAINTAINED UNTIL AT LEAST ONE OF THE CALLING & CALLED PARTIES ENDS THE CALL
640
CALL-PREMISES PROCESS ENDS
650
600

FIG.6

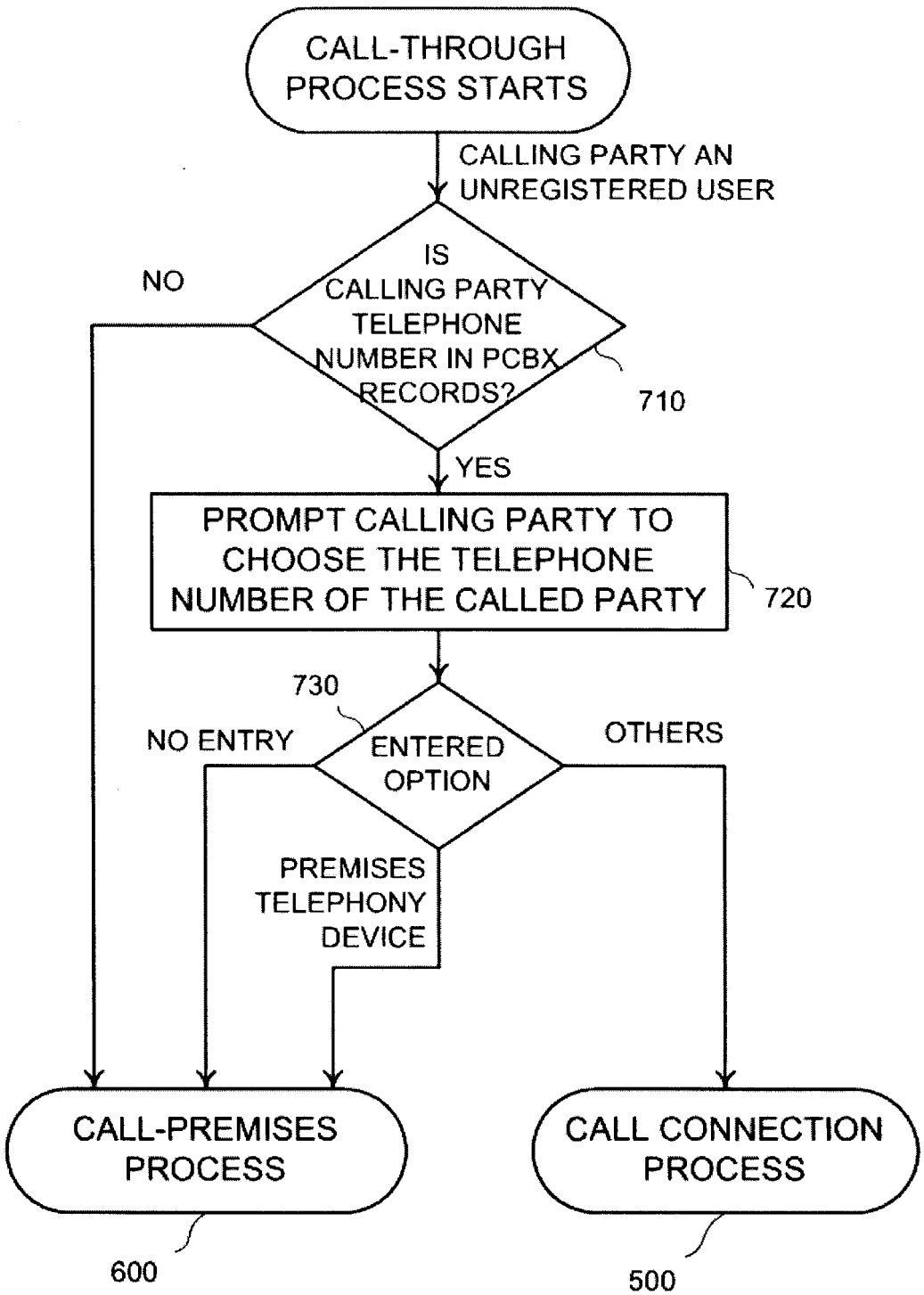

CALL-THROUGH PROCESS STARTS
CALLING PARTY AN UNREGISTERED USER
IS CALLING PARTY TELEPHONE NUMBER IN PCBX RECORDS?
710
NO
YES
PROMPT CALLING PARTY TO CHOOSE THE TELEPHONE NUMBER OF THE CALLED PARTY
720
730
ENTERED OPTION
NO ENTRY
OTHERS
PREMISES TELEPHONY DEVICE
CALL-PREMISES PROCESS
600
CALL CONNECTION PROCESS
500
700

FIG.7

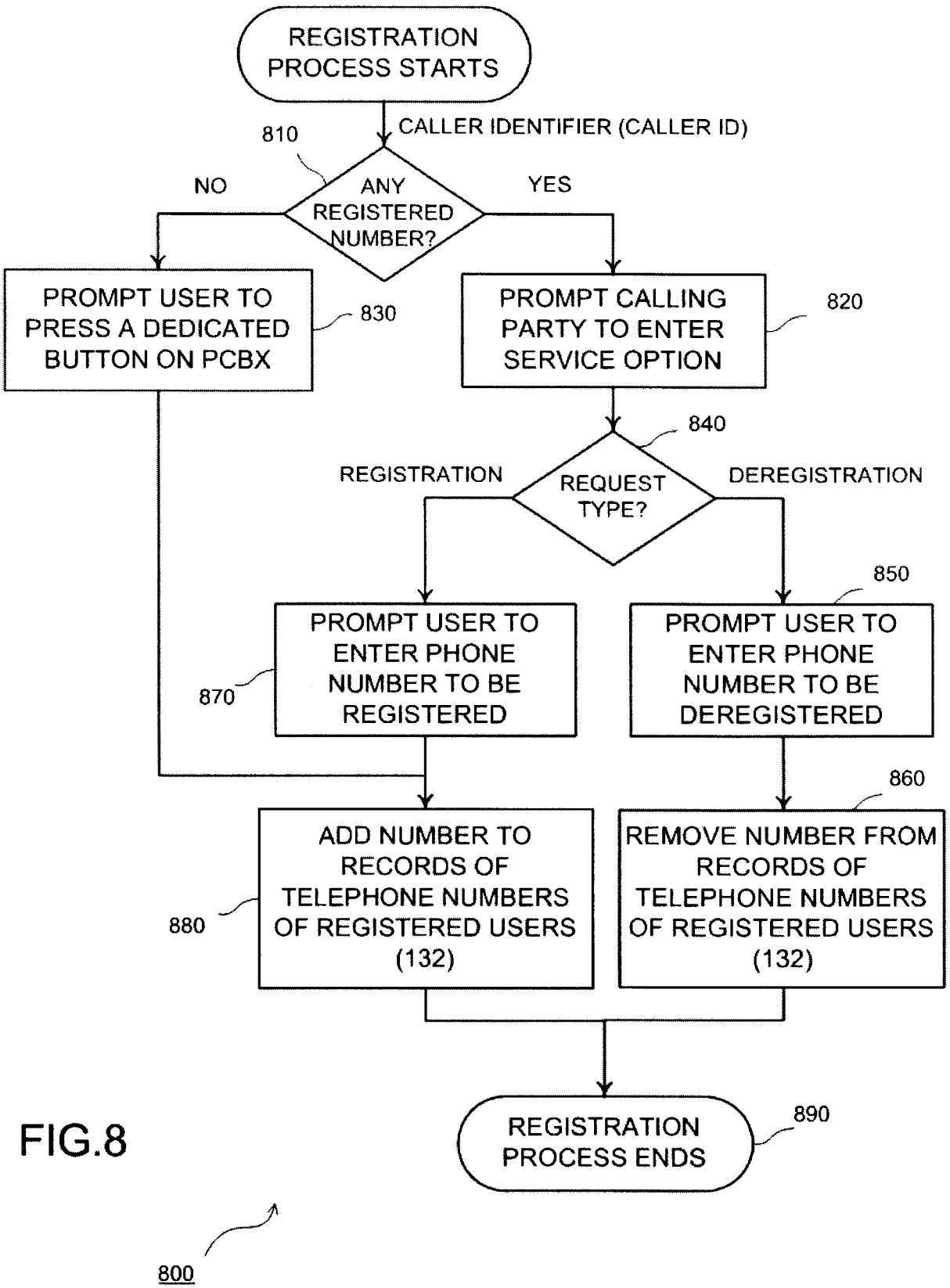

REGISTRATION PROCESS STARTS
CALLER IDENTIFIER (CALLER ID)
810
ANY REGISTERED NUMBER?
NO
YES
PROMPT USER TO PRESS A DEDICATED BUTTON ON PCBX
830
PROMPT CALLING PARTY TO ENTER SERVICE OPTION
820
840
REQUEST TYPE?
REGISTRATION
DEREGISTRATION
850
PROMPT USER TO ENTER PHONE NUMBER TO BE REGISTERED
870
PROMPT USER TO ENTER PHONE NUMBER TO BE DEREGISTERED
860
ADD NUMBER TO RECORDS OF TELEPHONE NUMBERS OF REGISTERED USERS (132)
880
REMOVE NUMBER FROM RECORDS OF TELEPHONE NUMBERS OF REGISTERED USERS (132)
REGISTRATION PROCESS ENDS
890
800

FIG.8