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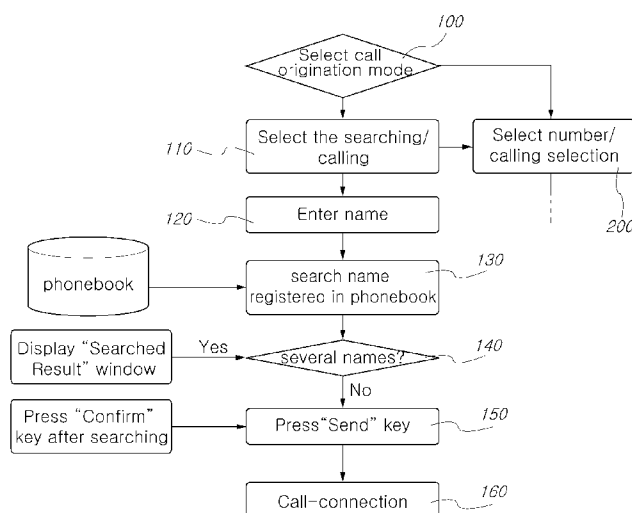
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(54) Title: CELLUAR PHONES HAVING A FUNCTION OF DIALING WITH A SEARCHED NAME



(57) Abstract: A mobile communication terminal having a function for generating an outgoing call with a searched name is disclosed. The mobile communication terminal includes a processor which includes a first logic for controlling functions of the mobile communication terminal, and further includes a second logic. The second logic provides a user outgoing-call selection image used as a default image on a display window used as a user interface at a call-origination starting mode, and selects any one of a first scheme and a second scheme on the user outgoing-call selection image displayed during the call-origination starting mode. The first scheme enables the user to enter a phone number of a desired party, and transmits the outgoing call to the desired party, and the second scheme enables the user to search a desired phone number in several phone numbers pre-stored in a phonebook database (DB) of the mobile communication terminal, selects the searched phone number, and generates the outgoing call.

Description

CELLULAR PHONES HAVING A FUNCTION OF DIALING WITH A SEARCHED NAME

Technical Field

- [1] The present invention relates to a mobile communication terminal for generating an outgoing call with a searched name, and more particularly to a logic for improving an input method of a called-party phone number when a mobile communication terminal of a user acting as a caller generates an outgoing call.

Background Art

- [2] In the case of using general mobile communication terminal to generate an outgoing call, a user enters all the number buttons of a desired called-party phone number, uses a hot key to which the phone number is allocated, searches some parts of the called-party name or phone number registered in the phonebook DB of the user's mobile communication terminal, selects one of the retrieved names or phone numbers, and transmits an outgoing call to the selected one.
- [3] Generally, an initial user-entry image for the initial outgoing call in the above-mentioned general mobile communication terminal has been set to the numeric-entry dedicated mode in which the user can enter only number buttons corresponding to a desired phone number. So, the user must enter a phone number of a desired called party under the numeric-entry dedicated mode, and then presses a call button (i.e., "Send" button).
- [4] If the user has not recognized all of the desired phone number of the called party and the desired phone number has been pre-stored in the phonebook DB of the user's mobile communication terminal, he or she enters a phone-number searching mode by pressing several buttons, and enters all or some of the desired name during the phone-number searching mode. If a desired name exists in the searched names, the user selects any one of several data (e.g., a home phone number, an office phone number, and a mobile phone number) of the desired name, so that the user can establish a call-connection state with the desired called party.

Disclosure of Invention

Technical Problem

- [5] The user of the aforementioned conventional mobile communication terminal requires considerable concentration on the above-mentioned searching/calling operation associated with the desired phone number, and must enter buttons several times, resulting in greater inconvenience of the user.
- [6] Recently, most users have widely used the phonebook data stored in their mobile

phones instead of using the old-type phonebook made of paper, so that they store phone numbers of their acquaintances or friends in phonebook databases (DBs) their mobile phones, search a desired name or phone number in the phonebook DBs, and transmit an outgoing call to the called party having the searched result. As a result, the above-mentioned conventional mobile communication terminal results in an inconvenience to the users and the occurrence of unnecessary time consumption.

- [7] Specifically, if the user is a salesperson or administrator who must manage a plurality of phone numbers or customers can more conveniently use his or her mobile communication terminal, the above-mentioned inconvenience becomes higher.

Technical Solution

- [8] Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to provide a mobile communication terminal for additionally providing a basic screen image (i.e., default image) adapted to implement the basic call-connection function with a phone-number searching/calling function, so that it can easily generate an outgoing call using the searching function, and the number of effective usages of the mobile communication terminal increases.

Advantageous Effects

- [9] The mobile communication terminal having a function for generating an outgoing call with a searched name the present invention initially provides a user with a selection image where the user searches a desire name and generates an outgoing call with the searched name, as well as a conventional default call-origination mode for generating an outgoing call using only number buttons corresponding to the user-entry phone number.
- [10] Also, the present invention determines an input mode of the user, and provides the user with the searching/calling function implemented by software according to the determined mode. The searching/calling function may also be activated by any button entered by the user as necessary. As a result, a salesperson or administrator who must manage a plurality of phone numbers can more conveniently use his or her mobile communication terminal.

Brief Description of the Drawings

- [11] The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:
- [12] FIG. 1 shows a first exemplary user interface screen image illustrating the usages of a mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;
- [13] FIG. 2 shows a second exemplary user interface screen image illustrating the usages

of a mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[14] FIG. 3 shows a third exemplary user interface screen image illustrating the usages of a mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[15] FIG. 4 shows a fourth exemplary user interface screen image illustrating the usages of a mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[16] FIG. 5 is a flow chart illustrating a logic configuration of the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[17] FIG. 6 shows an exemplary user interface screen image of a default screen image for an initial outgoing call in the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[18] FIG. 7 shows another exemplary user interface screen image illustrating the implementation of the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention;

[19] FIG. 8 shows the next image of the user interface screen image of FIG. 7 to implement the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention; and

[20] FIG. 9 is a partially-enlarged view illustrating the mobile communication terminal to implement another method for use in the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention.

Best Mode for Carrying Out the Invention

[21] Prior to describing the present invention, it should be noted that the present invention adds a new logic for performing an additional function generating an outgoing call with a searched name to conventional logics of a conventional mobile communication terminal controlled by a software program, so that the logic is implemented in a hardware of the mobile communication terminal, and the mobile communication terminal according to the present invention can be implemented in various ways by hardware.

Mode for the Invention

[22] Now, preferred embodiments of the present invention will be described in detail with reference to the annexed drawings. In the drawings, the same or similar elements are denoted by the same reference numerals even though they are depicted in different drawings. In the following description, a detailed description of known functions and

configurations incorporated herein will be omitted when it may make the subject matter of the present invention rather unclear.

[23] For the convenience of description of the above-mentioned inventive mobile communication terminal, a conventional mobile communication terminal will hereinafter be described.

[24] According to the conventional mobile communication terminal, if a user presses any button for generating an outgoing call and presses number buttons corresponding to a phone number on an initial graphic screen image. If the mobile communication terminal is of a flip or folder model, the user presses number buttons corresponding to a desired phone number after opening the flip or folder. In this case, the conventional mobile communication terminal has a numeric-entry dedicated mode, so that it disables the user from entering character buttons instead of the number buttons, resulting in greater inconvenience of the user.

[25] The mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention has an initial outgoing-call screen image of FIG. 6. FIG. 6 shows an exemplary user interface screen image of a default screen image for an initial outgoing call.

[26] Referring to FIG. 6, a user outgoing-call selection image 60 is displayed on a display window D used as a user interface of the mobile communication terminal (H), so that initial outgoing-call screen image is configured.

[27] Needless to say, the mobile communication terminal according to the present invention enables the user to select any one of the user outgoing-call selection image 60 and the numeric-entry dedicated mode on the setup screen (not shown). So, if the user is a salesperson or an administrator, or has many acquaintances or friends, the user prefers to select the user outgoing-call selection image 60. Otherwise, if the user does not require the user outgoing-call selection image 60, he or she may select the numeric-entry dedicated mode as in the conventional art.

[28] For another example, an additional key (i.e., an outgoing-mode switching key) for the above-mentioned setup switching function may be mounted to the mobile communication terminal (H) so that the current mode may be switched to another mode by the additional key pressed by the user. In addition, the current mode may also be switched to another mode by a selective combination of conventional alphanumeric keys or buttons. And, the current setup mode is switched to another setup mode when the user presses a specific key (e.g., “#” button) of the initial screen image for at least a predetermined period of time.

[29] FIG. 5 is a flow chart illustrating a logic configuration of the mobile communication terminal having a function for generating an outgoing call with a searched name according to the present invention.

- [30] The operation logic of the present invention will be described with reference to the user outgoing-call selection image 60 and the flow chart of FIG. 5.
- [31] If the user outgoing-call selection image 60 is displayed under the call-origination starting mode, the user who views the user outgoing-call selection image 60 can select any one of a first scheme for enabling the user to enter a phone number of another party (i.e., a called party) and a second scheme for searching a phone number of another party in a plurality of phone numbers stored in a phonebook directory at step 100.
- [32] If the user selects the first scheme for selecting the phone number on the user outgoing-call selection image 60, the user enters all the number buttons of a desired phone number to generate an outgoing call at step S200.
- [33] However, if the user presses character buttons according to the second scheme on the user outgoing-call selection image 60 at step 110, a current mode is switched to another mode for searching desired data in a phonebook database (DB).
- [34] A first example of the searching/calling mode is shown in the form of the user image of FIG. 1. If the user enters the entire name as shown in FIG. 1, he or she may use a first user image 20 (FIG. 2) on which the user enters some parts of the entire name, or a second user image 30 (FIG. 3) on which the user enters some parts of first consonants of the name.
- [35] In the case of another user image 40 in which several names having the same first consonants are retrieved when the user enters only the first consonants of the desired name, the user may easily select the desired name using the up/down scroll function.
- [36] The above-mentioned logic is almost similar to that of a general phonebook searching function
- [37] In other words, if the user enters a desired name in the mobile communication terminal at step 130, the mobile communication terminal searches the desired name in the phonebook DB at step S140. If several names similar to the desired name are displayed, the user selects only the desired name from the displayed names, generates an outgoing call by the "Send" button at step S150, and a call-connection status is established at step S160.
- [38] Other methods for implementing the present invention are shown in FIGS. 7, 8, and 9.
- [39] For example, the user freely enters character buttons corresponding to the name of another party without performing the above-mentioned selection process associated with the user outgoing-call selection image 60. If the desired name is retrieved, the mobile communication terminal of the present invention recognizes the retrieved desired name by software, and transmits an outgoing call to another party having the retrieved name.

- [40] As can be seen from FIG. 7, if the user enters "MARK TWAIN" as a desired name, a specific mobile communication terminal displays a character string or the numeral string corresponding to the character string, so that input numbers of a numeral string "627755-89244466" corresponding to the individual letters of "MARK TWAIN" are also displayed on the user image 80.
- [41] Under the above-mentioned situation, the user may enter the searching mode using two methods.
- [42] A first method adds a logical software program to the mobile communication terminal. According to the first method, if it is determined that a user-entry phone number is an abnormal phone number, or if it is determined that the initial-entry buttons of the user are different from general phone number buttons or general area-code number buttons, the mobile communication terminal immediately enters the searching mode.
- [43] During the searching mode, the mobile communication terminal determines whether a specific name corresponding to the character string of the user-entry numbers is stored in the phonebook DB. If the specific name is found in the phonebook DB, the mobile communication terminal shows an announce image displaying an information message as shown in FIG. 8, and then enters a call-connection mode. The above-mentioned operation of the first method can be implemented by software.
- [44] A second method is a method for the character searching/calling function based on non-function keys, and is shown in FIG. 9. A detailed description of the second method will hereinafter be described in detail.
- [45] In other words, the mobile communication terminal recognizes which one of the character string or the numeral string has been entered by the user.
- [46] If the user enters the numeral string, it is expected that the user will press a call-connection button (i.e., "Send" button) to generate an outgoing call.
- [47] Otherwise, if the user enters the character string under the condition that a specific non-function key (e.g., "Confirm" key) having no function during the outgoing-call period has been established in association with the character-string entry action, and the user then enters the above non-function key such as the Confirm key), the mobile communication terminal searches the name of the character string corresponding to the displayed numbers in the phonebook DB, and transmits an outgoing call to another party having the name.
- [48] Also, if a plurality of the same names are found in the phonebook DB or the user enters some parts of the desired name, the selection image 40 of FIG. 4 may be further provided as another user image to the user as necessary.
- [49] It should be noted that most terminology disclosed in the present invention is defined in consideration of functions of the present invention, and can be differently

determined according to intention of those skilled in the art or usual practices. Therefore, it is preferable that the above-mentioned terminology be understood on the basis of all contents disclosed in the present invention.

Industrial Applicability

- [50] As apparent from the above description, a mobile communication terminal having a function for generating an outgoing call with a searched name the present invention initially provides a user with a selection image where the user searches a desire name and generates an outgoing call with the searched name, as well as a conventional default call-origination mode for generating an outgoing call using only number buttons corresponding to the user-entry phone number. Also, the present invention determines an input mode of the user, and provides the user with the searching/calling function implemented by software according to the determined mode. The searching/calling function may also be activated by any button entered by the user.
- [51] Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Claims

- [1] A mobile communication terminal having a function for generating an outgoing call with a searched name comprising:
a processor which includes a first logic for controlling functions of the mobile communication terminal, and further includes a second logic, wherein
the second logic provides a user outgoing-call selection image used as a default image on a display window used as a user interface at a call-origination starting mode, and selects any one of a first scheme and a second scheme on the user outgoing-call selection image displayed during the call-origination starting mode, wherein
the first scheme enables the user to enter a phone number of a desired party, and transmits the outgoing call to the desired party, and
the second scheme enables the user to search a desired phone number in several phone numbers pre-stored in a phonebook database (DB) of the mobile communication terminal, selects the searched phone number, and generates the outgoing call.
- [2] The mobile communication terminal according to claim 1, wherein the user selectively establishes a first process for establishing the user outgoing-call selection image as an initial image and a second process for enabling the user to generate the outgoing call under a numeric-entry dedicated mode, using a menu setup image supplied from the mobile communication terminal.
- [3] The mobile communication terminal according to claim 1, wherein the first process for establishing the user outgoing-call selection image as the initial image and the second process for enabling the user to generate the outgoing call under the numeric-entry dedicated mode can be performed by an additional key (i.e., an outgoing-mode switching key) mounted to the mobile communication terminal.
- [4] The mobile communication terminal according to claim 1, wherein the first process for establishing the user outgoing-call selection image as the initial image and the second process for enabling the user to generate the outgoing call under the numeric-entry dedicated mode are performed when the user presses a specific button of the mobile communication terminal for a predetermined period of time or more, or are performed by a selective combination of alphanumeric keys or buttons.
- [5] A mobile communication terminal having a function for generating an outgoing call with a searched name comprising:
a processor which includes a first logic for controlling functions of the mobile

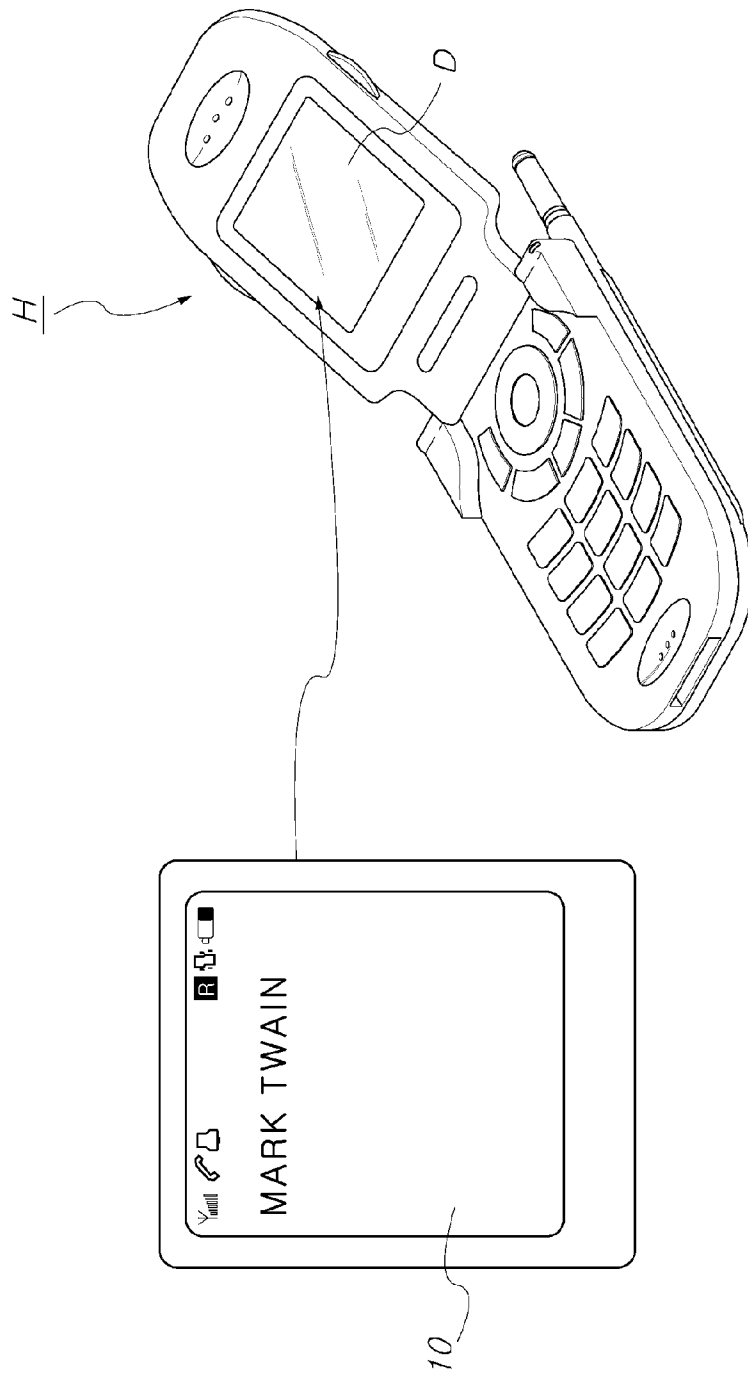
communication terminal, and further includes a second logic, wherein the processors includes the steps of:

- a) entering, by a user, a character string of a name of another party to be called or a numeral string of a phone number under a call-origination starting mode, and selecting/performing a call-connection function;
- b) determining whether the user-entry string is a normal phone number;
- c) if it is determined that the user-entry string is the normal phone number, entering a call-origination mode; and
- d) if it is determined that the user-entry string is different from the normal phone number, searching at least one name partially or totally equal to the user-entry string in several names stored in a database, and selectively generating the outgoing call for the searched name.

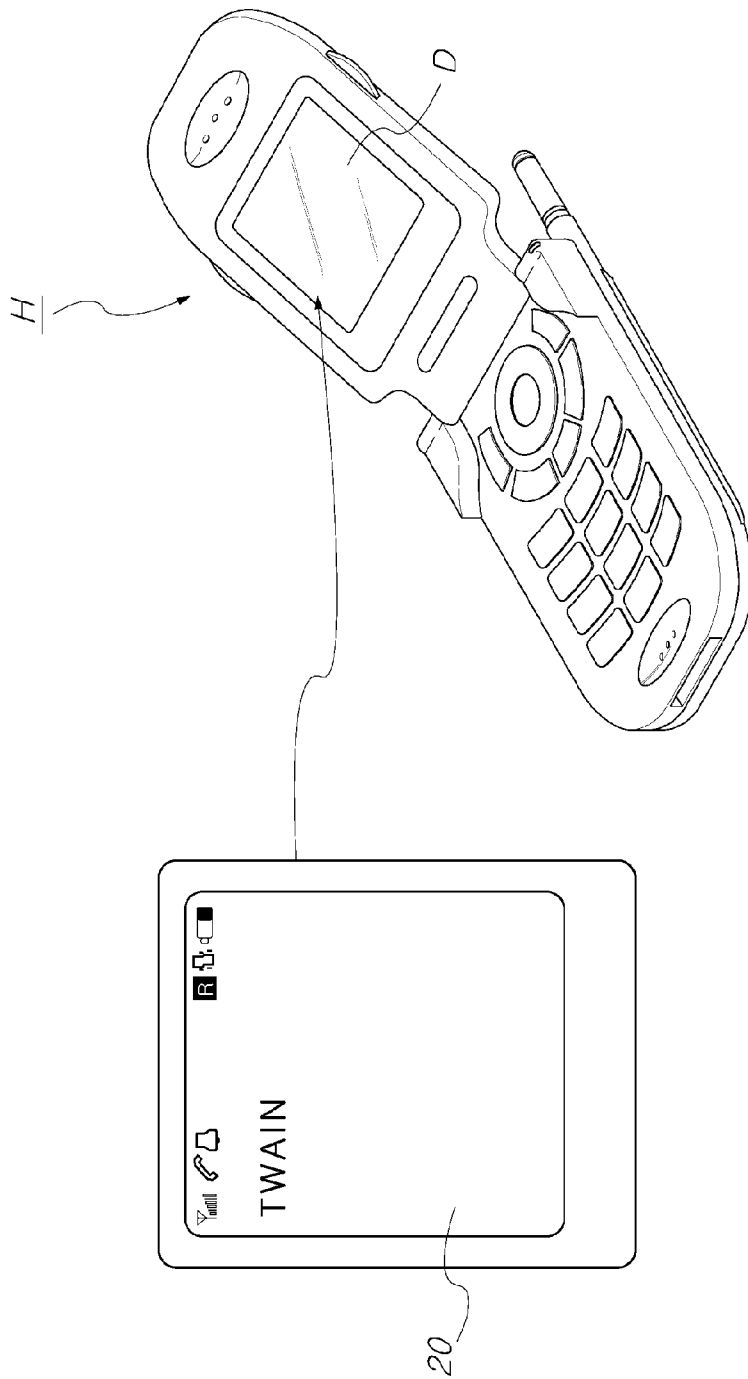
- [6] The mobile communication terminal according to claim 5, wherein the processor including the first logic controlling functions of the mobile communication terminal has a logical software program, in which the logical software program determines a button used as a non-function key, which is not operated during the call-origination mode, to be a searching/calling button activated by the number of user-pressed times of a call-origination button or an interval between the user-pressed times, after the user enters a character string of a name of another party to be called or a numeral string of a phone number under the call-origination starting mode, and selects/performs a call-connection function, if an input mode of the numeral string is decided, the logical software program enables the user to press a general phone-call button to generate an outgoing call, and if an input mode of the character string is decided, the logical software program enables the user to generate the outgoing call using the searching/calling button.

- [7] The mobile communication terminal according to claim 5 or 6, wherein the processor further includes:
in the case of entering the character string or the numeral string corresponding to the phone number, additionally displaying either a character string corresponding to the user-entry numeral string or a numeral string corresponding to the user-entry character string on a display.

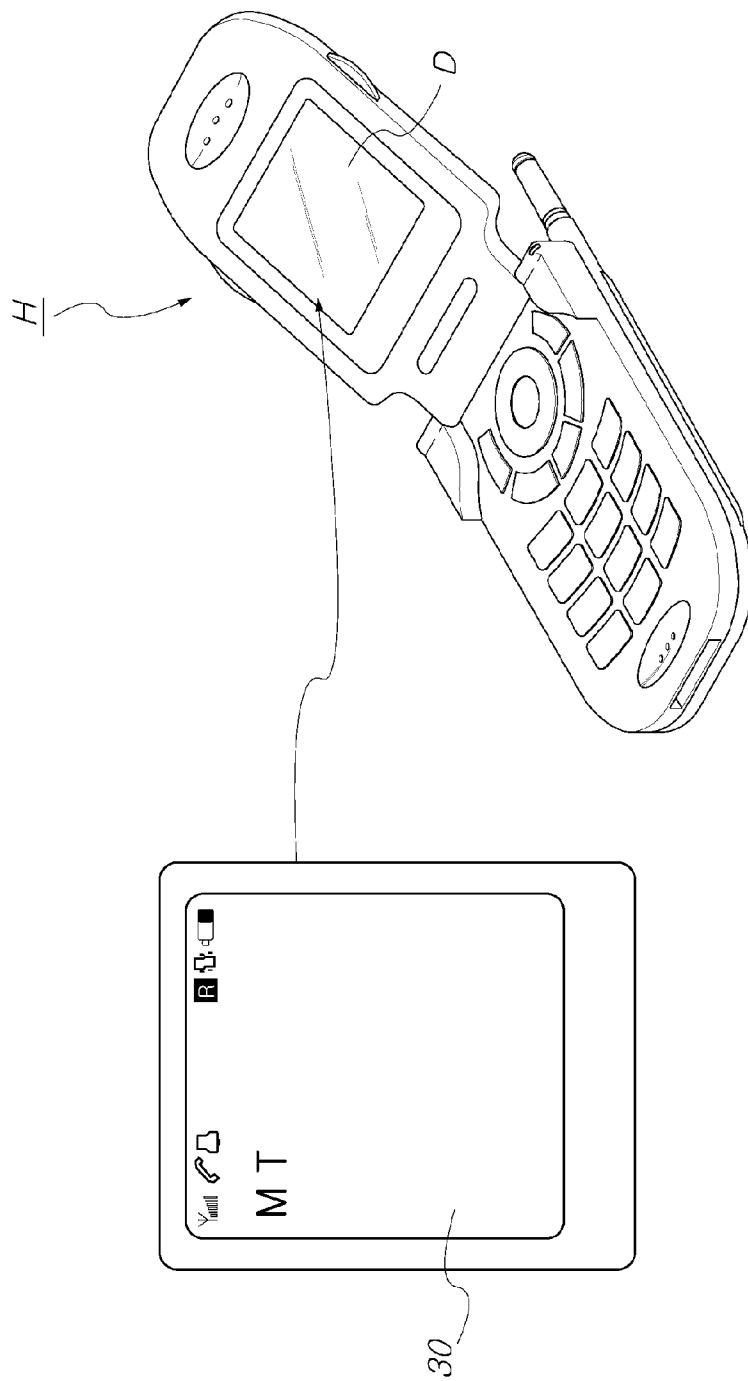
[Fig. 1]



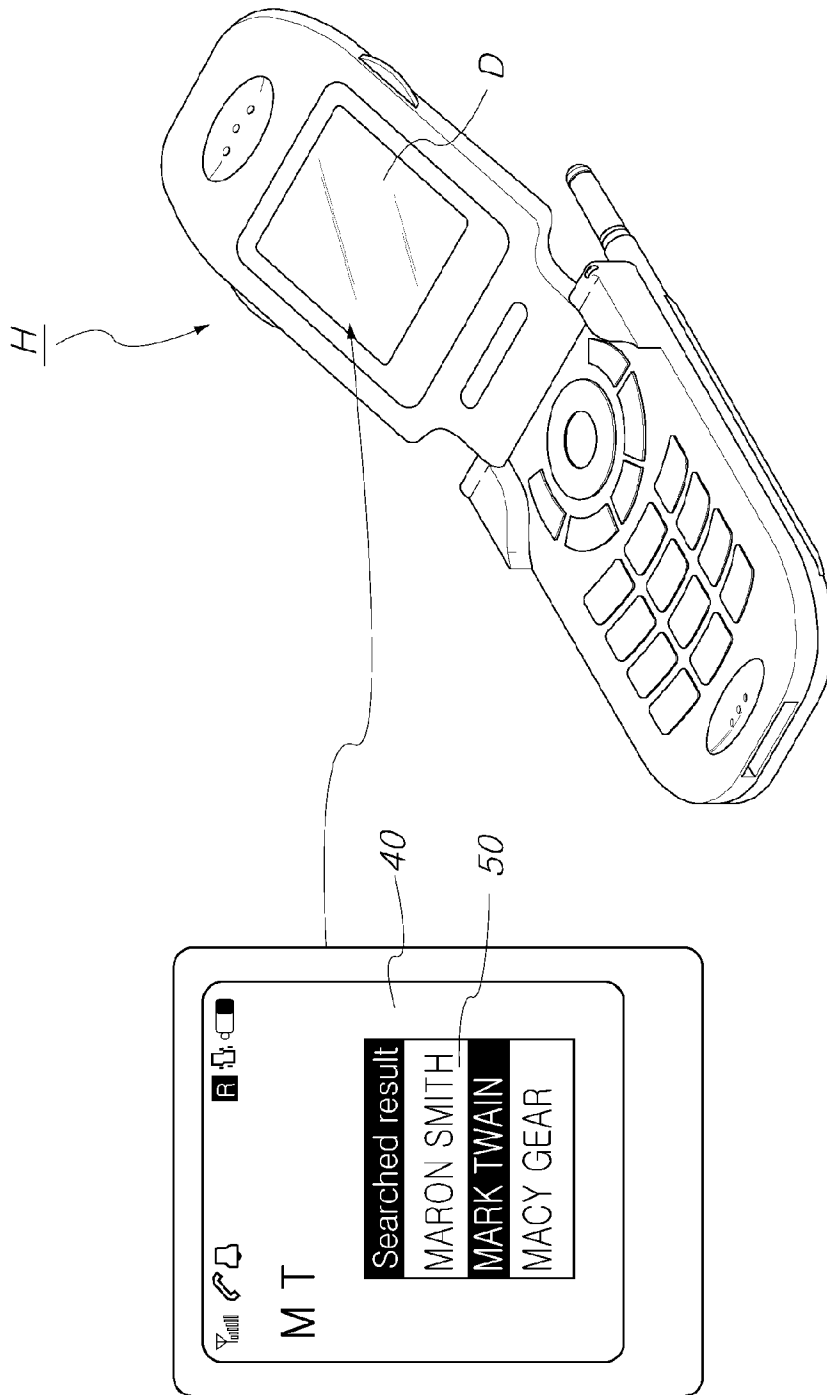
[Fig. 2]



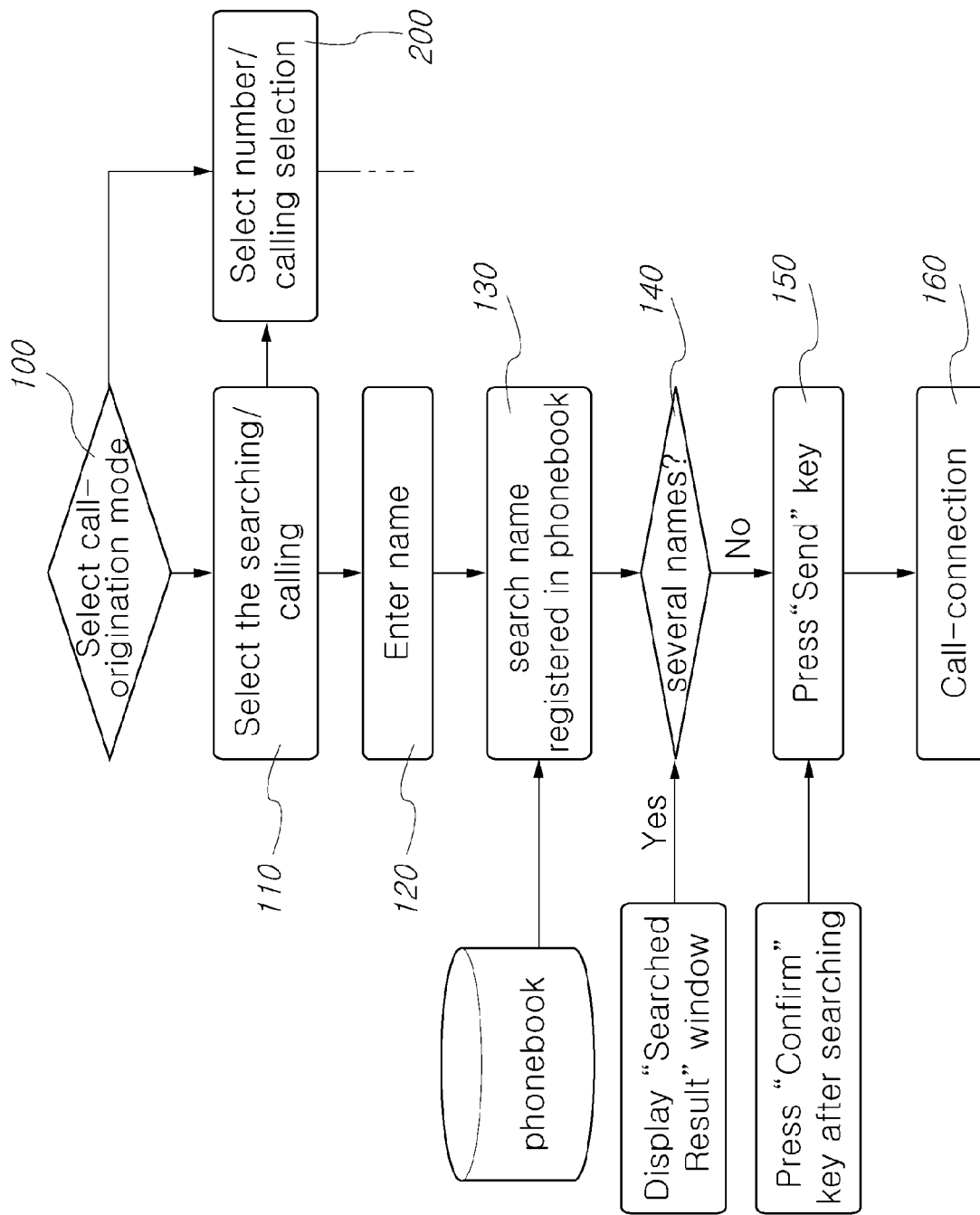
[Fig. 3]



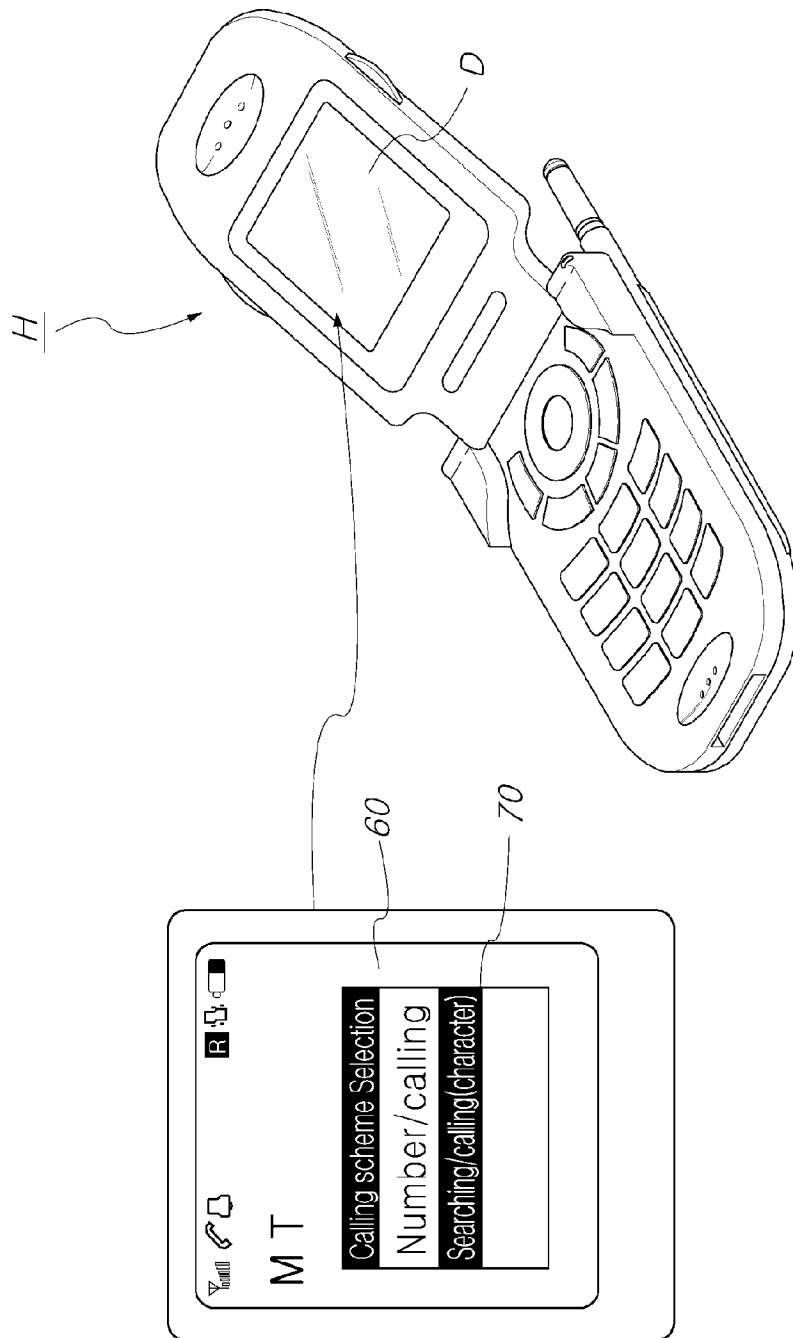
[Fig. 4]



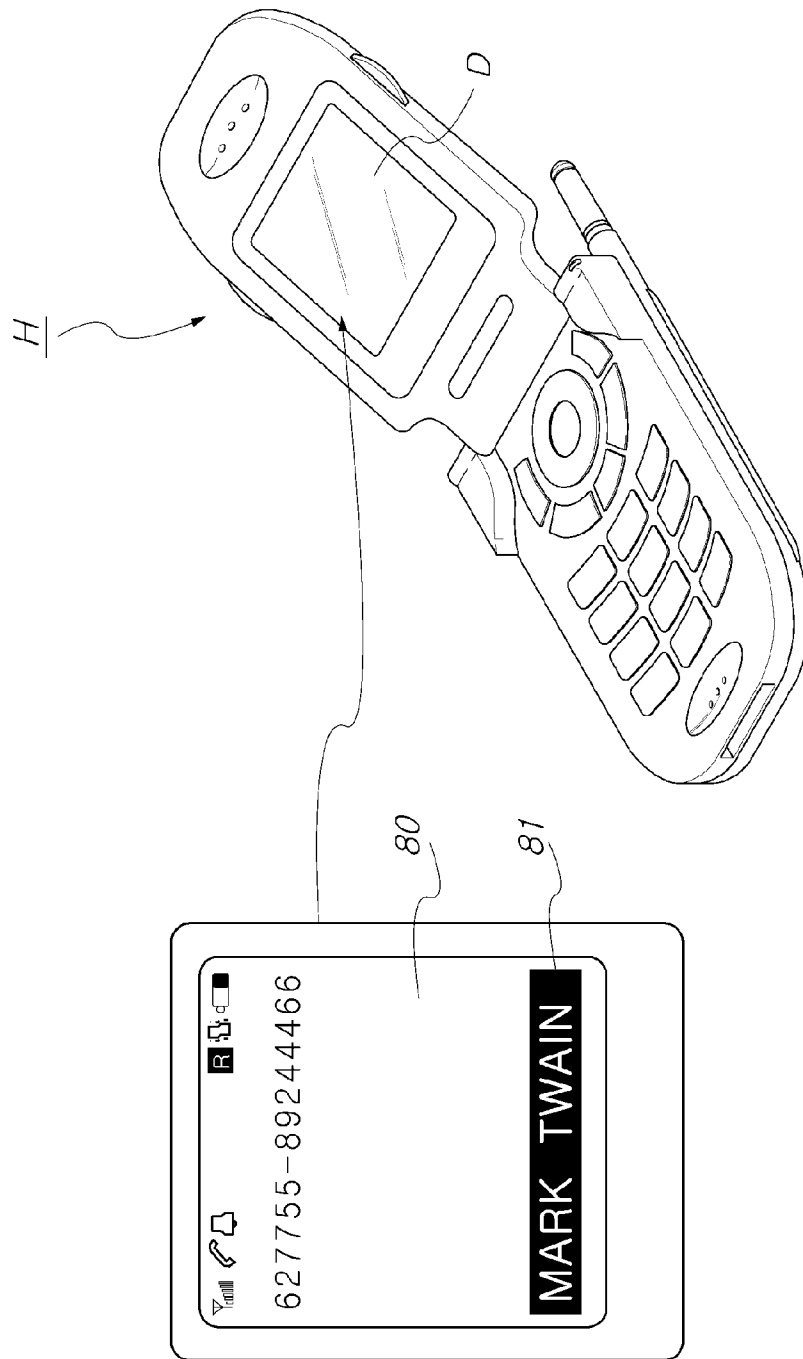
[Fig. 5]



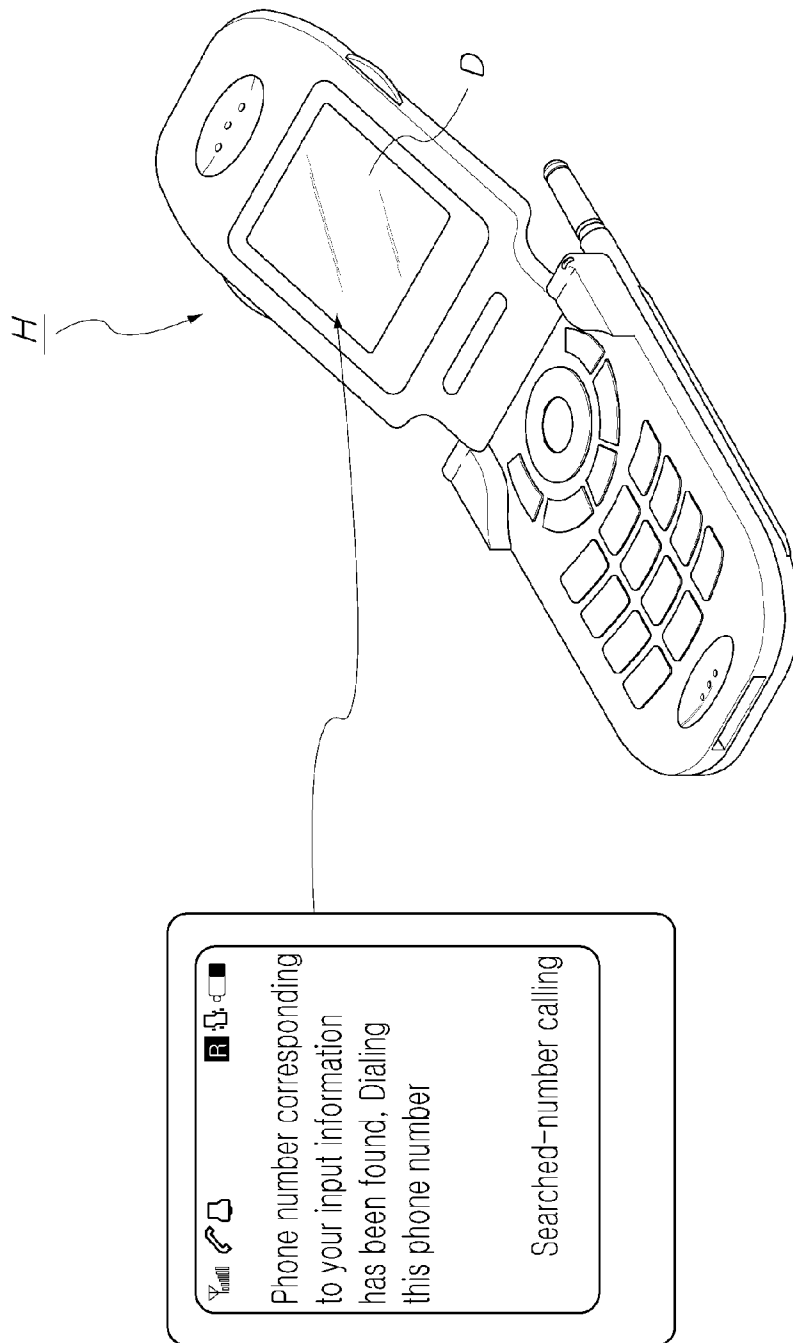
[Fig. 6]



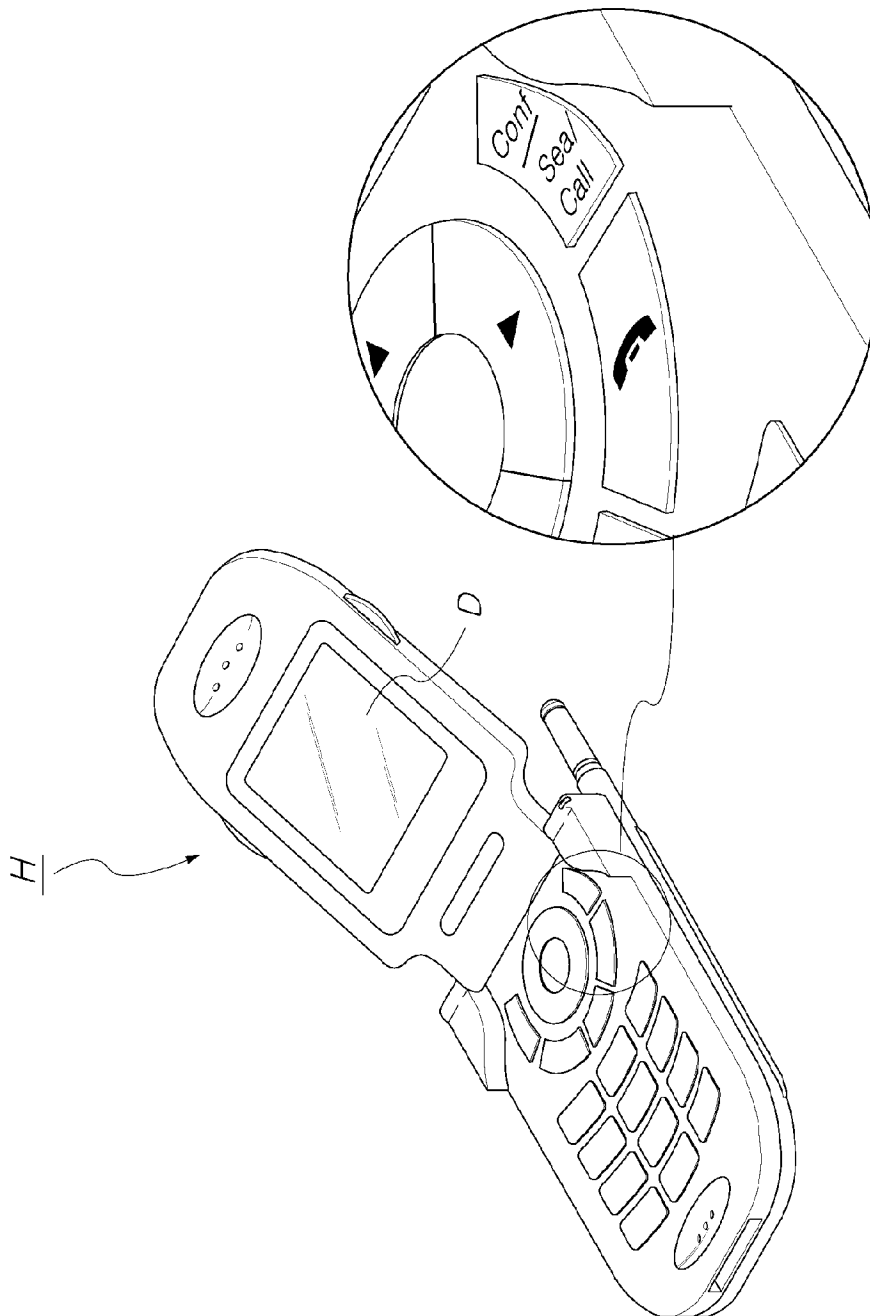
[Fig. 7]



[Fig. 8]



[Fig. 9]



INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2006/003783**A. CLASSIFICATION OF SUBJECT MATTER****H04B 1/40(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 8 H04B 1/40 H04M 1/26 H04M 1/27 H04M 1/274 H04M 3/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
KOREAN UTILITY MODELS AND APPLICATIONS FOR UTILITY MODEL SINCE 1975
JAPANESE UTILITY MODELS AND APPLICATIONS FOR UTILITY MODEL SINCE 1975Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKIPASS (KIPO internal) "DIALING""TEXT""NUMBER""NAME*"**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2003-0077360 A (LG ELECTRONICS INC.) 01 OCTOBER 2003 abstract, claims 1-5, figure 2	1 - 4
A	KR 10-2005-0060495 A (LG ELECTRONICS INC.) 22 JUNE 2005 abstract, claims 1-3	1, 5
A	KR 10-1996-0006436 A (SAMSUNG ELECTRONICS CO.) 23 FEBRUARY 1996 see the whole document	1, 5
A	JP 2000-244626 A (MATSUDA HITOMI) 08 SEPTEMBER 2000 see the whole document	1, 5
A	JP 2002-300291 A (NIPPON TELEGR & TELEPH CORP) 11 OCTOBER 2002 see the whole document	1, 5

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search

21 JUNE 2007 (21.06.2007)

Date of mailing of the international search report

21 JUNE 2007 (21.06.2007)

Name and mailing address of the ISA/KR

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YANG, Jeong Rok

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2006/003783

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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