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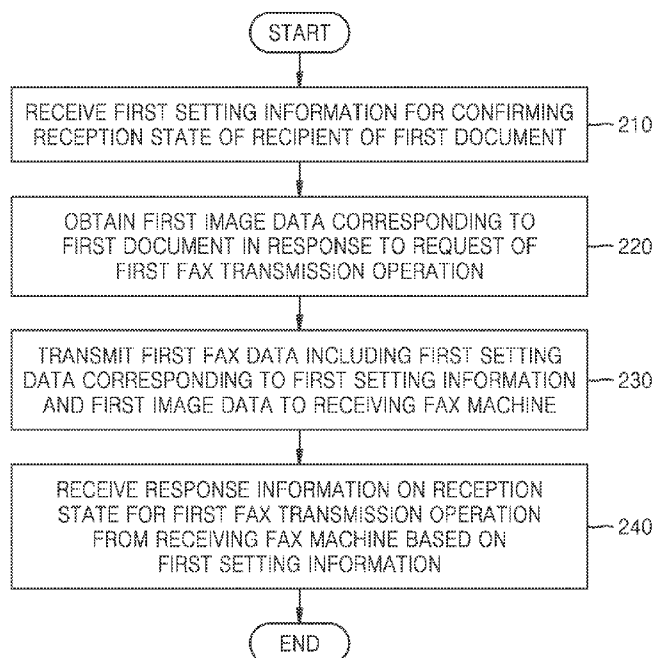
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(54) Title: METHOD FOR CHECKING RECEPTION STATE OF FAX SENDING JOB AT SENDING SIDE

FIG. 2



(57) Abstract: A fax machine includes: a scanner; a communication unit; a user interface unit; a processor; and a memory to store instructions executable by the processor. The instructions can be executable by the processor to receive first setting information to confirm a reception state of a recipient of a first document through the user interface unit, obtain first image data corresponding to the first document through the scanner, in response to a request of a first fax transmission operation, and send, to a receiving fax machine through the communication unit, first fax data including first setting data corresponding to the first setting information, and the first image data.



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METHOD FOR CHECKING RECEPTION STATE OF FAX SENDING JOB AT SENDING SIDE

BACKGROUND

[0001] A facsimile is a device for sending images such as pictures, texts, diagrams, etc. to a desired place and receiving the same via communications lines. More specifically, a facsimile is a device that converts an unformatted image such as a picture, text, diagram, or the like into an electrical signal, transmits the electrical signal via a telecommunications network, reconstructs the electrical signal back to the original image and records the same.

[0002] Functions of a facsimile, a printer, a copier, and a scanner may be implemented in an integrated manner in a multi-function printer (MFP).

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] Examples of the present disclosure are described in the following detailed descriptions in conjunction with the accompanying drawings, and reference numerals refer to structural elements.

[0004] FIG. 1 is a conceptual diagram illustrating a process in which a sending fax machine sends, to a receiving fax machine, fax data including setting information in which a method of confirming a reception state for a fax transmission operation can be set, and the receiving fax machine transmits, to the sending fax machine, response information on the reception state for the fax transmission operation, according to an example of the present disclosure.

[0005] FIG. 2 is a flowchart of an operation method of a fax machine sending fax data and receiving response information on a reception state for a fax transmission operation, based on setting information in which a method of confirming the reception state for the fax transmission operation is recorded, according to an example.

[0006] FIG. 3 is a diagram illustrating a process of setting fax number information and email address information on a fax machine, according to an example.

[0007] FIG. 4A is a diagram illustrating a user interface for setting a method of

confirming a reception state for a fax on a fax machine, according to an example.

[0008] FIGS. 4B and 4C are diagrams illustrating a user interface for setting a method of receiving a reception state for a fax and a response type on a fax machine, according to an example.

[0009] FIGS. 4D and 4E are diagrams illustrating a user interface for setting security on a fax machine when security is requested for a document to be sent, according to an example.

[0010] FIG. 5 is a diagram illustrating a field of a protocol in which setting information is recorded, according to an example.

[0011] FIG. 6A is a diagram illustrating a process in which a fax machine requests a fax transmission operation, according to an example.

[0012] FIG. 6B is a diagram illustrating a process in which a fax machine extracts an email address from a document to be sent and sets the extracted email address as an email address to receive response information on a fax reception state, according to an example.

[0013] FIG. 6C is a diagram illustrating a process in which a fax machine detects security information from a document to be sent and guides security settings, according to an example.

[0014] FIG. 7 is a diagram illustrating response information on a reception state for a fax transmission operation, according to an example.

[0015] FIG. 8 is a flowchart of an operation method of a fax machine that receives fax data including setting information in which a method of giving a response of a reception state for a fax transmission operation of a document is recorded. The fax machine can transmit response information on the reception state for the fax transmission operation, based on the setting information when the reception state for the fax transmission operation is confirmed, according to an example.

[0016] FIG. 9 is a diagram illustrating a user interface for setting a method of transmitting response information on a reception state for a fax transmission operation, according to an example.

[0017] FIG. 10A is a diagram illustrating a process of transmitting response information on a reception state for a fax transmission operation, according to an example.

[0018] FIG. 10B is a diagram illustrating a process of receiving a signature for

received fax data, according to an example.

[0019] FIG. 10C is a diagram illustrating a process of requesting authentication information when secured fax data is received, according to an example.

[0020] FIG. 11 is a block diagram illustrating a configuration of a fax machine, according to an example.

[0021] FIG. 12 is a diagram illustrating instructions stored in a computer-readable storage medium, according to an example.

[0022] FIG. 13 is a diagram illustrating instructions stored in a computer-readable storage medium, according to another example.

DETAILED DESCRIPTION OF EXAMPLES

[0023] Hereinafter, the present disclosure is described in detail with reference to the accompanying drawings, in which examples of the present disclosure are shown. The disclosure may be embodied in different forms and should not be construed as being limited to the examples set forth herein.

[0024] A "sending fax machine" refers to a device that decomposes images such as texts, diagrams, photographs, or the like into pixels, converts the pixels into electrical signals, and transmits the electrical signals to a receiving fax machine via a telecommunications network. The "receiving fax machine" refers to a device that reconstructs the electrical signals received from the sending fax machine back to the original image and records the same.

[0025] For example, a "fax machine" may be implemented with a facsimile, an image forming device, an image transmission device, an MFP, or the like. Some examples of the "image forming device" may include a device capable of performing an image forming operation, such as a printer, scanner, fax machine, MFP, display device, or the like. Some examples of the "image forming device" may also include a two-dimensional image forming device or a three-dimensional image forming device.

[0026] In some examples, the "fax machine" may perform a fax transmission operation or a fax reception operation, using an Internet fax without establishing a telephone line dedicated to fax. For example, a fax machine may install a program used to perform a fax transmission operation or a fax reception operation. The fax machine may transmit a digital file through the program. In some examples, the fax

machine may convert a paper document into a digital file through a scanner and transmit the digital file.

[0027] A user, in some examples, may use the fax machine to perform a fax transmission operation for a certain document. In such examples, the user may wait for the fax transmission operation to be completed or confirm a reception state from a menu capable of confirming a reception state for the fax transmission operation to confirm whether or not a receiving fax machine has received fax data for the certain document.

[0028] In some examples, to reduce waiting for the fax transmission operation to be completed, or to conform the reception state for the fax transmission operation from the menu capable of confirming the reception state for the fax transmission operation, the fax machine may receive response information on the reception state for the fax transmission operation, based on setting information in which a method of confirming the reception state for the fax transmission operation can be set.

[0029] FIG. 1 is a conceptual diagram illustrating a process in which a sending fax machine sends, to a receiving fax machine, fax data including setting information in which a method of confirming a reception state for a fax transmission operation can be set, and the receiving fax machine transmits, to the sending fax machine, response information of the reception state for the fax transmission operation, according to an example of the present disclosure.

[0030] Referring to FIG. 1, a sending fax machine 10-1 may send the fax data of a certain document to a receiving fax machine 10-2 based on the setting information in which the method of confirming the reception state for the fax transmission operation of the certain document can be set.

[0031] For example, the sending fax machine 10-1 may display a user interface 101 to set the method of confirming the reception state for the fax transmission operation of the certain document through a user interface unit 1130-1. In some examples, the user interface 101 may include an interface 102 to set a method of receiving the response information on the reception state for the fax transmission operation, and a type of the response information.

[0032] For example, an email method, a fax method, and the like may be included in the method of receiving the response information on the reception state for the fax transmission operation. In some examples, the type of the response information may

include a response for giving a confirmation for the reception state for the fax transmission operation, and a signature response for giving, responsive to signing, a confirmation for the reception state for the fax transmission operation.

[0033] In some examples, the sending fax machine 10-1 may obtain image data corresponding to the certain document, and setting data corresponding to the setting information in which the method of confirming the reception state for the fax transmission operation can be set. The sending fax machine 10-1 may send, to the receiving fax machine 10-2, fax data 103 for the fax transmission operation including the image data and the setting data.

[0034] The receiving fax machine 10-2, in some instances, may receive the fax data 103 from the sending fax machine 10-1. The receiving fax machine 10-2 may obtain, from the fax data 103, the setting information in which a method of transmitting the response information on the reception state can be set. For example, the method of transmitting the response information may be set as a fax method, and the type of the response information may be set as the signature response.

[0035] In some examples, the receiving fax machine 10-2 may obtain the image data from the fax data 103 and reconstruct the image data back to the certain document. The receiving fax machine 10-2 may, in some instances, display a user interface 104 to receive confirmation of a reception state of the reconstructed certain document through a user interface unit 1130-2. For example, the user interface 104 may include a user interface 105 capable of receiving a recipient's signature. The receiving fax machine 10-2 may receive the signature of the recipient. In some examples, when an input for the signature of the recipient is received, the receiving fax machine 10-2 may transmit, to the sending fax machine 10-1, response information 106 on the reception state for the fax transmission operation.

[0036] In some examples, the sending fax machine 10-1 may receive, from the receiving fax machine 10-2, the response information 106 on the reception state for the fax transmission operation. The response information 106 on the reception state for the fax transmission operation may include at least one of information on whether or not reception of the fax data is completed, information on a time at which the reception of the fax data is completed, information on whether or not the fax transmission operation is successful, and information on the signature of the recipient. The sending fax machine 10-1 may display the response information 106,

in some examples. A user may confirm the reception state for the fax transmission operation of the certain document from the sending fax machine 10-1.

[0037] In some instances, the receiving fax machine 10-2 may transmit, to the user via the user's email address, response information 107 on the reception state for the fax transmission operation. The user may confirm the reception state for the fax transmission operation of the certain document by checking an email on a device capable of reading emails.

[0038] FIG. 2 is a flowchart of an operation method of a fax machine that transmits fax data and receives response information on a reception state for a fax transmission operation, based on setting information in which a method of confirming the reception state for the fax transmission operation can be set, according to an example.

[0039] Referring to FIG. 2, the fax machine may receive first setting information to check a reception state of a recipient of a first document, in operation 210 of the fax machine.

[0040] For example, the first setting information may include information for requesting confirmation of the reception state of the recipient of the first document. In some examples, the information for requesting the confirmation of the reception state of the recipient of the first document may include information in which a method of confirming the reception state of the recipient of the first document can be set. For example, the first setting information may include information for setting a method of confirming a reception state for a first fax transmission operation of the first document.

[0041] In some examples, the first setting information may include at least one of information on a method of receiving response information on the reception state for the first fax transmission operation and information on a type of the response information. For example, the method of receiving the response information on the reception state for the first fax transmission operation may include a method of receiving the response information by email, a method of receiving the response information by fax machine, and the like. In some examples, the type information on the response information may include first type information for giving a confirmation of the reception state for the first fax transmission operation, and second type information for giving, after signing, a confirmation of the reception state for the first

fax transmission operation.

[0042] In some examples, the first type information for giving a confirmation of the reception state for the first fax transmission operation may include a response type in which a receiving fax machine displays a preview image corresponding to first fax data and gives a confirmation of the preview image. For example, in an example where information included within the first fax data may be allowed to be disclosed to a plurality of users, a response of the first fax transmission operation may be set as the first type information.

[0043] In some instances, the second type information for giving, after signing, a confirmation of the reception state for the first fax transmission operation may include a response type in which a receiving fax machine displays a preview image corresponding to the first fax data and gives a confirmation of the preview image with a signature. For example, the receiving fax machine may display an input field for receiving a signature of the recipient. In some examples, if a recipient of the information included within the first fax data is a specific person, the response of the first fax transmission operation may be set as the second type information. If the information included in the first fax data requests the signature of the recipient, response of a second fax transmission operation may be set as the second type information, in some instances.

[0044] In some examples, the first setting information may be recorded in a first field within a pre-designated protocol. For example, the protocol may refer to a protocol for a communication method when transmitting or receiving data or information between fax machines. The protocol for a communication method may refer to an agreement on at least one of connection between fax machines, a transmission method, a communication method, data to be transmitted and received, information format, an error detection method, a code conversion method, and a transmission speed. In some examples, the protocol may include protocol T.30. For example, the first setting information may be stored in an optional message field within a pre-designated protocol. Descriptions of fields of the protocol are given with reference to FIG. 5.

For example, the response information on the reception state for the first fax transmission operation may include at least one of information on whether or not reception of the first fax data is completed, information on a time at which the

reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on verification of the recipient of the first fax data. In some examples, the signature of the recipient of the first fax data may be included in verifying the recipient of the first fax data.

[0045] In some examples, if security is requested for the first document, the fax machine may receive second setting information for setting at least one of security level information for the first document, and authentication information according to the security level. For example, if the recipient of the first document is an unspecific person, the security level may be set as a low level, if the recipient of the first document is an unspecific person of a certain group, the security level may be set as a middle level, and if the recipient of the first document is a specific person, the security level may be set as a high level. For instance, if the security level is the middle or high level, the receiving fax machine may be set to perform authentication when receiving the first fax data of the first document. In some examples, an authentication method may include a method of entering an authentication number, a method of entering a password, and the like.

[0046] The fax machine, in some examples, may obtain first image data corresponding to the first document, in response to a request of the first fax transmission operation, in operation 220 of the fax machine.

[0047] For example, the fax machine may obtain the first image data corresponding to the first document, based on a scan operation of the first document. For instance, the first image data may include digital codes. The first image data may include a machine language readable by a processor within the fax machine.

[0048] In some examples, information that the first fax transmission operation requests may include at least one of the first fax data to be sent to the first fax transmission operation, information on the recipient to receive the first fax data, and information on the sender to send the first fax data. In some instances, information on the recipient may include email address information or fax number information of the recipient to receive the first fax data.

[0049] The fax machine, in some examples, may obtain the email address information or the fax number information to receive the response information on the reception state for the first fax transmission operation, based on a result of reading the first image data. For example, the fax machine may extract email address

information or fax number information to receive the response information from the first image data, based on an optical character recognizer (OCR).

[0050] The fax machine, in some examples, may send the first fax data including first setting data corresponding to the first setting information, and the first image data to the receiving fax machine, in operation 230 of the fax machine.

[0051] In some examples, the fax machine may receive, from the receiving fax machine, the response information on the reception state for the first fax transmission operation, based on the first setting information, in operation 240 of the fax machine.

[0052] For example, if the method information included within the first setting information can be set as a method of transmitting the response information to the sending fax machine, the fax machine may receive, from the receiving fax machine, the response information on the first fax transmission operation.

[0053] In some examples, the response information on the reception state for the first fax transmission operation may include at least one of information on whether or not reception of the first fax data is completed on the receiving fax machine, information on a time at which the reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on the signature of the recipient of the first fax data. For example, success or failure of the first fax transmission operation may have to do with whether or not the first document is properly received.

[0054] In some examples, the fax machine may display the response information on the reception state for the first fax transmission operation through a user interface unit of the fax machine. In addition, the fax machine may output a document in which the response information on the reception state for the first fax transmission operation is recorded.

[0055] FIG. 3 is a diagram illustrating a process of setting fax number information and email address information on a fax machine, according to an example.

[0056] In some examples, the fax machine may display a user interface for setting fax transmission setting information used to send a fax. Referring to FIG. 3, for example, the fax machine may display an item for setting fax number information 310 or an item for setting email address information 320 to receive a fax. When an input for selecting the item for setting fax number information 310 or the item for

setting email address information 320 is received, the fax machine may display a window for receiving a fax number or email address. In some examples, the fax machine may display a keyboard. The fax machine may receive a fax number or email address through the keyboard. A user may set a certain fax number or email address as a reference value.

[0057] FIG. 4A is a diagram illustrating a user interface for setting a method of confirming a reception state of a fax on a fax machine, according to an example.

[0058] The fax machine, in some examples, may display the user interface for setting the method of confirming the reception state for a fax transmission operation of a document. Referring to FIG. 4A, for example, the fax machine may display an item for "setting the confirmation of the reception state of the fax" 410. When an input for selecting the item for "setting the confirmation of the reception state of the fax" 410 is received, the fax machine may display the user interface illustrated in FIGS. 4B to 4E.

[0059] FIGS. 4B and 4C are diagrams illustrating a user interface for setting a method of receiving a reception state of a fax and a response type on a fax machine, according to an example.

[0060] In some examples, the fax machine may receive, from a receiving fax machine, setting information for setting at least one of information on a method of receiving response information on a reception state for a fax transmission operation and type information on the response information.

[0061] Referring to FIG. 4B, the fax machine may display items for types that respond that the receiving fax machine has received the fax. For example, the types for responding that the receiving fax machine has received the fax may include a first type for confirming a reception state and simply giving a confirmation of a result of the reception state and a second type for confirming the reception state and giving, after signing, a confirmation of the result of the reception state. In some examples, the first type may be displayed as an item for a "request for a reply with respect to the reception result ", and the second type may be displayed as an item for a "request for a reply after signing" 421. In some examples, the types that respond that the receiving fax machine has received the fax may include a third type that does not give any response with regard to the reception state. For example, the third type may be displayed as an item "disabled".

[0062] In some instances, if an input for selecting an item for a certain type from

among items for types that respond that the receiving fax machine has received the fax, the fax machine may display items for methods of receiving the response information. For example, the methods of receiving the response information may include a method of receiving the response information by email and a method of receiving the response information by fax. In some examples, if an input for selecting the item for a "request for a reply after signing" 421 is received, the fax machine may display an item for a "reply by email", and an item for a "reply by fax". If an input for selecting the item for a "reply by fax" is received, the fax machine may display an input field 422 for receive a fax number.

[0063] Referring to FIG. 4C, the fax machine, in some examples, may display a user interface 431 for setting information on a method of receiving response information on a reception state for a fax transmission operation, and information on types of the response information on the reception state for the fax transmission operation.

[0064] For example, in terms of the information on the method of receiving the response information on the reception state for the fax transmission operation, the fax machine may display items for "email", "fax", and "disabled". In some instances, in terms of the information on the types of the response information on the reception state for the fax transmission operation, the fax machine may display items for "simple response" and "signature response". For example, the fax machine may receive an input for selecting the item for "fax" and the item for "signature response".

[0065] FIGS. 4D and 4E are diagrams illustrating a user interface for security settings when security is requested for a document to be sent by a fax machine, according to an example.

[0066] In some examples, when security is requested for a document to be sent by the fax machine, a sender may perform security settings such that a recipient enters authentication information before reading the document from a receiving fax machine.

[0067] Referring to FIG. 4D, the fax machine, in some examples, may display a user interface 441 for setting authentication information within an item for a "request for a reply after signing". The fax machine may display the user interface 441 including an input field for receiving an item "confidential" and a "secure code". In some instances, the fax machine may receive an input for selecting the item "confidential" and an input for setting the "secure code".

[0068] Referring to FIG. 4E, for example, the fax machine may display a user

interface 451 for setting a security level and an authentication method for the document. In some examples, in terms of the security level of the document, the fax machine may display items for "low", "middle", and "high" selectable according to the security level of the document. In some instances, in terms of the authentication method for the document, the fax machine may display an item for an "authentication number" for entering an authentication number obtained through verification of the identification of the recipient, and an item for a "password" for entering a password set by the sender. For example, the fax machine may receive an input for selecting the item for "high", and an input for selecting the item for an "authentication number". [0069] FIG. 5 is a diagram illustrating a field of a protocol in which setting information is recorded, according to an example.

[0070] In some examples, setting information for setting a method of confirming a reception state for a fax transmission operation of a document may be recorded within a pre-designated protocol. For example, the protocol may refer to a protocol for a communication method when transmitting or receiving data or information between fax machines. For instance, the pre-designated protocol may include protocol T.30.

[0071] Referring to an image 510 of FIG. 5, for example, fields of the protocol may include a preamble field, an optional frame field 511, and a mandatory field. The setting information may be recorded on the optional frame field 511 within the fields of the protocol.

[0072] As illustrated in an image 520 of FIG. 5, the optional frame field 511 may include a flag field, an address field, a control field, an information field 521, an FCS (frame check sequence) field, and a flag field. As illustrated in an image 530 of FIG. 5, the information field 521 may include a country code field, a manufacture code field, a model code field, and an optional message field 531. The setting information, for instance, may be recorded in the optional message field 531 within the information field 521.

[0073] In some examples, in the process of communication between a sending fax machine and a receiving fax machine, the receiving fax machine may receive a message (e.g., an optional message) and obtain the setting information within the message.

[0074] FIG. 6A is a diagram illustrating a process in which a fax machine requests a

fax transmission operation, according to an example.

[0075] In some examples, the fax machine may receive an instruction for requesting a first fax transmission operation of a first document. For instance, the fax machine may display information 611 to guide a scan operation of the first document. In some examples, if the scan operation is performed for the first document, the fax machine may obtain first image data corresponding to the first document. The fax machine may send, in some instances, to a receiving fax machine, first fax data including first setting data corresponding to first setting information, and the first image data.

[0076] FIG. 6B is a diagram illustrating a process of extracting an email address from a document to be sent by a fax machine and setting the extracted email address as an email address to receive response information on a reception state of a fax, according to an example.

[0077] In some examples, if the fax machine performs a scan operation for a first document, the fax machine may obtain first image data corresponding to the first document. Referring to FIG. 6B, the fax machine may display a preview image 621 corresponding to the first image data. The fax machine may extract email address information 622 from the first document based on a result of reading the first image data.

[0078] In some examples, the fax machine may display information 623 for inquiring whether to set the extracted email address as an email address to receive the response information on the reception state for a fax transmission operation. For example, the fax machine may display a message, "Would you like to receive a confirmation email of the reception state of the fax to the extracted email address?" In some examples, when an input for selecting "yes" is received, the fax machine may set the extracted email address as the email address to receive the response information. The fax machine may write the extracted email address information on an input field 624 for setting the email address.

[0079] FIG. 6C is a diagram illustrating a process of detecting security information from a document to be sent by a fax machine and guiding security settings, according to an example.

[0080] Referring to FIG. 6C, the fax machine, in some examples, may obtain first image data through a scan operation of a first document and display a preview image 621 corresponding to the first document. Before sending the first image data,

the fax machine may monitor whether there is information requesting security within the first document, based on a result of reading the first image data. In some examples, if information requesting security is detected from the first document after monitoring, the fax machine may display information 631 for guiding security settings for the first document. For example, if an input for selecting "options" is received on a screen displayed through a user interface unit of the fax machine, the fax machine may display a user interface for setting security for the first document.

[0081] FIG. 7 is a diagram illustrating response information on a reception state for a fax transmission operation, according to an example.

Referring to FIG. 7, in some examples a fax machine may receive, from a receiving fax machine, response information on a reception state for a first fax transmission operation. For instance, the response information on the reception state for the first fax transmission operation may include at least one of information on whether or not reception of the first fax data is completed, information on a time at which the reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on the signature of a recipient of the first fax data. In some examples, the response information on the reception state may include at least one of information on the number of a fax sent by the fax machine, information on a period of time that has taken for the fax to be received, and the number of pages of a document.

[0082] For example, the fax machine may display the response information on the reception state for the first fax transmission operation through a user interface unit of the fax machine. In some examples, the fax machine may output a document in which the response information on the reception state for the first fax transmission operation is recorded.

[0083] FIG. 8 is a flowchart of an operation method of a fax machine that receives fax data including setting information in which a method of giving a response with regard to a reception state for a fax transmission operation of a document can be set. The fax machine can transmit response information on the reception state for the fax transmission operation, based on the setting information, in when the reception state for the fax transmission operation is confirmed, according to an example.

[0084] Referring to FIG. 8, the fax machine may receive, from a sending fax machine, first fax data corresponding to a first fax transmission operation, in operation 810 of

the fax machine. For example, the first fax data may include first setting information for requesting a response with regard to a reception state of a recipient of a first document. In some examples, the first setting information may include information in which a method of giving a response with regard to the reception state of the recipient of the first document can be set. For instance, the first setting information may include information in which a method of giving a response with regard to a reception state for the first fax transmission operation of the first document can be set.

[0085] In some examples, the first setting information may include at least one of information on a method of transmitting response information on the reception state for the first fax transmission operation, and information on types of the response information. For example, the type information on the response information may include first type information for giving a confirmation of the reception state for the first fax transmission operation, and second type information for giving, after signing, a confirmation of the reception state for the first fax transmission operation. For example, the first setting information may be recorded in a first field within a pre-designated protocol.

[0086] The fax machine may confirm the reception state for the first fax transmission operation, in operation 820 of the fax machine. In some examples, when confirmation of the reception state for the first fax transmission operation is completed, the fax machine may transmit, to the sending fax machine, the response information on the first fax transmission operation, based on a method of giving a response with regard to the reception state for the first fax transmission operation, within the first setting information, in operation 830 of the fax machine. The fax machine may transmit, to a preset email address, the response information on the first fax transmission operation.

[0087] In some examples, the fax machine may obtain the first setting information from the first field within the protocol. The fax machine may obtain, from the first setting information, information on the method of giving a response with regard to the reception state for the first fax transmission operation. The fax machine may transmit, to the sending fax machine or the preset email address, the response information on the first fax transmission operation including the result of the reception state, based on the method information.

[0088] In some examples, when the type information on the response information is the first type information for giving a confirmation of the reception state for the first fax transmission operation, and if the confirmation of the reception state for the first fax transmission operation is completed, the fax machine may display a first user interface for receiving the confirmation of the reception state for the first fax transmission operation. In some examples, the fax machine may obtain information on the result of the reception state, based on the first user interface. For instance, the fax machine may display the information on the result of the reception state for the first fax transmission operation and the first user interface for requesting the confirmation of the reception state. In some examples, when an input for confirming the reception state is received, the fax machine may transmit, to the sending fax machine or the preset email address, the response information on the first fax transmission operation including the information on the result of the reception state, based on the first user interface.

[0089] In some examples, when the type information of the response information is the first type information for giving a confirmation of the reception state for the first fax transmission operation, and if the confirmation of the reception state for the first fax transmission operation is completed, the fax machine may obtain the information on the result of the reception state for the first fax transmission operation, and automatically transmit, to the sending fax machine or the preset email address, the response information on the first fax transmission operation including the information of the result of the reception state.

[0090] In some instances, when the type information of the response information is the second type information for giving a confirmation of the reception state for the first fax transmission operation after signing, and if the confirmation of the reception state for the first fax transmission operation is completed, the fax machine may display a second user interface for receiving a signature for the first document. For example, the fax machine may obtain the first document corresponding to the first fax data. The fax machine may display the second user interface including an area within the first document that requests a first signature. In some examples, the fax machine may receive the first signature from the recipient of the first document, based on the second user interface. If the first signature is input, the fax machine may transmit, to the sending fax machine or the preset email address, the response

information on the first fax transmission operation including the information on the result of the reception state for the first fax transmission operation. In some instances, the fax machine may transmit fax data corresponding to the first document in which the signature is recorded to the sending fax machine or the preset email address.

[0091] In some examples, if the first signature is not input through the second user interface for a certain period of time, the fax machine may store the first fax data and display the second user interface including the area within the first document that requests the first signature at the request of the recipient afterwards. If the first signature is input, the fax machine may transmit the response information on the first fax transmission operation to the sending fax machine or the preset email address.

[0092] For example, after reading first image data within the first fax data, the fax machine may detect an area that requests a signature. In such examples, the fax machine may display the area that requests a signature and receive an input corresponding to the signature. The fax machine may transmit fax data corresponding to a document in which the signature is recorded, to the sending fax machine or the preset email address.

[0093] In some examples, if security is requested for the first document, the fax machine may request authentication information set within the first fax data. When authentication is completed, in response to a request of the authentication information, the fax machine may display the first fax data. The fax machine may transmit the response information on the first fax transmission operation based on the method of giving a response with regard to the reception state for the first fax transmission operation within the first setting information.

[0094] FIG. 9 is a diagram illustrating a user interface for setting a method of transmitting response information on a reception state for a fax transmission operation, according to an example.

[0095] In some examples, a fax machine may display the user interface for setting notification information as fax data is received from a sending fax machine. Referring to FIG. 9, for example, if an input for selecting an automatic notification item 911 is received, the fax machine may display a user interface 912 including an item for automatically transmitting a reception-completed state and an item for not transmitting a reception-completed state as the fax data is received. In some

examples, if a method of transmitting the reception state for the fax data can be set as email, and an item for transmitting a notification that a fax reception operation is completed is selected, the fax machine may display setting information 913 of a server used for sending an email. For example, if the server setting information is properly set, the fax machine may display a phrase "SMTP server configured".

[0096] FIG. 10A is a diagram illustrating a process of transmitting response information on a reception state for a fax transmission operation, according to an example.

[0097] In some examples, a fax machine may receive first fax data from a sending fax machine. For instance, the first fax data may include first image data of a first document and first setting information in which a method of giving a response with regard to a reception state for a first fax transmission operation of the first document can be set.

[0098] Referring to FIG. 10A, the fax machine may display a preview image 1011 of the first document, based on the first image data. In some examples, when the method of giving a response with regard to the reception state for the first fax transmission operation of the first document can be set as email within the first setting information, the fax machine may display a message 1012 including information on whether or not reception of the first fax data is completed, and information on whether to respond by email. For instance, the information on whether or not the reception of the first fax data is completed may include information on whether or not the reception of the first fax data is completed, information on a time at which the reception of the first fax data is completed, information on a sender of the first fax data, and the like. In some examples, when an input for selecting "send" is received, the fax machine may transmit, to the sender's email address, response information for indicating that the reception of the first fax data has been completed.

[0099] FIG. 10B is a diagram illustrating a process of receiving a signature for received fax data, according to an example.

[00100] In some examples, when a signature response for giving a confirmation of a reception state for a fax transmission operation can be set in first setting information of first fax data received by a sending fax machine, a fax machine may display a user interface for receiving a signature for the first fax data.

[00101] For example, the fax machine may obtain first image data corresponding to a first document from the first fax data. The fax machine may display a preview image of the first document based on the first image data. In some examples, the fax machine may display an input field 1021 for receiving the signature. For instance, the fax machine may enlarge and display an area within the preview image on which the signature is to be written. The fax machine, in some instances, may receive the signature of a recipient through the input field 1021. For example, the recipient may input his or her signature through a user interface unit provided within the fax machine. In some instances, the user interface unit may be implemented with a touch screen, a touch pad, or the like. For example, the recipient may use a certain tool capable of receiving a touch input to input his or her signature.

[00102] In some examples, if an input for entering the recipient's signature and an input for confirming the first fax data are received, the fax machine may transmit response information on a first fax transmission operation based on a method of giving a response with regard to a reception state for the first fax transmission operation within the first setting information.

[00103] In some examples when security can be set within the first fax data, if an authentication procedure for the first fax data is completed, the fax machine may display a user interface for receiving a signature for the first fax data.

[00104] FIG. 10C is a diagram illustrating a process of requesting authentication information when secured fax data is received, according to an example.

[00105] In some examples, a fax machine may receive secured first fax data. For example, before a preview image of first image data of a first document within the first fax data is displayed, the fax machine may request authentication information. When the authentication is completed, the fax machine may display the preview image of the first image data.

[00106] Referring to FIG. 10 C, the fax machine may display a message 1032 for requesting the authentication information set within the first fax data. In some examples, the authentication information may include a preset security code. In some instances, the fax machine may display an area 1031 for displaying the preview image as an empty area until the authentication is completed.

[00107] FIG. 11 is a block diagram illustrating a configuration of a fax machine, according to an example.

[00108] Referring to a fax machine 10 illustrated in FIG. 11, the fax machine 10 may include a scanner 1110, a communication unit 1120, a user interface unit 1130, a memory 1140, and a processor 1150. However, examples are not limited to the illustrated components. The fax machine 10 may be implemented by more components or fewer components than the illustrated components. Hereinafter, the illustrated components will be described in detail.

[00109] In some examples, the scanner 1110 may perform, in response to a request of a certain scan operation from the fax machine 10, the certain scan operation to generate scanned data or a scanned image. For example, if a request for a fax transmission operation for a first document is received from the fax machine 10, the scanner 1110 may perform a scan operation for the first document and generate first image data corresponding to the first document. In some examples, the scanner 1110 may include an automatic document feeder (ADF) for automatic feed of documents.

[00110] The communication unit 1120, in some instances, may communicate with an external device. For example, the communication unit 1120 may be connected to a network by wire or wirelessly to communicate with the external device. Examples of the external device may include the fax machine 10, an image forming device, a server, and/or an electronic device.

[00111] In some examples, the communication unit 1120 may include a telephone line used to transmit fax data generated from the fax transmission operation. For example, the telephone line may include a communication line dedicated to fax. In some examples, the communication unit 1120 may transmit or receive the fax data using an Internet fax without establishing a telephone line dedicated to fax.

[00112] In some examples, the communication unit 1120 may communicate with a fax machine when receiving the fax data. For instance, the communication unit 1120 may transmit, to a receiving fax machine, the fax data including setting information in which a method of receiving a reception state for the fax transmission operation of a document can be set.

[00113] The user interface unit 1130 may include an inputter for receiving an input for controlling an operation of the fax machine 10 from a user, and an outputter for displaying information on a result of the operation of the fax machine 10, information on a state of the fax machine 10, or the like. For example, the user interface unit

1130 may include an operation panel for receiving a user input, a display panel for displaying a screen, and the like.

[00114] In some examples, the inputter may include devices to receive various types of user input, for example, a keyboard, a physical button, a touch screen, a camera, a microphone, or the like. The outputter may include, for example, a display panel, a speaker, or the like. However, examples of the present disclosure are not limited thereto. The user interface unit 1130 may include a device for supporting various input/output, in some examples.

[00115] The memory 1140, in some instances, may store non-transitory computer-readable instructions or a program. For example, the memory 1140 may obtain the setting information for setting a method of confirming the reception state for the fax transmission operation of the document, transmit the fax data in response to a request of the fax transmission operation, and store at least one program related to the operation of the fax device for receiving response information on the reception state for the fax data.

[00116] In some examples, the memory 1140 may receive the fax data including setting information in which a method of giving a response with regard to the reception state for the fax transmission operation of the document can be set, and if the reception state for the fax transmission operation is confirmed, the memory 1140 may store at least one program related to the operation of the fax machine for transmitting the response information, according to the preset method of giving a response.

[00117] In some examples, the processor 1150 may execute a program stored in the memory 1140, read data or a file stored in the memory 1140, or store a new file in the memory 1140. In some instances, the processor 1150 may execute instructions stored in the memory 1140.

[00118] Hereinafter, operation of each component is described when the fax machine 10 operates as a sending fax machine.

[00119] In some examples, the processor 1150 may receive first setting information for confirming the reception state of a recipient of the first document through the user interface unit 1130.

[00120] For example, the first setting information may include information for requesting confirmation of the reception state of the recipient of the first document. In

some examples, the information for requesting confirmation of the reception state of the recipient of the first document may include information in which a method of confirming the reception state of the recipient of the first document can be set. For example, the first setting information may include information for setting a method of confirming a reception state for a first fax transmission operation of the first document.

[00121] In some examples, the first setting information may include at least one of information on a method of receiving the response information on the reception state for the first fax transmission operation, and type information on the response information. For example, the method of receiving the response information on the reception state for the first fax transmission operation may include a method of receiving the response information by email, a method of receiving the response information by the fax machine 10, and the like. In some examples, the type information on the response information may include first type information for giving a confirmation of the reception state for the first fax transmission operation and second type information for giving, after signing, a confirmation of the reception state for the first fax transmission operation.

[00122] In some examples, the first type for giving a confirmation of the reception state for the first fax transmission operation may include a type in which a preview image corresponding to first fax data is displayed on the receiving fax machine, and a confirmation for the preview image can be given. For example, when information included in the first fax data may be allowed to be disclosed to a plurality of users, a response of the first fax transmission operation may be set as the first type.

[00123] In some examples, the second type for giving, after signing a confirmation of the reception state for the first fax transmission operation, may include a type in which a preview image corresponding to the first fax data is displayed on the receiving fax machine, and a confirmation for the preview image can be given with a signature. For example, an input field for receiving a signature of the recipient may be displayed on the receiving fax machine. In some examples, in the case where a recipient of the information included within the first fax data is a specific person, the response of the first fax transmission operation may be set as the second type. In some instances, when the information included in the first fax data requests the recipient's signature, a response of a second fax transmission operation may be set

as the second type.

[00124] In some examples, the first setting information may be recorded in a first field within a pre-designated protocol. For example, the protocol may refer to a protocol for a communication method when transmitting or receiving data or information between fax machines. For instance, the protocol may include protocol T.30. In some examples, the first setting information may be stored in an optional message field within the protocol T.30.

[00125] In some examples, the response information on the reception state for the first fax transmission operation may include at least one of information on whether or not reception of the first fax data is completed, information on a time at which the reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on verification of the recipient of the first fax data. For example, the signature of the recipient of the first fax data may be requested in verifying the recipient of the first fax data.

[00126] In some examples, when security is requested for the first document, the processor 1150 may receive second setting information for setting at least one of security level information for the first document and authentication information according to the security level through the user interface unit 1130. For example, when the recipient of the first document is an unspecific person, the security level may be set as a low level, in the case where the recipient of the first document is an unspecific person of a certain group, the security level may be set as a middle level, and in the case where the recipient of the first document is a specific person, the security level may be set as a high level. In some examples, if the security level is a middle or high level, the receiving fax machine may be set to perform authentication when receiving the first fax data for the first document. For example, an authentication method may include a method of entering an authentication number, a method of entering a password, or the like.

[00127] In some examples, the processor 1150 may obtain the first image data corresponding to the first document in response to a request of the first fax transmission operation. For example, the processor 1150 may obtain the first image data corresponding to the first document based on a scan operation of the first document. In some instances, the first image data may include digital codes. The first image data may include a machine language readable by the processor

1150 within the fax machine 10.

[00128] In some examples, information requested by the first fax transmission operation may include at least one of the first fax data to be sent to the first fax transmission operation, information on the recipient to receive the first fax data, and information on the sender to send the first fax data. The information on the recipient may include email address information or fax number information of the recipient to receive the first fax data.

[00129] In some examples, the processor 1150 may obtain the email address information or the fax number information to receive the response information on the reception state for the first fax transmission operation based on a result of reading the first image data. For example, the fax machine 10 may extract the email address information or the fax number information to receive the response information from the first image data, based on an OCR.

[00130] The processor 1150 may send, in some examples, to the receiving fax machine through the communication unit 1120 the first fax data including first setting data corresponding to the first setting information, and the first image data.

[00131] In some examples, the processor 1150 may receive, from the receiving fax machine through the communication unit 1120, the response information on the reception state for the first fax transmission operation, based on the first setting information.

[00132] For example, when method information included in the first setting information can be set as a method of transmitting the response information to the sending fax machine, the communication unit 1120 may receive the response information on the first fax transmission operation from the receiving fax machine.

[00133] In some examples, the response information on the first fax transmission operation may include at least one of information on whether or not reception of the first fax data is completed on the receiving fax machine, information on a time at which the reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on the signature of the recipient of the first fax data. For example, success or failure of the first fax transmission operation may have to do with whether or not the first document is received.

[00134] In some examples, the processor 1150 may display the response

information on the reception state for the first fax transmission operation through the user interface unit 1130 of the fax machine 10. In some instances, the processor 1150 may output a document in which the response information on the reception state for the first fax transmission operation is recorded.

[00135] Hereinafter, operation of each component is described when the fax machine 10 operates as the receiving fax machine.

[00136] In some examples, the processor 1150 may receive second fax data corresponding to a second fax transmission operation from the sending fax machine through the communication unit 1120. For instance, the second fax data may include the second setting information for requesting a response of a reception state of a recipient of a second document. In some examples, the second setting information may include information in which a method of giving a response with regard to the reception state of the recipient of the second document can be set. For example, the second setting information may include information in which a method of giving a response with regard to a reception state for the second fax transmission operation of the second document can be set.

[00137] In some examples, the second setting information may include at least one of information on a method of transmitting response information on the reception state for the second fax transmission operation and type information on the response information. For example, the type information on the response information may include first type information for giving a confirmation of the reception state for the second fax transmission operation, and second type information for giving, after signing, a confirmation of the reception state for the second fax transmission operation.

[00138] For example, the second setting information may be recorded in the first field within the pre-designated protocol.

[00139] In some examples, the processor 1150 may confirm the reception state for the second fax transmission operation. If the confirmation of the reception state for the second fax transmission operation is completed, the processor 1150 may transmit the response information on the second fax transmission operation to the sending fax machine through the communication unit 1120, based on the method of giving a response with regard to the reception state for the second fax transmission operation within the second setting information. In some examples, the processor

1150 may transmit the response information on the second fax transmission operation to a preset email address.

[00140] In some instances, the processor 1150 may obtain the second setting information from the first field within the protocol. The processor 1150 may obtain, from the second setting information, the information on the method of giving a response with regard to the reception state for the second fax transmission operation. The processor 1150 may transmit, to the sending fax machine or the preset email address, the response information of the second fax transmission operation including a result of the reception state, based on the information on the method of giving a response with regard to the reception state for the second fax transmission operation.

[00141] In some examples, when the type information on the response information is the first type information for giving a confirmation of the reception state for the second fax transmission operation, if the confirmation of the reception state for the second fax transmission operation is completed, the processor 1150 may display a first user interface for receiving the confirmation of the reception state for the second fax transmission operation, through the user interface unit 1130. The processor 1150, in some examples, may obtain information on the result of the reception state, based on the first user interface. For example, the user interface unit 1130 may display the information on the result of the reception state for the second fax transmission operation and the first user interface for requesting confirmation of the reception state for the second fax transmission operation. In some instances, if an input for confirming the reception state for the second fax transmission operation is received, the processor 1150 may transmit, to the sending fax machine or the preset email address through the communication unit 1120, the response information on the second fax transmission operation including the information on the result of the reception state, based on the first user interface.

[00142] In some examples, the type information on the response information is the first type information for giving a confirmation of the reception state for the second fax transmission operation. In such examples, if the confirmation of the reception state for the second fax transmission operation is completed, the processor 1150 may obtain the information on the result of the reception state for the second fax transmission operation and automatically transmit, to the sending fax machine or the preset email address, the response information on the second fax transmission

operation including the information on the result of the reception state for the second fax transmission operation.

[00143] In some examples, the type information on the response information is the second type information for giving, after signing, a confirmation of the reception state for the second fax transmission operation. In such examples, if the confirmation of the reception state for the second fax transmission operation is completed, the user interface unit 1130 may display a second user interface for receiving a signature for the second document. For example, the processor 1150 may obtain the second document corresponding to the second fax data. The user interface unit 1130 may display the second user interface including an area within the second document that requests a second signature. The user interface unit 1130 may receive the second signature from the recipient of the second document, based on the second user interface. In some examples, if the second signature is input, the processor 1150 may transmit, to the sending fax machine or the preset email address through the communication unit 1120, the response information on the second fax transmission operation including the information on the result of the reception state for the second fax transmission operation. The processor 1150 may transmit the fax data corresponding to the first document in which a signature is recorded to the sending fax machine or the preset email address through the communication unit 1120.

[00144] In some examples, if the second signature is not input through the second user interface for a certain period of time, the processor 1150 may store the second fax data and display the second user interface including the area within the second document that requests the second signature, at the request of the recipient afterwards. In some instances, when the second signature is input, the processor 1150 may transmit the response information on the second fax transmission operation to the sending fax machine or the preset email address through the communication unit 1120.

[00145] In some examples, the processor 1150 may detect an area within the second fax data that requests a signature after reading second image data. The processor 1150 may display the area that requests the signature and receive an input corresponding to the signature, through the user interface unit 1130. The processor 1150 may transmit the fax data corresponding to the document in which the signature is recorded to the sending fax machine or the preset email address

through the communication unit 1120.

[00146] In some examples, if security is requested for the second document, the processor 1150 may request authentication information set in the second fax data. When authentication is completed in response to a request of the authentication information, the user interface unit 1130 may display the second fax data. In some instances, the processor 1150 may transmit the response information on the second fax transmission operation, through the communication unit 1120, based on the method of giving a response with regard to the reception state for the second fax transmission operation within the second setting information.

[00147] FIG. 12 is a diagram illustrating instructions stored in a computer-readable storage medium, according to an example.

[00148] In some examples, a computer-readable storage medium 1200 may store instructions related to the operation of the fax machine 10 described with reference to FIGS. 1 to 11. For instance, the computer-readable storage medium 1200 may store instructions 1210 to receive first setting information to confirm a reception state of a recipient of a first document and instructions 1220 to obtain first image data corresponding to the first document, in response to a request of a first fax transmission operation. The computer-readable storage medium 1200 may store instructions 1230 to send, to a receiving fax machine, first fax data including first setting data corresponding to the first setting information and the first image data, and instructions 1240 to receive, from the receiving fax machine, response information on a reception state for the first fax transmission operation, based on the first setting information.

[00149] FIG. 13 is a diagram illustrating instructions stored in a computer-readable storage medium, according to another example.

[00150] In some examples, a computer-readable storage medium 1300 may store instructions related to the operation of the fax machine 10 described with reference to FIGS. 1 to 11. For example, the computer-readable storage medium 1300 may store instructions 1310 to receive, from a sending fax machine, first fax data corresponding to a first fax transmission operation including first setting information for requesting a response with regard to a reception state of a recipient of a first document and instructions 1320 to confirm a reception state of the first fax transmission operation. The computer-readable storage medium 1300 may store

instructions 1330 to transmit response information on the first fax transmission operation, based on a method of giving a response with regard to the reception state for the first fax transmission operation within the first setting information, if the confirmation of the reception state for the first fax transmission operation is completed.

[00151] An operation method of the fax machine 10 described above may be implemented through instructions executable by a computer or a processor, or a computer-readable storage medium for storing data. The operation method of the fax machine 10 may be written in a computer-executable program and may be implemented on a general-purpose digital computer for operating such a program using a computer-readable storage medium. Examples of the computer-readable storage media may include read-only memory (ROM), random-access memory (RAM), flash memory, compact disc (CD)-ROMs, CD-recordables (Rs), CD+Rs, CD-rewritables (RWs), CD+RWs, and digital versatile disc (DVD)-ROMs, DVD-Rs, DVD+Rs, DVD-RWs, DVD+RWs, DVD-RAMs, Blu-ray disc (BD)-ROMs, BD-Rs, BD-recordable low to highs (R LTHs), BD-REs, magnetic tapes, floppy disks, magneto-optical data storage devices, optical data storage devices, hard disks, solid-state disks (SSDs), and any device capable of storing instructions, associated data, data files, and data structures, and providing a processor or computer with instructions, associated data, data files, and data structures such that the processor or computer may execute the instructions.

[00152] Examples described herein should be considered in a descriptive sense and not for purposes of limitation. Descriptions of features or aspects within each example should be considered as available for other similar features or aspects in other examples. While examples have been described with reference to the figures, various changes in form and details may be made therein without departing from the spirit and scope as defined by the following claims.

WHAT IS CLAIMED IS:

1. A fax machine comprising:
 - a scanner;
 - a communication unit;
 - a user interface unit;
 - a processor; and
 - a memory to store instructions executable by the processor to:
 - receive, at the processor, first setting information to set confirmation of a reception state of a recipient of a first document through the user interface unit;
 - obtain first image data corresponding to the first document through the scanner, in response to a request of a first fax transmission operation; and
 - send, to a receiving fax machine through the communication unit, first fax data including first setting data corresponding to the first setting information, and the first image data.
2. The fax machine of claim 1, further comprising instructions executable by the processor to:
 - receive from the receiving fax machine through the user interface unit, the first setting information including at least one of information on a method of receiving response information on a reception state for the first fax transmission operation and type information on the response information; and
 - record the first setting information in a message field within a pre-designated protocol.
3. The fax machine of claim 2, wherein the type information on the response information includes first type information to give a confirmation of the reception state for the first fax transmission operation, and second type information for giving, after signing, a confirmation of the reception state for the first fax transmission operation.
4. The fax machine of claim 2, wherein the response information on the reception state for the first fax transmission operation includes at least one of

information on whether or not reception of the first fax data is completed, information on a time at which the reception of the first fax data is completed, information on whether or not the first fax transmission operation is successful, and information on verification of a recipient of the first fax data.

5. The fax machine of claim 1, further comprising instructions executable by the processor to receive the response information on the reception state for the first fax transmission operation from the receiving fax machine through the communication unit, based on the first setting information.

6. The fax machine of claim 1, further comprising instructions executable by the processor to obtain email address information or fax number information to receive the response information on the reception state for the first fax transmission operation, based on a result of reading the first image data.

7. The fax machine of claim 1, further comprising instructions executable by the processor to, responsive to security being requested for the first document, receive second setting information for setting at least one of security level information on the first document and authentication information according to the security level through the user interface unit.

8. A fax machine comprising:
a scanner;
a communication unit;
a user interface unit;
a processor; and
a memory to store instructions executable by the processor to:
receive at the processor, from a sending fax machine through the communication unit, first fax data corresponding to a first fax transmission operation including first setting information to request a response with regard to a reception state of a recipient of a first document;
confirm a reception state of the first fax transmission operation; and
transmit response information on the first fax transmission operation through

the communication unit based on giving a response with regard to the reception state for the first fax transmission operation within the first setting information upon completion of the confirmation of the reception state for the first fax transmission operation.

9. The fax machine of claim 8, wherein:

the first setting information includes at least one of information on a method of transmitting the response information on the reception state for the first fax transmission operation and type information on the response information; and

the first setting information is stored in an optional message field within a pre-designated protocol.

10. The fax machine of claim 9, further comprising instructions executable by the processor to transmit the response information on the first fax transmission operation including a result of the reception state to the sending fax machine or a preset email address through the communication unit based on giving the response within the first setting information.

11. The fax machine of claim 9, wherein, responsive to the type information on the response information being first type information for giving a confirmation of the reception state for the first fax transmission operation, the instructions executable by the processor to:

display, responsive to the confirmation of the reception state being completed, a first user interface to receive the confirmation of the reception state for the first fax transmission operation through the user interface unit and obtain result information on the reception state for the first fax transmission operation based on the first user interface; or

transmit the response information on the first fax transmission operation including the result information on the reception state for the first fax transmission operation through the communication unit.

12. The fax machine of claim 9, wherein, responsive to the type information on the response information being second type information for giving,

after signing, a confirmation of the reception state for the first fax transmission operation the instructions executable by the processor to, upon completion of the confirmation of the reception state for the first fax transmission operation, display a second user interface to receive a signature for the first document through the user interface unit.

13. The fax machine of claim 12, further comprising instructions executable by the processor to:

obtain the first document corresponding to the first fax data; and

display the second user interface including an area within the first document that requests a first signature, through the user interface unit.

14. The fax machine of claim 12, further comprising instructions executable by the processor to request authentication information set within the first fax data responsive to security being requested for the first document.

15. An operation method of a fax machine, the operation method comprising:

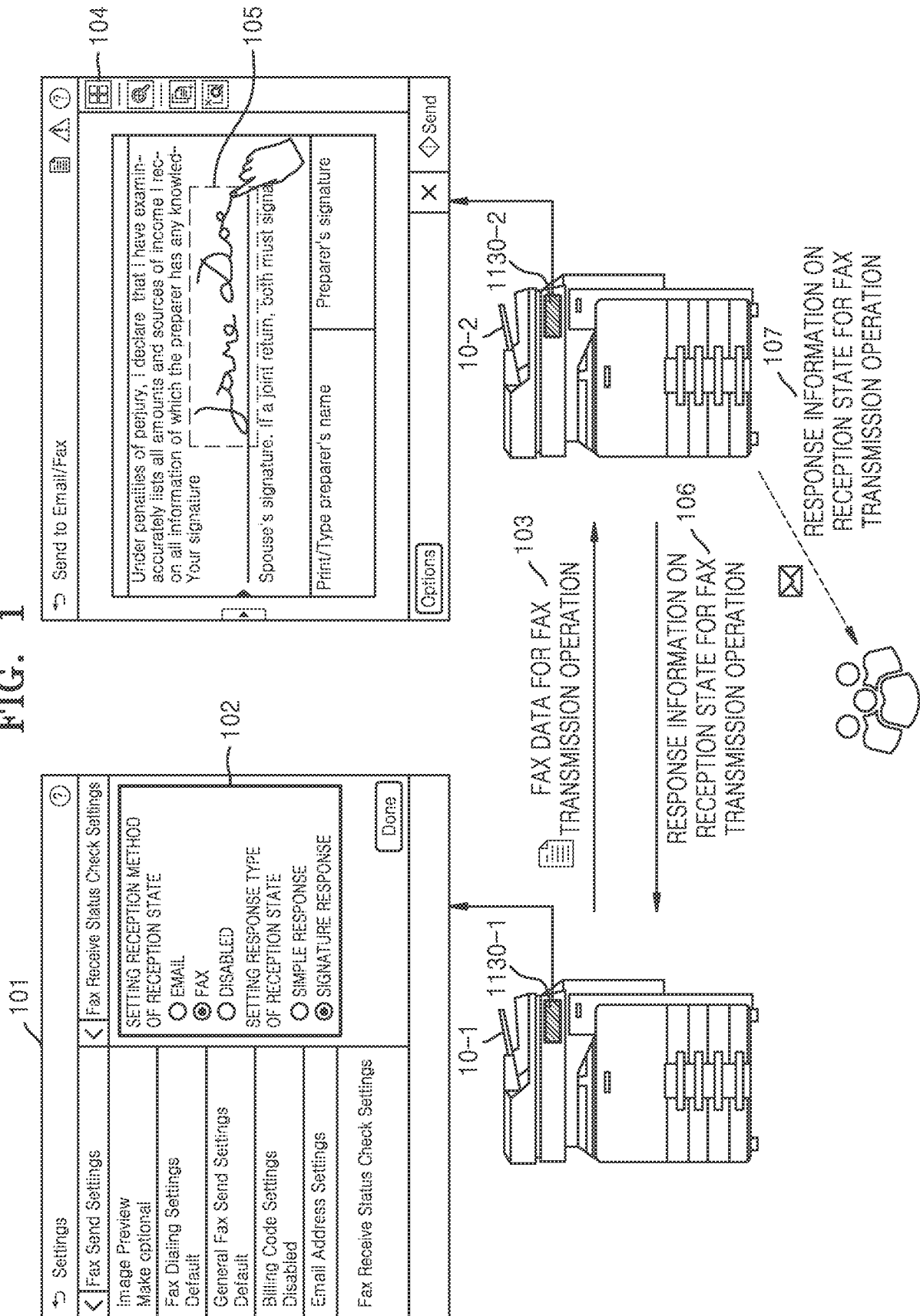
receiving first setting information to confirm a reception state of a recipient of a first document;

obtaining first image data corresponding to the first document, in response to a request of a first fax transmission operation;

transmitting, to a receiving fax machine, first fax data including first setting data corresponding to the first setting information and the first image data; and

receiving, from the receiving fax machine, response information on a reception state for the first fax transmission operation, based on the first setting information.

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FIG. 2

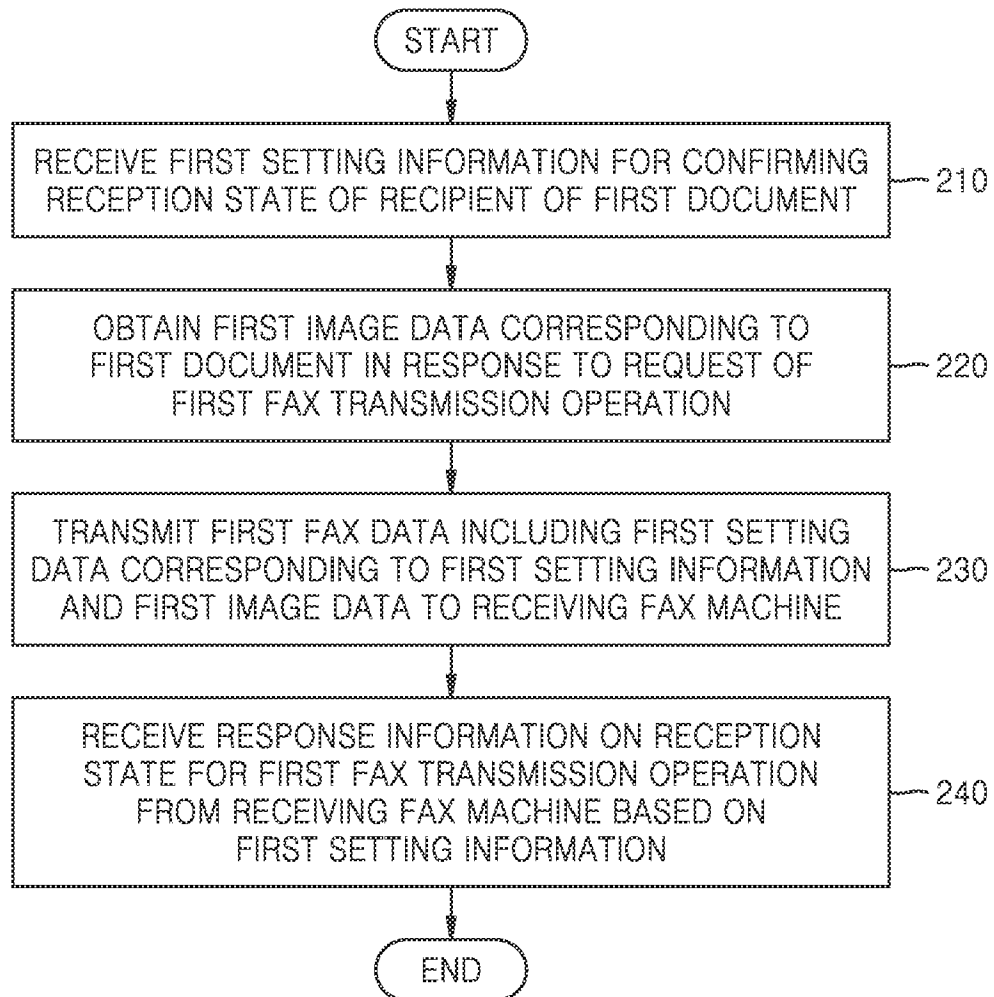


FIG. 3

Settings ?	
< Fax Send Settings	< Email Address Settings
Image Preview Make optional	Email Address
310 — Fax Dialing Settings Default	
General Fax Send Settings Default	
Billing Code Settings Disabled	
320 — Email Address Settings	
Fax Receive Status Check Settings	Done

FIG. 4A

↶ Settings ?	
⏪ Fax Send Settings	Use this menu to configure settings for sending faxes from the product.
Image Preview Make optional	
Fax Dialing Settings Default	
General Fax Send Settings Default	
Billing Code Settings Disabled	
Email Address Settings	
410 — Fax Receive Status Check Settings	

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FIG. 4B

Settings ?	
< Fax Send Settings	< Fax Receive Status Check Settings
Image Preview Make optional	☐ REQUEST FOR REPLY WITH RESPECT TO RECEPTION RESULT
Fax Dialing Settings Default	☒ REQUEST FOR REPLY AFTER SIGNING 421
General Fax Send Settings Default	☐ REPLY BY EMAIL
Billing Code Settings Disabled	☒ REPLY BY FAX FAX NUMBER 422
Email Address Settings	☐ DISABLED
Fax Receive Status Check Settings	Done

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FIG. 4C

Settings ?	
< Fax Send Settings	< Fax Receive Status Check Settings
Image Preview Make optional	431 SETTING RECEPTION METHOD OF RECEPTION STATE ☐ EMAIL ☒ FAX ☐ DISABLED SETTING RESPONSE TYPE OF RECEPTION STATE ☐ SIMPLE RESPONSE ☒ SIGNATURE RESPONSE
Fax Dialing Settings Default	
General Fax Send Settings Default	
Billing Code Settings Disabled	
Email Address Settings	
Fax Receive Status Check Settings	Done

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FIG. 4D

Settings ?	
< Fax Send Settings	< Fax Receive Status Check Settings
Image Preview Make optional	☐ REQUEST FOR REPLY WITH RESPECT TO RECEPTION RESULT
Fax Dialing Settings Default	☒ REQUEST FOR REPLY AFTER SIGNING
General Fax Send Settings Default	☒ Confidential Secure Code
Billing Code Settings Disabled	☐ REPLY BY EMAIL
Email Address Settings	☒ REPLY BY FAX
Fax Receive Status Check Settings	FAX NUMBER
	☐ DISABLED
	Done

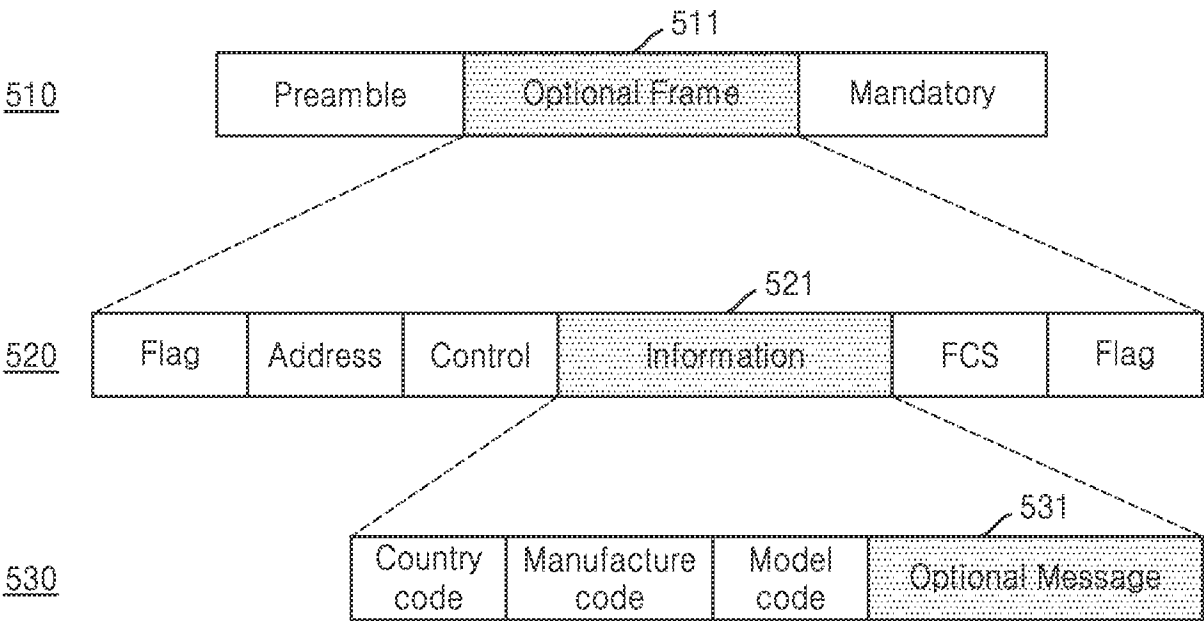
441

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FIG. 4E

Settings ?	
< Fax Send Settings	< Fax Receive Status Check Settings
Image Preview Make optional	451 SETTING SECURITY LEVEL ☐ Low ☐ Middle ☒ High SETTING AUTHENTICATION METHOD ☒ AUTHENTICATION NUMBER ☐ PASSWORD

FIG. 5



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FIG. 6A

FIG. 6A is a screenshot of a user interface for a Fax application. The interface is divided into a left sidebar and a main content area.

The left sidebar contains the following elements:

- A header bar with a back arrow and the text "Fax" and a help icon (?) on the right.
- A section titled "Fax Numbers" with a text input field containing "Normal Print" and a user icon button.
- A section titled "Quick Sets and Defaults" with "Load" and "Save" buttons, each followed by a right-pointing arrow.
- A section titled "Email Address" with a text input field.
- A small right-pointing arrow button.
- A footer bar with an "Options" button.

The main content area contains a large dashed box labeled 611. Inside this box is a scan icon (a rectangle with a triangle) and a hand cursor icon pointing at it. Below the icon, the text reads: "Touch to scan and preview." and "Set options marked with the triangle before scanning."

At the bottom right of the interface is a "Send" button with an information icon (i) to its left.

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FIG. 6B

The figure shows a software window titled "Fax" with a question mark icon in the top right corner. The window is divided into two main sections. The left section contains the following elements: a "Fax Numbers" label above a text input field; a "Quick Sets and Defaults" label above "Load" and "Save" buttons, each with a right-pointing arrow; an "Email Address" label above a text input field containing "xxx@aaa.com" (labeled 624); and a dashed rectangular dialog box (labeled 623) with the text "EMAIL ADDRESS HAS BEEN EXTRACTED FROM SCANNED DOCUMENT" and "WOULD YOU LIKE TO RECEIVE EMAIL CONFIRMING FAX RECEPTION STATE TO EXTRACTED EMAIL ADDRESS?", followed by "YES" and "NO" buttons. The right section (labeled 621) contains a large rectangular area with a dashed border, where the email address "xxx@aaa.com" (labeled 622) is highlighted at the top, followed by several horizontal dashed lines. At the bottom of the window, there is an "Options" button on the left and a "Send" button with an information icon on the right.

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FIG. 6C

↶ Fax ⓘ

Fax Numbers

Quick Sets and Defaults

Load > Save >

Email Address

xxx@aaa.com

SECURITY-SENSITIVE INFORMATION
HAS BEEN DETECTED
FROM DOCUMENT

PRESS "options" TO SET SECURITY

xxx@aaa.com

Options ⓘ Send

631

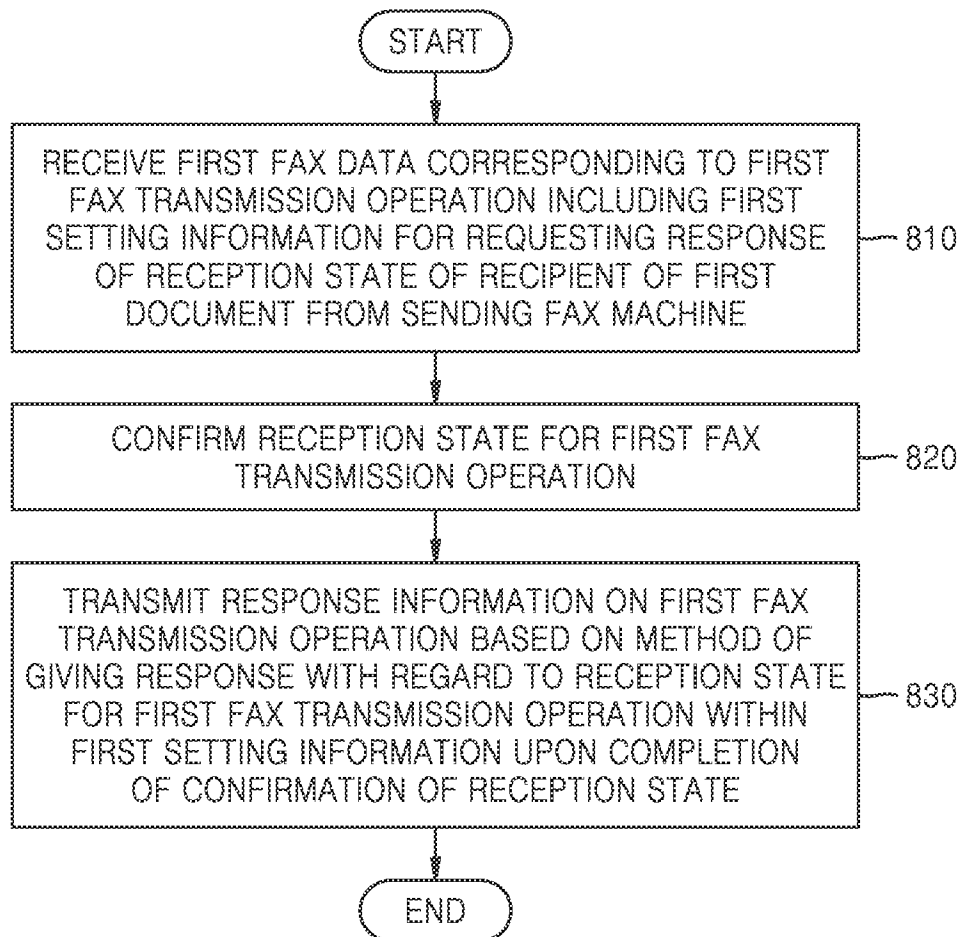
621

FIG. 7

Reports	
Fax Call Report	
· Date/Time	: May/5/2020 5:30:30 PM
· Fax Number	: 123
· Duration	: 00:10
· Pages	: 1
· Result	: Success

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FIG. 8



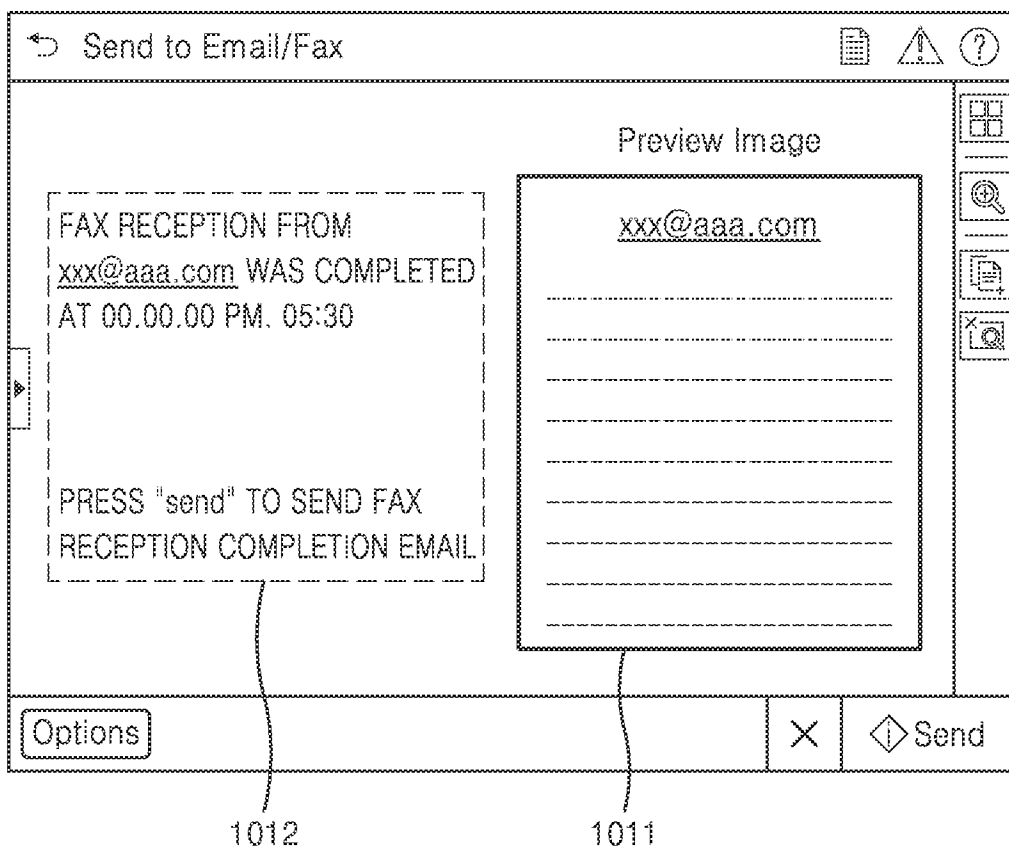
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FIG. 9

Settings ?	
< Fax Receive Settings	< Auto Notification
Fax Receive Setup Default	☐ Do not notify ☒ Notify when job completes 912
Fax Printing Schedule Always print	SMTP server configured 913
Blocked Fax Numbers 0 blocked	
Default Job Options >	
Auto Notification Notify when job completes 911	

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FIG. 10A



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FIG. 10B

The screenshot shows a window titled "Send to Email/Fax" with a toolbar containing icons for document, warning, and help. The main area contains a declaration: "Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. I declare under penalties of perjury that I am a duly licensed tax preparer (other than a non-certified preparer) who is not the preparer of this return, and I am not a partner, officer, or shareholder in the preparer's firm." Below this is a signature line with a handwritten signature "Jane Doe" and a label "Your signature". To the right of the signature line is a label "Spouse's signature. If a joint return, both must sign". Below the signature line are two fields: "Print/Type preparer's name" and "Preparer's signature". A hand icon is pointing to the "Spouse's signature" label. A label "1021" points to the hand icon. The bottom of the window has a toolbar with an "Options" button, a close button (X), and a "Send" button.

Send to Email/Fax

Under penalties of perjury, I declare that I have examined this return and accompanying schedules and statements, and to the best of my knowledge and belief, they are true, correct, and complete. I declare under penalties of perjury that I am a duly licensed tax preparer (other than a non-certified preparer) who is not the preparer of this return, and I am not a partner, officer, or shareholder in the preparer's firm.

Your signature

Jane Doe

Spouse's signature. If a joint return, both must sign

Print/Type preparer's name

Preparer's signature

Options

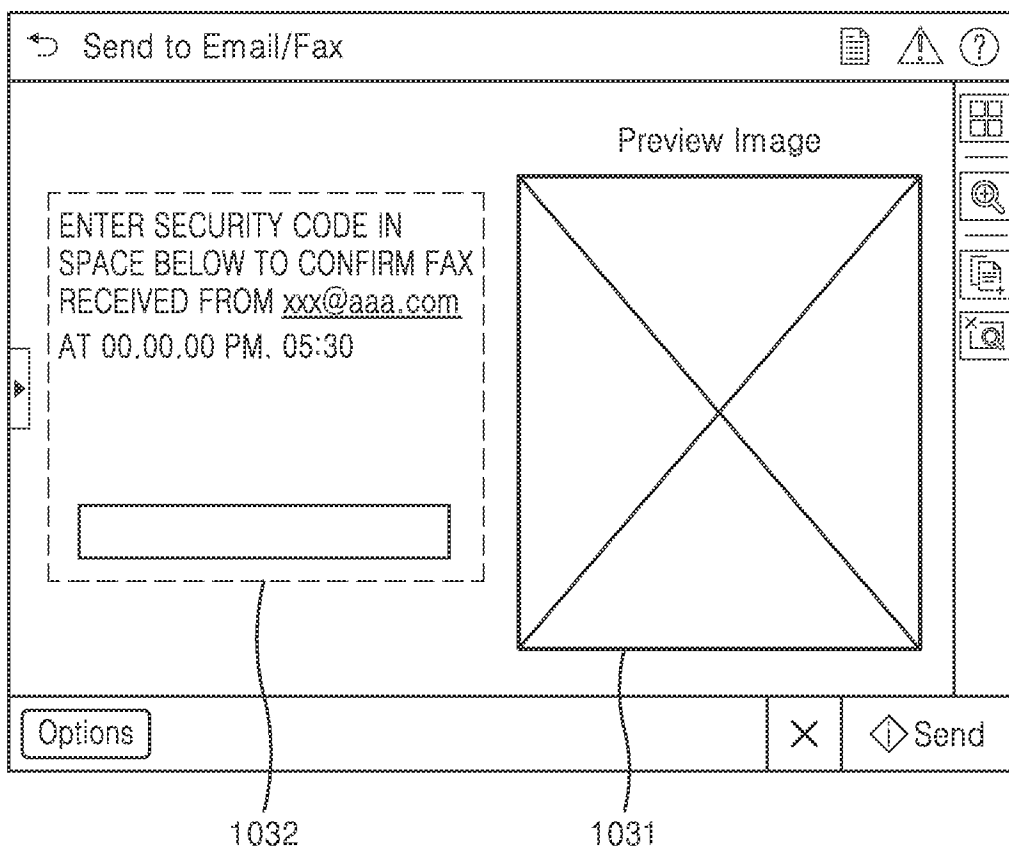
X

Send

1021

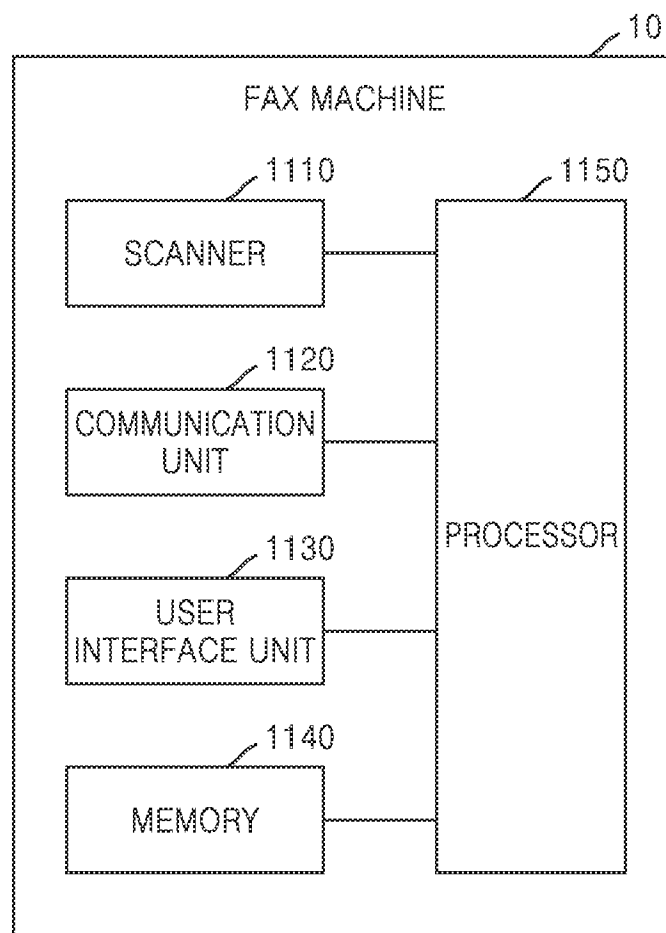
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FIG. 10C



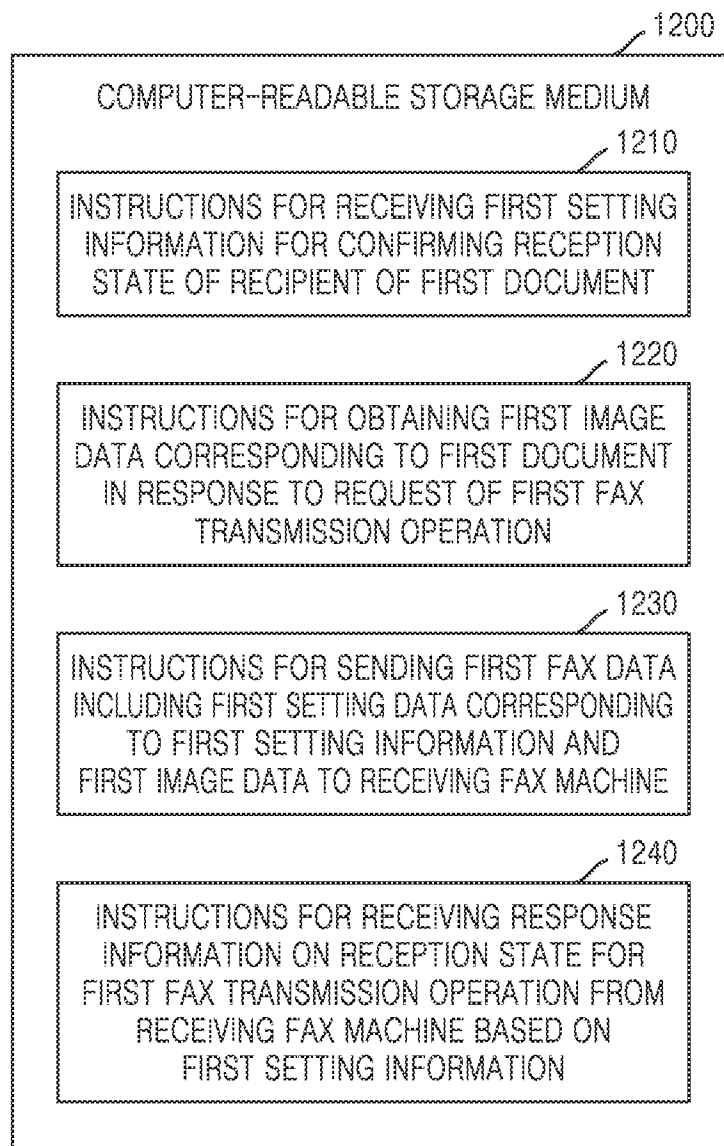
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FIG. 11



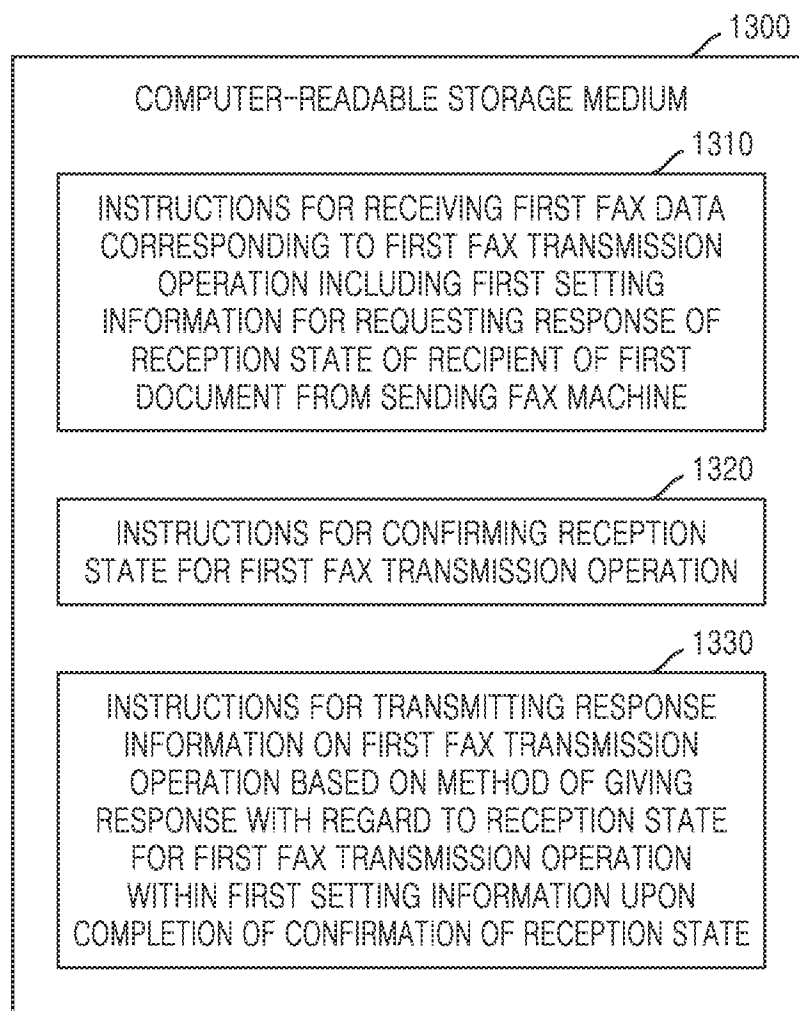
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FIG. 12



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FIG. 13



INTERNATIONAL SEARCH REPORT	International application No. PCT/US 2020/063014	
A. CLASSIFICATION OF SUBJECT MATTER H04N 1/21 (2006.01) G06T 7/10 (2017.01) G06F 3/048 (2013.01)		
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) G06N 1/00, G06F 3/00, 3/048, G06T 7/00, 7/10, H01F 38/14, H04N 1/21		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatSearch (RUPTO internal), USPTO, PAJ, K-PION, Esp@cenet, Information Retrieval System of FIPS		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2016/0241727 A1 (FUJI XEROX CO., LTD) 18.08.2016, [0025], [0040], [0043], [0050], [0057], [0058], [0119], [0125], [0130], [0133], [0146], claims 1, 4	1, 2, 4-6, 8, 15
Y		3, 7, 9-14
Y	JP 2005027343 A (MICROSOFT CORP) 27.01.2005, [0038], [0059], [0071], [0083], [0333], [0397], [0398], claim 1, fig. 19	3, 7, 9-14
A	US 2013/0038137 A1 (CANON KABUSHIKI KAISHA) 14.02.2013	1-15
A	US 2006/0209333 A1 (YOSHIAKI TAKIDA) 21.09.2006	1-15
☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.		
*	Special categories of cited documents:	“A” document defining the general state of the art which is not considered to be of particular relevance “D” document cited by the applicant in the international application “E” earlier document but published on or after the international filing date “L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) “O” document referring to an oral disclosure, use, exhibition or other means “P” document published prior to the international filing date but later than the priority date claimed “T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention “X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone “Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art “&” document member of the same patent family
Date of the actual completion of the international search 05 March 2021 (05.03.2021)		Date of mailing of the international search report 18 March 2021 (18.03.2021)
Name and mailing address of the ISA/RU: Federal Institute of Industrial Property, Berezhkovskaya nab., 30-1, Moscow, G-59, GSP-3, Russia, 125993 Facsimile No: (8-495) 531-63-18, (8-499) 243-33-37		Authorized officer V. Zaharov Telephone No. 499-240-60-15