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Ueshima

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(54) **AUTHENTICATION METHOD, AUTHENTICATION SYSTEM AND RECORDING MEDIUM**

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(2), (4) Date: **Mar. 29, 2001**

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(51) **Int. Cl.^{7}** **H04M 3/00**; G06F 12/14
(52) **U.S. Cl.** **379/196**; 713/201
(58) **Field of Search** 379/189, 191, 379/196, 197, 198, 114.02; 713/200, 201, 202

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(57) **ABSTRACT**

When a service provider authenticates a preliminarily registered user, a telephone number of a telephone of the user is registered prior to the authentication and the user calls a CTI (computer telephony integration) server by the use of the telephone. The CTI server authenticates the user with reference to the telephone number of the call received. A password is generated by an information processing device such as the CTI server and is transmitted to both the user and the service provider. The service provider compares the received password and a password inputted by the user and provides the user with service upon coincidence between both passwords.
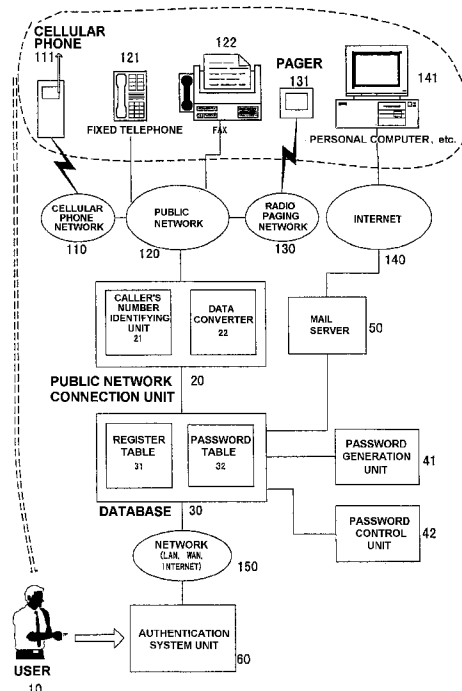
30 Claims, 6 Drawing Sheets

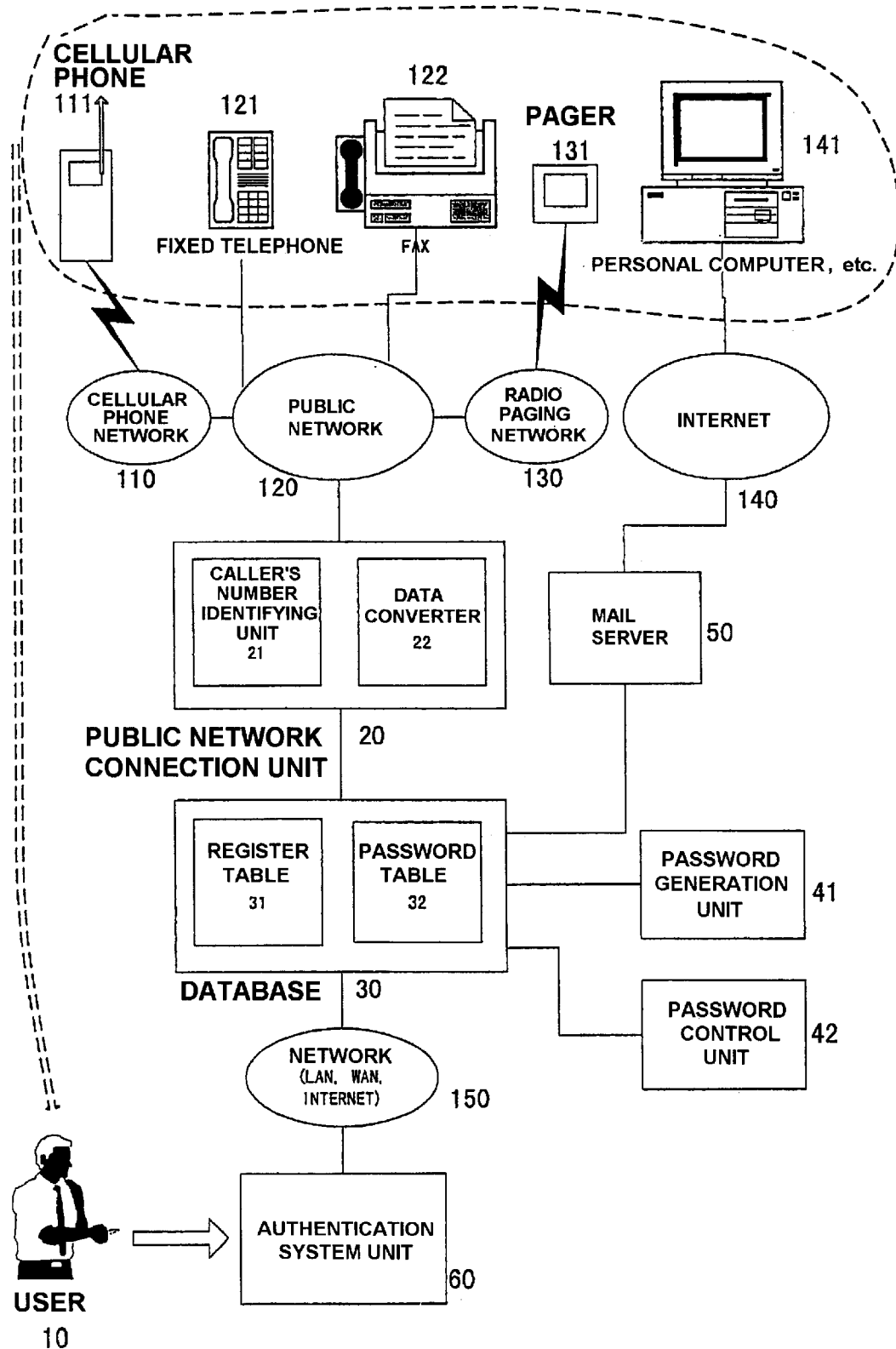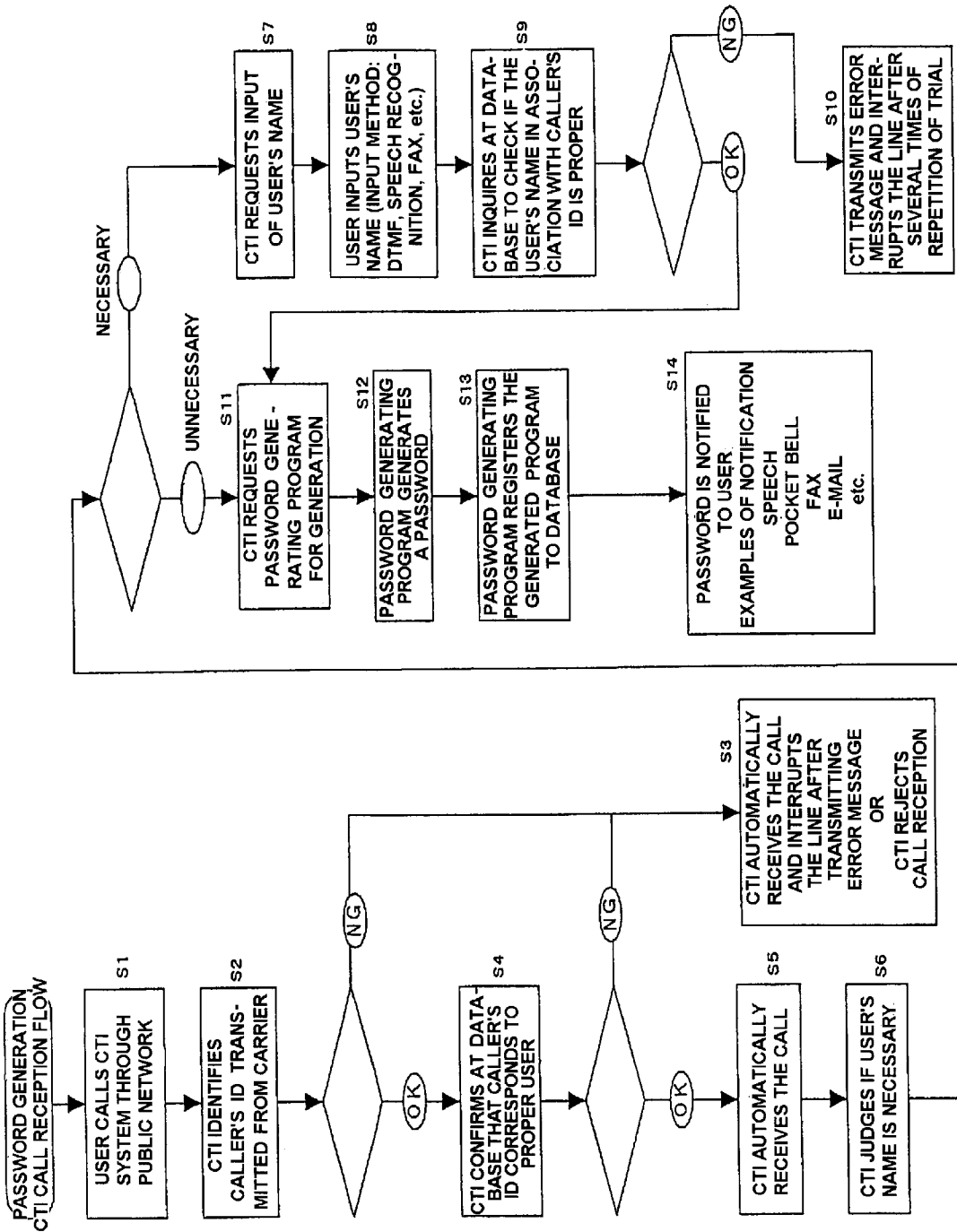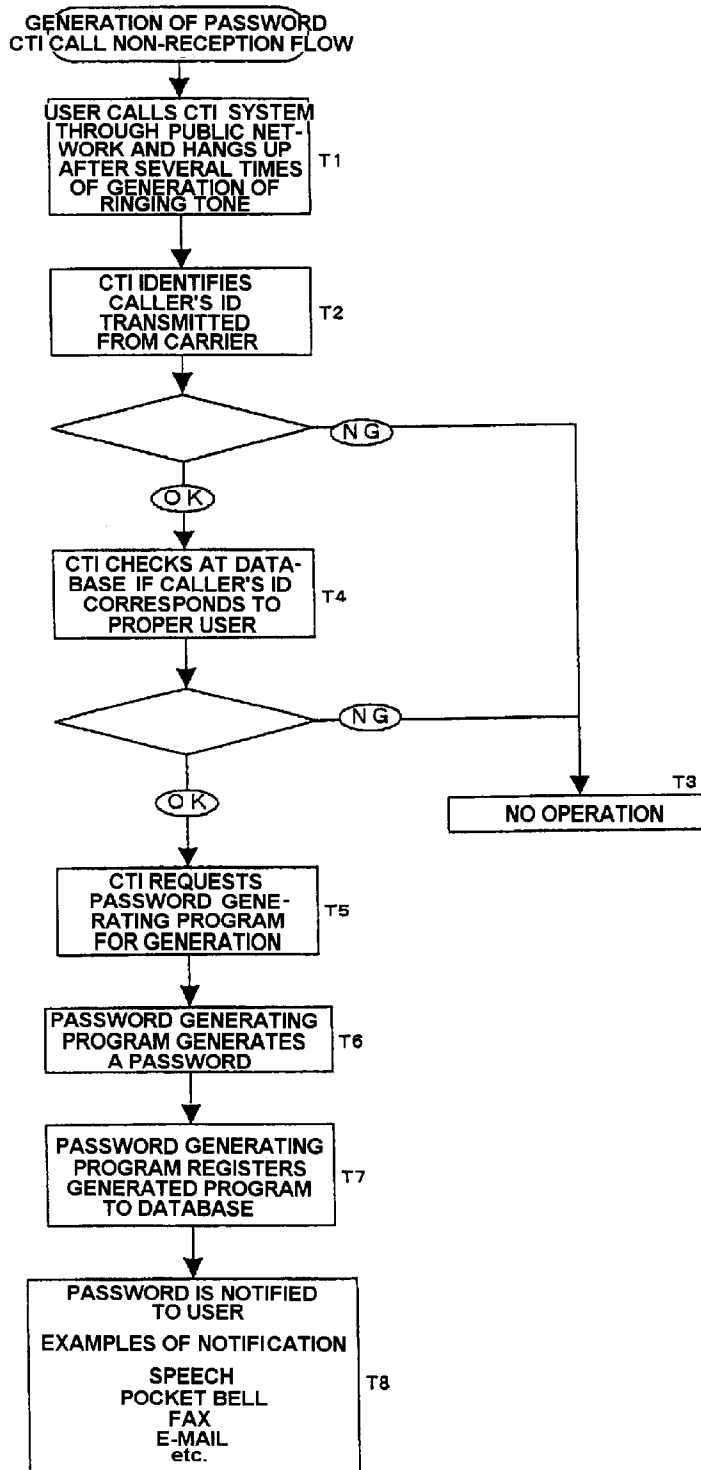# FIG. 1

FIG. 2

PASSWORD GENERATION
CTI CALL RECEPTION FLOW

s1 — USER CALLS CTI SYSTEM THROUGH PUBLIC NETWORK

s2 — CTI IDENTIFIES CALLER'S ID TRANSMITTED FROM CARRIER

NG / OK

s4 — CTI CONFIRMS AT DATABASE THAT CALLER'S ID CORRESPONDS TO PROPER USER

NG / OK

s5 — CTI AUTOMATICALLY RECEIVES THE CALL

s6 — CTI JUDGES IF USER'S NAME IS NECESSARY

s3 — CTI AUTOMATICALLY RECEIVES THE CALL AND INTERRUPTS THE LINE AFTER TRANSMITTING ERROR MESSAGE OR CTI REJECTS CALL RECEPTION

NECESSARY / UNNECESSARY

s7 — CTI REQUESTS INPUT OF USER'S NAME

s8 — USER INPUTS USER'S NAME (INPUT METHOD: DTMF, SPEECH RECOGNITION, FAX, etc.)

s9 — CTI INQUIRES AT DATABASE TO CHECK IF THE USER'S NAME IN ASSOCIATION WITH CALLER'S ID IS PROPER

NG / OK

s10 — CTI TRANSMITS ERROR MESSAGE AND INTERRUPTS THE LINE AFTER SEVERAL TIMES OF REPETITION OF TRIAL

S11 — CTI REQUESTS PASSWORD GENERATING PROGRAM FOR GENERATION

S12 — PASSWORD GENERATING PROGRAM GENERATES A PASSWORD

S13 — PASSWORD GENERATING PROGRAM REGISTERS THE GENERATED PROGRAM TO DATABASE

S14 — PASSWORD IS NOTIFIED TO USER.
EXAMPLES OF NOTIFICATION
SPEECH
POCKET BELL
FAX
E-MAIL
etc.

FIG. 3

GENERATION OF PASSWORD
CTI CALL NON-RECEPTION FLOW

USER CALLS CTI SYSTEM THROUGH PUBLIC NET-WORK AND HANGS UP AFTER SEVERAL TIMES OF GENERATION OF RINGING TONE — T1

CTI IDENTIFIES CALLER'S ID TRANSMITTED FROM CARRIER — T2

NG / OK

CTI CHECKS AT DATA-BASE IF CALLER'S ID CORRESPONDS TO PROPER USER — T4

NG / OK

NO OPERATION — T3

CTI REQUESTS PASSWORD GENE-RATING PROGRAM FOR GENERATION — T5

PASSWORD GENERATING PROGRAM GENERATES A PASSWORD — T6

PASSWORD GENERATING PROGRAM REGISTERS GENERATED PROGRAM TO DATABASE — T7

PASSWORD IS NOTIFIED TO USER

EXAMPLES OF NOTIFICATION

SPEECH
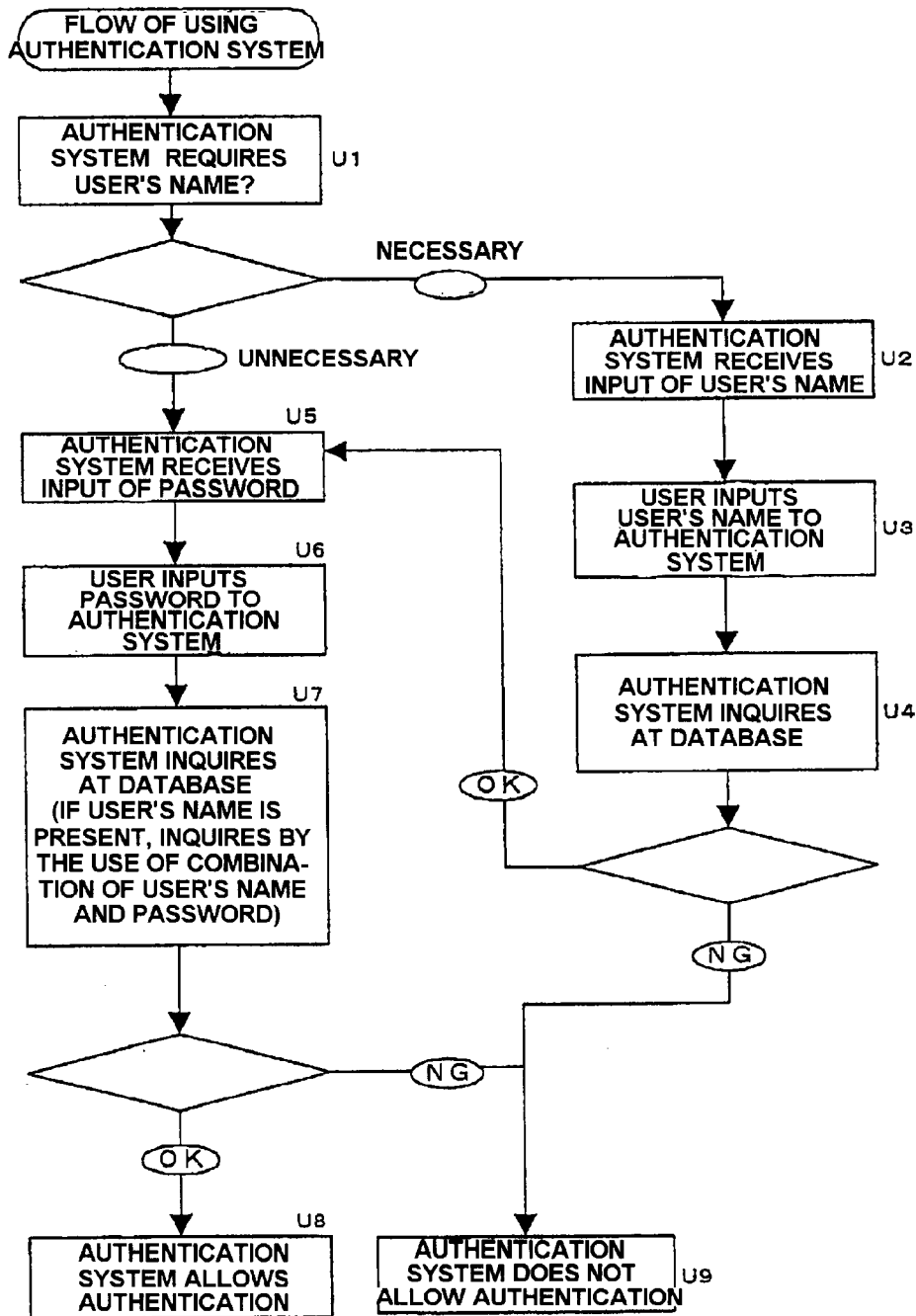POCKET BELL
FAX
E-MAIL
etc. — T8

FIG. 4

DOCKET ALARM

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