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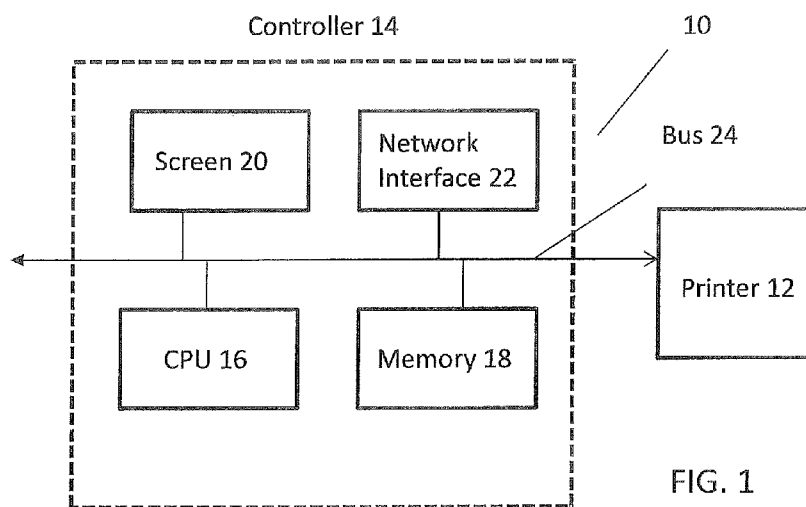
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(54) Title: SYSTEM FOR CREATING AND/OR EDITING A CODE



(57) Abstract: A system for creating and/or editing a code for an ink jet printer includes a display screen. A plurality of icons is displayed on the screen. Each icon corresponds to an editable field of a printable code. A plurality of menu items is displayed on the screen. Each menu item corresponds to a property of one or more of the editable fields of the printable code. The printable code includes a lot code or a batch code.

SYSTEM FOR CREATING AND/OR EDITING A CODE

BACKGROUND

[0001] The present disclosure relates to a system for creating and/or editing a code for an industrial printer.

[0002] In ink jet printing, printing is accomplished without contact between the printing device and the substrate on which the printed characters are deposited. Briefly described, ink jet printing involves projecting a ink droplets to a surface and controlling the direction of the stream, e.g., electronically, so that the droplets are caused to form the desired printed image on that surface. This technique of noncontact printing is well suited for application of characters or decorative marks onto a variety of surfaces including porous and non-porous surfaces.

[0003] One of the most common forms of inkjet for marking products in production is CIJ (continuous ink jet) that includes single, multiple, and array-nozzle printers. Other types of inkjet printing include drop-on-demand, thermal transfer overprinting, and thermal inkjet printing. Other forms of marking include laser marking, which uses a laser to burn, etch, ablate, or otherwise mark a surface.

[0004] These industrial printing technologies are commonly used to provide a code on an item, especially consumer items such as food products. By way of example, a can of soup will commonly include a code which provides information such as the date of production, the expiration date, an indication of where the can was produced, a lot or batch code, and the like. Printers need to include some mechanism for allowing the user to specify what sort of code is to be marked on the items by the printer. Although a variety of such code creation or editing solutions exist, they are often difficult to use, or set up in such a way that they are prone to errors. Such difficulties waste a user's time, and errors can result in scrapped products or having to shut down the manufacturing line.

BRIEF SUMMARY

[0005] The present disclosure provides a system for creating and/or editing a code for an industrial printer, which can also be referred to as a message editor or a

code builder. In particular, the system provides an easy to use system for creating and editing lot or batch codes, as they are known in the art.

[0006] In one aspect, a system for creating and/or editing a code for a printer includes a display screen. A plurality of icons is displayed on the screen. Each icon corresponds to an editable field of a printable code. A plurality of menu items is displayed on the screen. Each menu item corresponds to a property of one or more of the editable fields of the printable code. The printable code includes a lot code or a batch code.

[0007] In another aspect, a system for creating and/or editing a code for an industrial printer includes a display screen, a printable code displayed on the screen upon creation and/or editing the code, and a plurality of icons displayed on the screen. Each icon corresponds to an editable field of the printable code. The icons are selectable by a user to determine which editable fields are included in the printable code. A plurality of menu items are displayed on the screen, wherein each menu item corresponds to a property of one or more of the editable fields of the printable code. Each menu item can be selected by a user to change properties of an editable field. The printable code includes a lot code or a batch code. The system is in electronic communication to an industrial printer operable to print the printable code onto a substrate.

[0008] In another aspect, a method of creating and/or editing a code for an ink jet printer includes displaying a plurality of icons on a screen. Each icon corresponds to an editable field of a printable code. A plurality of menu items is displayed on the screen. Each menu item corresponds to a property of one or more of the editable fields of the printable code. The printable code is displayed on the screen.

[0009] In another aspect, a method of creating and/or editing a code for an industrial printer includes displaying a plurality of icons on a screen, where each icon corresponds to an editable field of a printable code; displaying a plurality of menu items on the screen, wherein each menu item corresponds to a property of one or more of the editable fields of the printable code; selecting icons to determine which editable fields are included in the printable code; selecting a menu item to change a property of the corresponding field of the printable code; displaying the printable code on the screen, wherein the displayed printable code changes dynamically in

response to changes in the editable fields of the printable code; and sending commands to print the printable code on a package with an industrial printer.

[0010] The foregoing paragraphs have been provided by way of general introduction, and are not intended to limit the scope of the following claims. The presently preferred embodiments, together with further advantages, will be best understood by reference to the following detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a schematic showing an embodiment of a printing system.

[0012] FIG. 2 is a schematic showing a portion of a menu structure.

[0013] FIG. 3 shows an embodiment of a tools screen.

[0014] FIG. 4 shows an embodiment of an add field screen.

[0015] FIG. 5 shows an embodiment of a code builder field screen in a first configuration.

[0016] FIG. 6 shows an embodiment of a code builder field screen in a second configuration.

[0017] FIG. 7 shows an embodiment of a code builder field screen in a third configuration with icon in transit.

[0018] FIG. 8 shows an embodiment of a code builder field screen in a fourth configuration after icons are moved.

[0019] FIG. 9 shows an embodiment of a code builder field screen in a fifth configuration with one icon inactive.

[0020] FIG. 10 shows a time format selection screen.

[0021] FIG. 11 shows a Julian day format selection screen.

[0022] FIG. 12 shows a factory reference text editor.

[0023] FIG. 13 shows a year format selection screen.

[0024] FIG. 14 shows a line reference text editor.

[0025] FIG. 15 shows separator selection screen.

[0026] FIG. 16 shows a text field text editor screen.

[0027] FIG. 17 shows a selection screen for selecting the text field to be user editable.

[0028] FIG. 18 shows a second embodiment of a code builder field screen.

[0029] FIG. 19 shows the second embodiment of a code builder field screen in a first configuration.

[0030] FIG. 20 shows the second embodiment of a code builder field screen in a second configuration.

[0031] FIG. 21 shows the second embodiment of a code builder field screen in a third configuration.

[0032] FIG. 22 shows the second embodiment of a code builder field screen in a fourth configuration.

[0033] FIG. 23 shows the second embodiment of a code builder field screen with an icon in transit.

[0034] FIG. 24 shows the second embodiment of a code builder field screen after icons are moved.

[0035] FIG. 24 shows the second embodiment of a code builder field screen after an icon is removed.

[0036] FIG. 25 shows a third embodiment of a code builder field screen for printing barcodes.

DETAILED DESCRIPTION

[0037] The invention is described with reference to the drawings in which like icons are referred to by like numerals. The relationship and functioning of the various icons of this invention are better understood by the following detailed description. However, the embodiments of this invention as described below are by way of example only, and the invention is not limited to the embodiments illustrated in the drawings.

[0038] The present disclosure provides a system for creating and/or editing a code for printer (especially an ink jet printer), which can also be referred to as a message editor or a code builder. In particular, the system provides an easy to use system for creating and editing lot or batch codes, as they are known in the art, for printing via an industrial printer on a package. The system provides a series of screens which allows a user to create jobs for the printer which can then be printed

onto packaging. Different types of fields can be added to the job, including dates, times, lot codes, counters and text.

[0039] FIG. 1 shows an embodiment of a printing system 10. The system includes printer 12 (e.g. the portion that prints the code on an object, which is an industrial printer) and controller portion 14. The printer 12 may be any suitable type of industrial printer, including continuous inkjet, drop-on-demand, thermal inkjet, thermal transfer overprinter, or laser marking device. The system is especially useful for a continuous inkjet printer. The controller portion 14 typically includes a CPU 16, memory 18, interface or touchscreen 20, and network interface 22. CPU 16 is configured to read and execute instructions stored in memory 18, which may include volatile memory (which may take the form of a random access memory). The volatile memory stores instructions for execution by the CPU and data used by those instructions. For example, in use, an image to be printed may be stored in the volatile memory. The memory 18 may also include non-volatile storage. The interface 20 provides both a display and preferably a source of input by functioning as a touchscreen. Alternatively, the screen may provide a display only and inputs may be provided by a keyboard, mouse, or other input devices as known in the art (not shown). A network interface 22 may be provided to connect the controller 16 to a network so as to receive and transmit data from and to other computing devices. The CPU 16, memory 18, screen 16, and network interface 22, are connected together by a bus 24.

[0040] FIG. 2 shows a flow chart for the menu structure for one embodiment of the code builder. The controller for the printer will typically have a variety of features, many of which will not be discussed herein. In one embodiment, the system includes a tools feature 31, which may include setup 32, diagnostics 33, database 34, and message editor 35. When the user selects the message editor 35, a further selection may be presented of date code 36, lot code 37, counter 38, and free text 39. The present disclosure is primarily related to the functions of the lot code editor.

[0041] Various options for the display screen will now be discussed, which allow the convenient creation of a code for printing. FIG. 3 shows a 'Tools screen' 50 for a program for controlling an ink jet printer. The "Message Editor" 58 provides tools for a user to create and/or edit a message. Other options include Setup 52,

Diagnostics 54, Databases 56, and similar features. These other options are used for controlling other features relating to the operation of the printer, as known in the art.

[0042] FIG. 4 shows a Field Editor selection screen 60. Options include date code 62, time/lot code 64, counter 66, and free text 68. Each of these may provide a component of the printed code. For example, the date code 62 may provide a sell by date or a best by date. Additionally, the present system may be used in conjunction with Application Ser. No. 13/144,639, entitled “Method of Providing a Printed Date” and published as US20120017784A1, the contents of which are incorporated by reference. If the user selects the Time/Lot Code option, they are presented with the code builder screen shown in FIG. 5.

[0043] FIG. 5 shows a first embodiment of a basic code builder screen 70. The code builder screen 70 is used to create and/or edit the lot code portion of a code to be printed. As an overview, the screen 70 is the main screen where users can change the format or properties of the code. At the top of the screen 70 is a line of items and a preview of what the code will look like when printed. This preview is dynamic and will update after every change that is made to the properties of the code (e.g. changes to the editable fields of the code). Below this is a menu list of corresponding properties. Each of these properties can be selected, allowing the user to change the values of each part of the code. The fields at the top can be reordered by dragging forwards/backwards through the list. This will also reorder the menu of properties below. Fields can be removed from a code by selecting the cross indicia on the particular icon. This marks the item as removed from the list and also removes any properties from the menu list below. The icon will then show a blue plus indicia.

[0044] In use, the code builder screen 70 is displayed on the interface 20 of the printing system 10. Screen 70 includes a plurality of icons 72 displayed. Each icon 72 corresponds to an editable field of a printable code. When creating a new code, a standard format is presented in the display of the plurality of icons 72, thus making it easier for the user and avoiding mistakes when creating or editing a code. The order of the icons 72 corresponds to the order of the fields provided in the printable code. A plurality of menu items 90 is also displayed on the screen display 70. Each menu item 90 corresponds to a property of one or more of the editable fields of the printable code.

[0045] Each icon 72 displays indicia 86 or 88 indicative of whether the icon is active or inactive, wherein if the icon is active the corresponding field is part of the printable code, and if the icon is inactive the corresponding field is not part of the printable code. In the embodiment shown in FIG. 5, an active indicia 86 is a red “x” 86 and an inactive icon is a blue “plus” 88. In accordance with nomenclature used for other display screen and computer software technology, this indicates to a user that if they want to delete or deactivate a field, they touch the red x, and if they want to activate or add a field, they touch the blue plus. A user can change an icon from active to inactive or from inactive to active by touching the indicia. The inactive icons remain displayed on the screen and include the indicia 88 indicative to a user that they are inactive.

[0046] FIG. 6 shows the display with all the icons 72 active. The icons 72 may be labeled Time 74, Day 76, Factory 78, Line 80, Year 82, and Text 84. By way of brief description, the time 74 indicates the time of day, day 76 indicates the day (such as the Julian day of the year), factory 78 indicates the name or other indication of the factory being printed it, line 80 indicates a particular production line within a factory, year 82 indicates the year, and text 84 indicates an additional text added by the user. The fields corresponding to these icons will be the ones most commonly used in creating at least the lot portion of a printable code, but of course other options are possible depending on particular applications.

[0047] Below the icon 72 are the menu items 90 that correspond to the field of the icons 72. These menu items include time format 92, a Julian day format 94, a factory reference 96, a line reference 98, a year format 100, a separator 102, a text 104, and an indication of whether the text is user editable 106. If there is insufficient space on the screen to show the entire menu list, a user can scroll down to view the remaining menu items.

[0048] The icons 72 may be automatically displayed when a user creates or edits a message, to provide an easy guide to the user. The printable code 112 is also displayed on the screen 70 upon creation and/or editing the code. Changes made to the order or content of the field corresponding to the icons 72 are automatically reflected in the printable code 112. Instructions 114 for creating and/or editing the code may be displayed on the screen.

[0049] As shown in FIGS. 6-9, the icons 72 may be reordered from a first location to a second location by touching an icon and placing it in the second location. For example, if the user wants to change the code 112 from time-day-factory-line-year-text to time-day-factory-year-line-text (i.e., switch the line and year fields), the user can move icon 82 with a finger (if a touchscreen) or the cursor (if other input device is used). FIG. 7 shows the year icon 82 overlapping the line icon 80 as the icons are in mid-switch. FIG. 8 shows the screen after the switch, with the positions of the icons 82 and 80 now switched. It can also be seen that the fields corresponding to the icons are now also switched in the displayed code 112 (i.e. the year “12” and the line “A” are now switched). Thus, the user can both easily arrange the order of the code field, and also see the code to be printed, very easily.

[0050] As previously described, each icon 72 displays indicia 86 or 88 indicative of whether the icon is active or inactive. Turning now to FIG. 9 in comparison to FIG. 6, it can be seen that the time icon 74 has been deactivated. Thus in FIG. 6 the time icon 74 includes an active indicia 86, while in FIG. 9 the time icon 74 includes an inactive indicia 88. A user can change an icon from active to inactive or from inactive to active by touching or otherwise activating the indicia. Additionally, the code 112 also only displays those fields that are active. For example, in comparing the codes 112 in FIG. 6 and FIG. 9, it can be seen that the element corresponding to the time (i.e. 01:40) is no longer present in the code 112 shown in FIG. 9.

[0051] The display screen may be laid out in any suitable way. In one embodiment, the plurality of menu items 90 is disposed below the plurality of icons 72. The preview 110 showing the current printable code sample 112 may be provided directly below the icons 72. The instructions 114 may be provided directly below the preview 110, with the menu list 90 below that. Of course, other layouts are possible and may be varied depending on the intended application or the preference of the user.

[0052] The menu items may be selected from a time format 92, a Julian day format 94, a factory reference 96, a line reference 98, a year format 100, a separator 102, a text 104, and an indication of whether the text is user editable 106. The displayed menu items correspond to the active icons, such that if an icon is inactive, the corresponding menu item is not displayed on the screen. For example, in

comparing FIGS. 6 and 9, since FIG. 9 has the Time field 74 inactive, the related menu item Time Format 92 is not displayed on the screen in FIG. 9. The menu items may provide either a selection for the formatting of the corresponding field, or a text editor to input or edit the text of the relevant field.

[0053] Turning now to a specific embodiment of the menu items, FIG. 10 shows a screen 120 with the options 122 for the Time Format. These include multiple options, such as hhmm (hour and minute expressed as two digits each) 124, which is selected (as shown by the check mark). A variety of possible options are of course possible. FIG. 11 shows a screen 130 with the options 132 for the Julian Day Format. Prior art equipment uses only one embodiment of Julian Day, with the number provided as the day of the year (starting at January 1st as 001). The present system provides four embodiments, as shown in Fig 11. For the option “In JulDay(60)” 136, then in a leap year Feb 29th is Day 60. For the option “In JulDay (366)” 134, then in a leap year Feb 29th is Day 366. This option provides that every year, the date is the same Julian Day regardless of whether it is a leap year. Options 138 and 139 are the same as 134, 136 above but also provide a leading zero to the Julian Day.

[0054] FIG. 12 shows a screen 140 with a text editor 142 and code field display area 144 for the Factory Reference. FIG. 13 shows a screen 150 with the options 152 for the Year Format. FIG. 14 shows a screen 160 with a text editor 162 code field display area 164 for the Factory Reference.

[0055] FIG. 15 shows a screen 170 with the options 172 for the Separator (this is used in correspondence with the time field). The colon option 174 is selected. FIG. 16 shows a screen 180 with a text editor 182 code field display area 184 for the text. FIG. 17 shows a screen 190 with the options 192 for the text being user editable, with the only options being No 194 or Yes 196.

[0056] The display screen 20 may be any suitable screen. In one embodiment, the screen is a touch screen, the touch screen allowing the user to touch the screen to select and move items. In another embodiment, the system includes a cursor for selecting and moving items.

[0057] It has been found that the present system has the several advantages. By presenting a typical code, best practice is encouraged and it easy for a user to build or modify a code. Additionally, a user can very quickly delete fields to provide only the

desired fields, for example, just the time field. The display 110 is effectively a preview (changing as the user changes the fields) of the printable code 112. A user can easily deactivate /delete the fields shown with the icons 72. If a user reorders a field the system will re-order the fields in the printable code; the preview and edit dialogues will re-order to match. The system will default to the same format as the previously created or edited message, since most users have a standard format. After each code field is created or saved, the settings used are also saved so that the next time the user adds a code, fewer steps are needed to build the code. Typically, users will use codes of a certain, repeated format.

[0058] A second embodiment 200 of a code builder screen is shown in FIGS. 18 and 19. The second embodiment is similar to the first embodiment 70 previously shown, but displays the code to be printed in a different manner. The display screen 200 may be laid out in any suitable way. In general, the screen 200 includes three areas: a pool area 202 that includes icons 214 corresponding to an editable field of a printable code, a builder area 204 that displays icons 214 that correspond to the individual components of the code to be printed, and a menu area 206 that includes menu items corresponding to a property of one or more of the editable field of the printable code. In one embodiment, the menu area 206 is disposed below the builder area 204. A preview 210 showing the current printable code 212 may be provided directly below the icons 214 in the builder area 204. Of course, other layouts are possible and may be varied depending on the intended application or the preference of the user.

[0059] When creating a new code, a plurality of icons 214 is displayed in the pool area 202, each icon 214 representing a field of an editable code. The system may display all possible available fields for the code as icons in the pool area 202. The icons 214 may be displayed in alphabetical or other desired order. As shown in FIG. 19, to create the code, the desired icons 214 are moved or otherwise disposed in the builder area 204. If no icons are in the builder area 204, the area may display the watermark notification such as the depicted “Drag Items Here.” The system may either begin with no code initially displayed in the builder area 204, or initially display a sample code in the builder area 204 to help provide the user with a template. The icons 214 may be placed in the builder area 204 by dragging and

dropping the desired icon 214, or by double clicking on the icon 214. The order of the icons 214 in the builder area 204 corresponds to the order of the fields provided in the printable code 212. A preview 210 of the printable code 212 is displayed below the icons 214. Thus, a user can see the actual code that will be printed.

[0060] After the first icon 214 (such as Time icon 216) is disposed in the builder area 204, a second (and further) icon may also be disposed in the builder area 204 to provide other fields for the printable code. As shown in FIG. 20, a Date icon 218 is added to the builder area 204 adjacent the Time icon 216. It can be seen that the date portion is then also displayed in the preview 210 as part of the code to be printed 212. Once the icons 214 are displayed in the builder area 204 the same icon may still remain in the pool area. However, in another embodiment, once the icon 214 is moved from the pool area 202 to the builder area 204, that icon 214 may be removed from the pool area 202 and no longer displayed in the pool area 202. In a further embodiment, once the icon 214 is moved from the pool area 202 to the builder area 204, that icon 214 is still displayed in the pool area 202 but the appearance of the icon 214 is changed (such as a different color, grayed out, or displayed as a watermark) so that the user can tell that it is in the pool area 202.

[0061] A plurality of menu items 220 is displayed in the menu area 206. Each menu item 220 corresponds to a property of one or more of the editable fields of the printable code. When a particular icon is highlighted or selected, such as the Time icon 216 in FIG. 19 or the Date icon 218 in FIG. 20, at least the menu items corresponding to that field are displayed in the menu area. Thus, in FIG. 19, the Time Format 232 and Separator 234 menu items (corresponding to the highlighted Time field) are displayed, and in FIG. 20, the Date Format 222, Separator 224, Default Date Offset 226, Minimum Date Offset 228, and Maximum Date Offset 230 menu items (corresponding to the highlighted Date field) are displayed on the screen. The user selects the desired menu item to edit or change that field.

[0062] In the depicted embodiment, only menu items corresponding to the selected or highlighted field are displayed. However, in other embodiments, all the menu items corresponding to any field in the builder area 204 may be displayed in the menu area 206.

[0063] As can be seen in FIG. 21, a third icon 238, Factory, can be added to the builder area 204. It can be seen that the factory portion is then also displayed in the preview 210 as part of the code to be printed 212. The corresponding menu item Factory Reference 240 is then displayed in the menu area 206. In FIG. 22, it can be seen that at any time, a user can edit any field corresponding to a portion of the printable code by clicking on or highlighting the corresponding icon, which will then cause the menu area 206 to display the menu items corresponding to that field, for editing or review. Thus, in FIG. 22, the Date icon 218 has been highlighted, thus the menu items displayed in the menu area 206 correspond to the Date field.

[0064] As shown in FIG. 23, the icons 214 may be reordered from a first location to a second location by touching an icon and placing it in the second location. For example, if the user wants to change the code 212 from time-date-factory to time-factory-date (i.e., switch the Date and Factory fields), the user can move icon 238 with a finger (if a touchscreen) or the cursor (if other input device is used). FIG. 23 shows the factory icon 238 overlapping the date icon 218 as the icons are in mid-switch. FIG. 24 shows the screen after the switch, with the positions of the icons 218 and 238 now switched. It can also be seen that the fields corresponding to the icons are now also switched in the preview of the code 212 (i.e. the factory “FACT1” and the Date “29/08/2013” are now switched). Thus, the user can both easily arrange the order of the code field, and also see the code to be printed, very easily, since the preview 210 of the code 212 changes dynamically with edits by the user.

[0065] Thus, it can be seen that a user selects which fields to put in the code by selecting the icon associated with the field and placing it in the builder area 204. Thus, in one embodiment, all the available icons are disposed in a first location (the pool area) of the screen, a subset of available icons is disposed in a second location (the builder area) of the screen, and the editable fields corresponding to icons in a second location (the builder area) of the screen are included in the printable code, and a user can select which editable field is included in the printable code by moving the corresponding icon to the second location. Fields may be removed from the code by dragging the corresponding icon outside of builder area 204. Thus, as shown on FIG. 25, the Date icon 218 has been dragged outside the builder area 204, thus removing the Date portion from the displayed code 212. After the desired code is

created or edited, the user may cancel by selecting the Cancel button 242 or save the code by selecting the Save button 244.

[0066] As shown in FIG. 26, the disclosed display and method can also be used to print barcodes, such as GS1 barcodes. It can be seen that the display is similar to that shown in FIG. 18, but different icons and fields are used. For example, the editable fields shown in the pool area 202 of FIG. 26 include SSCC, Case Code, Contents Code, Batch/Lot Code, Date of Production, Date of Packaging, Min Durability, and Max Durability, with each icon 250 representing a field of an editable code. The order of the icons 250 in the builder area 204 corresponds to the order of the fields provided in the printable code. Thus, in FIG. 26 the Case Code 252, Batch/Lot Code 254, and Date of Production 256 icons are displayed. A numerical preview 214 of the printable code 212 is displayed below the icons in the builder area 204, although it will be apparent that the actual code to be printed is a barcode and not just the numbers displayed in the preview 214. In other respects, the embodiment is the same as the previously described second embodiment of FIGS. 18-25.

[0067] Although various features are shown in various embodiments, features of each embodiment can be used in other embodiments even if not specifically shown. For example, the embodiment shown in FIG. 5 may be used with the bar codes shown in FIG. 25, and the format selection screens such as that shown in FIG. 10 can be used with the embodiment shown in FIG. 18. The above described systems may be implemented by any suitable method, such as using Component Object Model (COM) and Microsoft Windows, and any suitable programming language.

[0068] The described and illustrated embodiments are to be considered as illustrative and not restrictive in character, it being understood that only the preferred embodiments have been shown and described and that all changes and modifications that come within the scope of the inventions as defined in the claims are desired to be protected. It should be understood that while the use of words such as “preferable”, “preferably”, “preferred” or “more preferred” in the description suggest that a feature so described may be desirable, it may nevertheless not be necessary and embodiments lacking such a feature may be contemplated as within the scope of the invention as defined in the appended claims. In relation to the claims, it is intended that when words such as “a,” “an,” “at least one,” or “at least one portion” are used

to preface a feature there is no intention to limit the claim to only one such feature unless specifically stated to the contrary in the claim. When the language “at least a portion” and/or “a portion” is used the item can include a portion and/or the entire item unless specifically stated to the contrary.

Claims

What is claimed is:

1. A system for creating and/or editing a code for an industrial printer comprising:
 - a display screen;
 - a printable code displayed on the screen upon creation and/or editing the code;
 - a plurality of icons displayed on the screen, where each icon corresponds to an editable field of the printable code, and where the icons are selectable by a user to determine which editable fields are included in the printable code; and
 - a plurality of menu items displayed on the screen, wherein each menu item corresponds to a property of one or more of the editable fields of the printable code, and wherein each menu item can be selected by a user to change properties of an editable field,
 - wherein the printable code comprises a lot code or a batch code, and wherein the system is in electronic communication to an industrial printer operable to print the printable code onto a substrate.
2. The system of claim 1 wherein all the available icons are disposed in a first location of the screen, a subset of available icons is disposed in a second location of the screen, and the editable fields corresponding to icons in the second location of the screen are included in the printable code, and where a user can select which editable field is included in the printable code by moving the corresponding icon to the second location.
3. The system of claim 2 wherein the first location is disposed on a side portion of the screen and the second location is disposed on a top portion of the screen.
4. The system of claim 1 wherein each icon displays indicia indicative of whether the icon is active or inactive, wherein if the icon is active the corresponding editable field is part of the printable code, and if it is inactive the corresponding editable field is not part of the printable code.

5. The system of claim 4 wherein a user can change an icon from active to inactive or from inactive to active by touching the indicia.

6. The system of claim 4 wherein the inactive icons are displayed on the screen and comprise indicia indicative that they are inactive.

7. The system of claim 1 wherein the icons may be reordered from a first location to a second location by touching an icon and moving it to the second location.

8. The system of claim 1 wherein the editable field of each of the plurality of icons is selected from a year, a time, a line, a factory, a day, or a text.

9. The system of claim 1 wherein the plurality of menu items is disposed below the plurality of icons.

10. The system of claim 1 wherein the menu items are selected from a line reference, a time format, a Julian day format, a year format, a factory reference, a separator, a text, and an indication of whether the text is user editable.

11. The system of claim 1 wherein the menu items comprises a Julian day format, wherein the Julian day format may be selected from an option that provides the same Julian day for every date in a given year regardless of whether the year is a leap year.

12. The system of claim 1 wherein the displayed menu items correspond to the fields of the active icons, such that if an icon is inactive, the corresponding menu item is not displayed on the screen.

13. The system of claim 1 wherein an icon can be selected by a user, and wherein the displayed menu items correspond to the fields of the selected icon, such that if an icon is not selected, the corresponding menu item is not displayed on the screen.

14. The system of claim 1 wherein the screen is a touch screen, the touch screen allowing the user to touch the screen to select and move items.

15. The system of claim 1 further comprising a cursor for selecting and moving items.

16. The system of claim 1 where instructions for creating and/or editing the code are displayed on the screen.

17. A method of creating and/or editing a code for an industrial printer comprising:

displaying a plurality of icons on a screen, where each icon corresponds to an editable field of a printable code;

displaying a plurality of menu items on the screen, wherein each menu item corresponds to a property of one or more of the editable fields of the printable code;

selecting icons to determine which editable fields are included in the printable code;

selecting a menu item to change a property of the corresponding field of the printable code;

displaying the printable code on the screen, wherein the displayed printable code changes dynamically in response to changes in the editable fields of the printable code; and

sending commands to print the printable code on a package with an industrial printer.

18. The method of claim 17 wherein each icon displays indicia indicative of whether the icon is active or inactive, further comprising activating an indicia to make it part of the printable code.

19. The method of claim 17 further comprising activating the indicia by touching the indicia.

20. The method of claim 17 further comprising reordering an icon from a first location to a second location by touching the icon and moving it to the second location.

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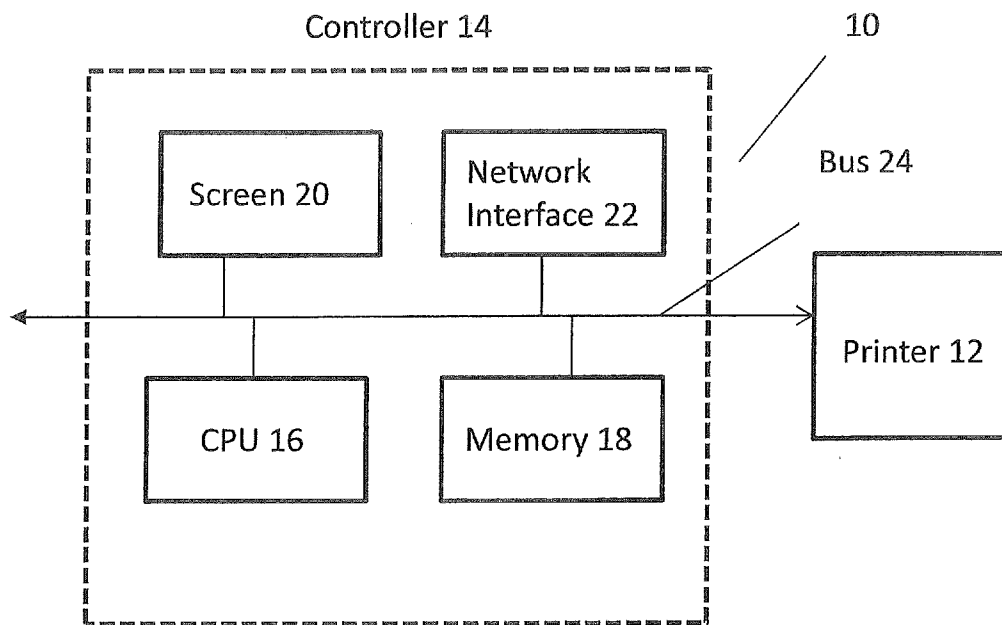


FIG. 1

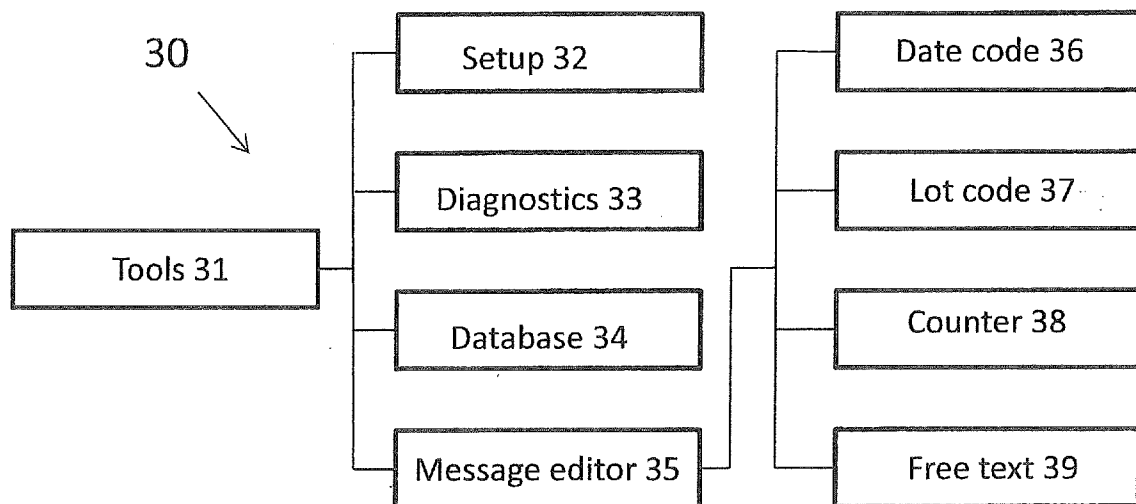


FIG. 2

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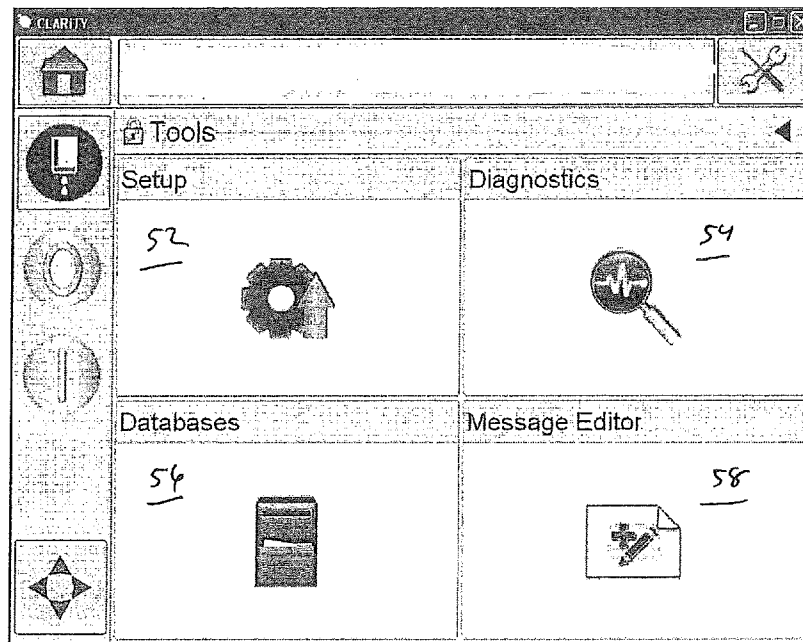


FIG. 3

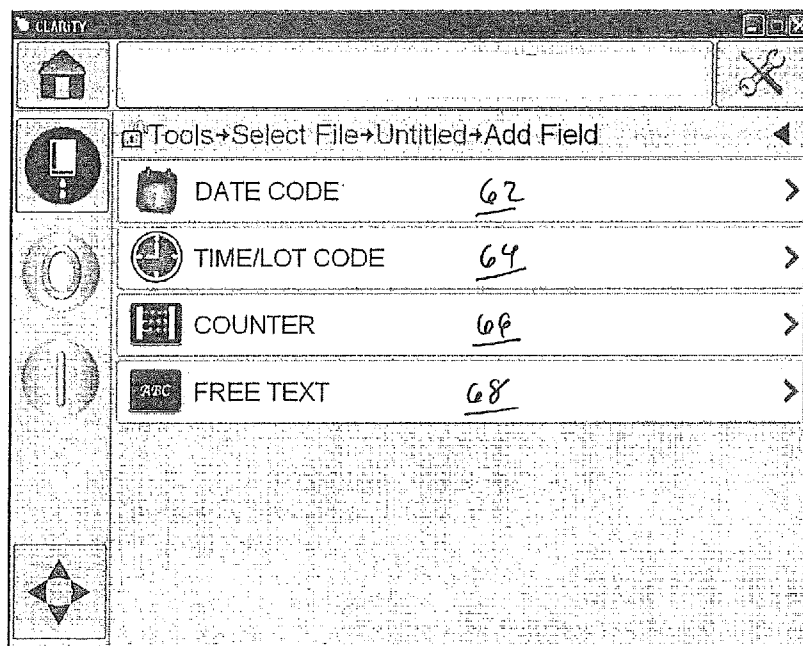
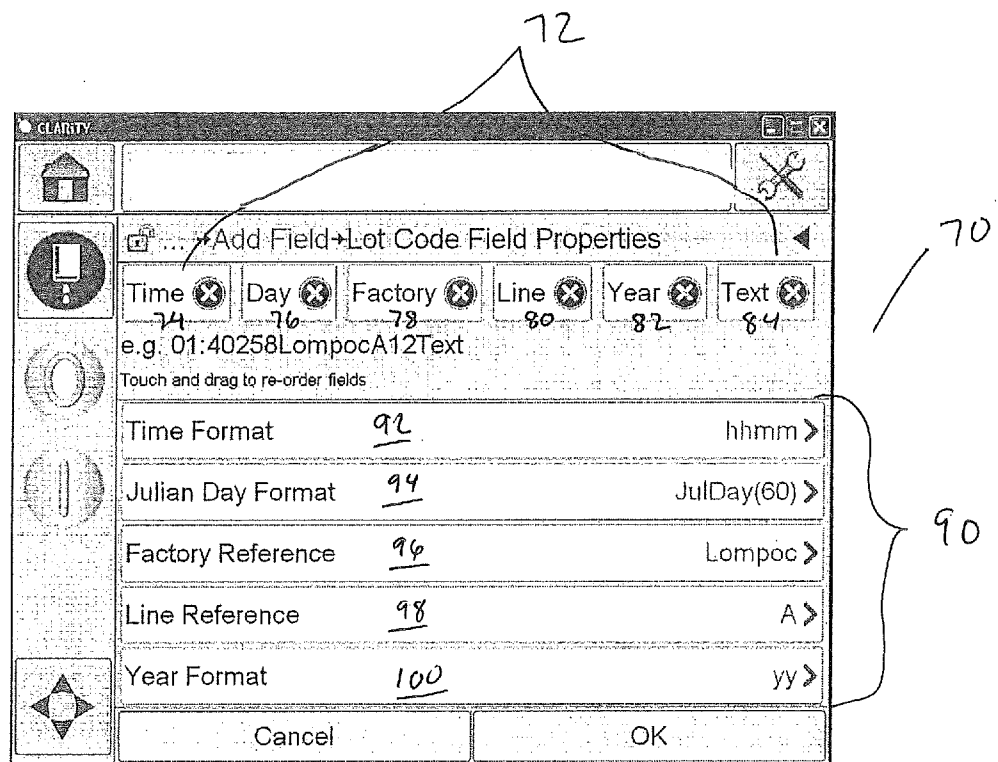
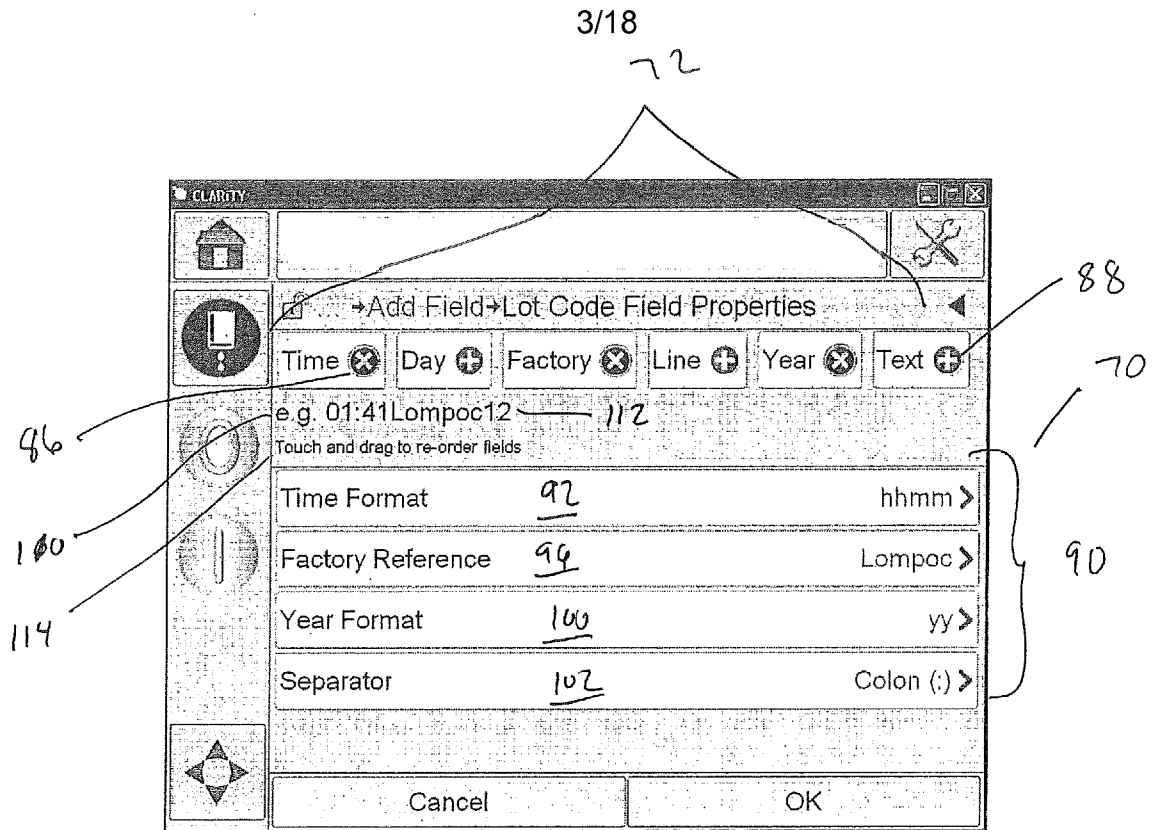


FIG. 4



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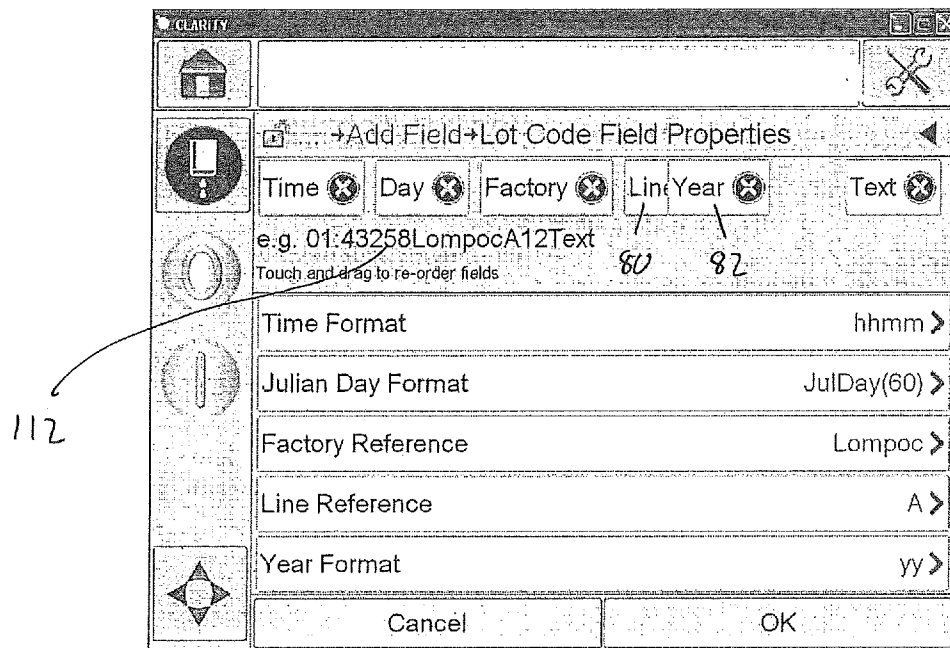


FIG. 7

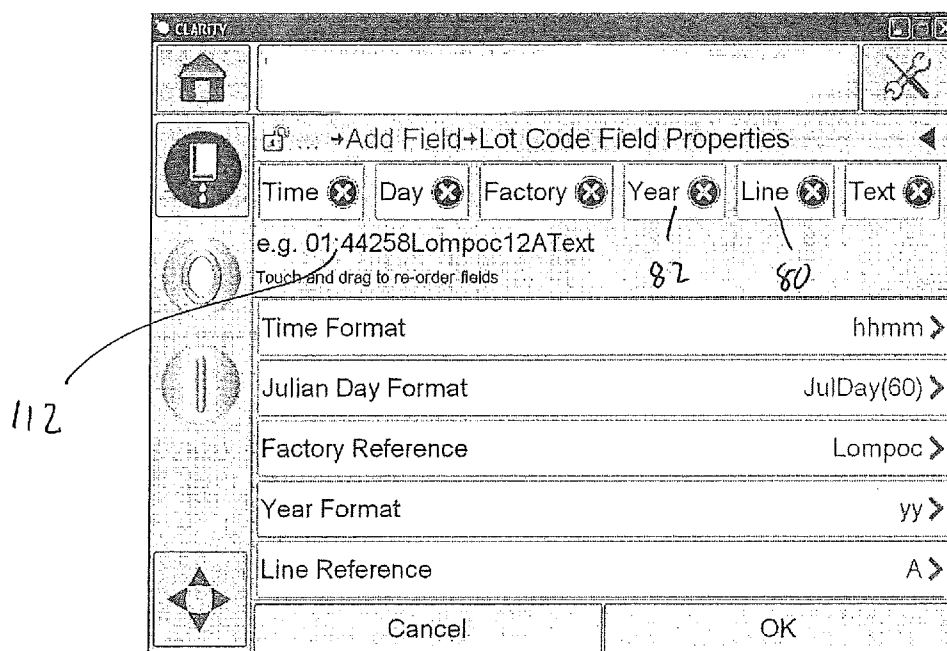


FIG. 8

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CLARITY

→ Add Field → Lot Code Field Properties

Time Day Factory Year Line Text

e.g. 258Lompoc12AText

Touch and drag to re-order fields

Julian Day Format 94 JulDay(60) >

Factory Reference 99 Lompoc >

Year Format 100 yy >

Line Reference 98 A >

Text 104 Text >

Cancel OK

FIG. 9

120

122

CLARITY

→ Lot Code Field Properties → Time Format

hh

✓ hhmm 12:44

hhmmam/pm

hhmma|p

hhmmss

hmm

hmss

ss

Cancel OK

FIG. 10

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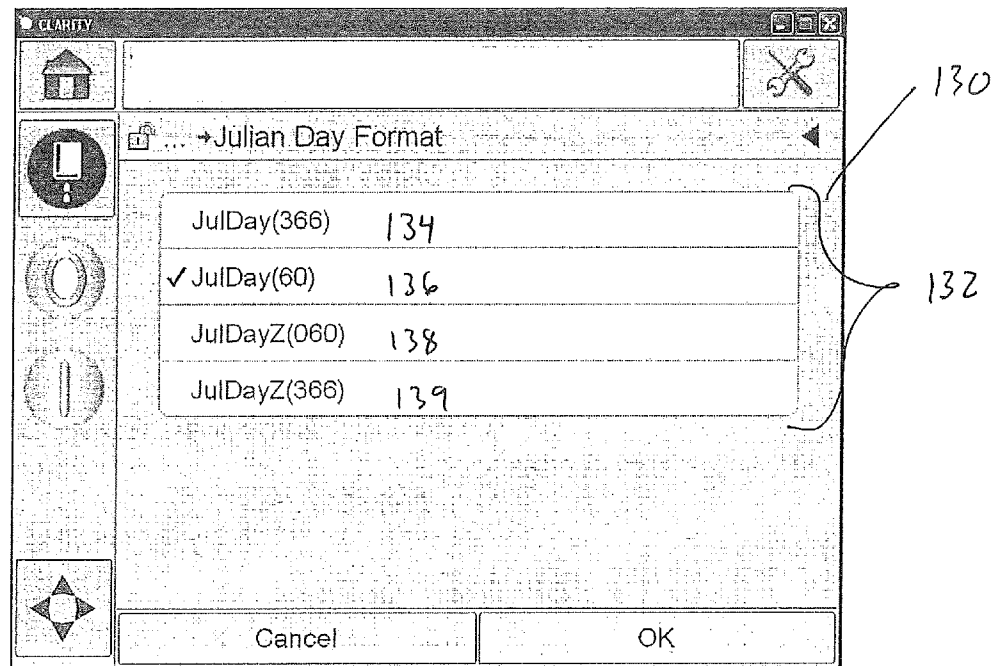


FIG. 11

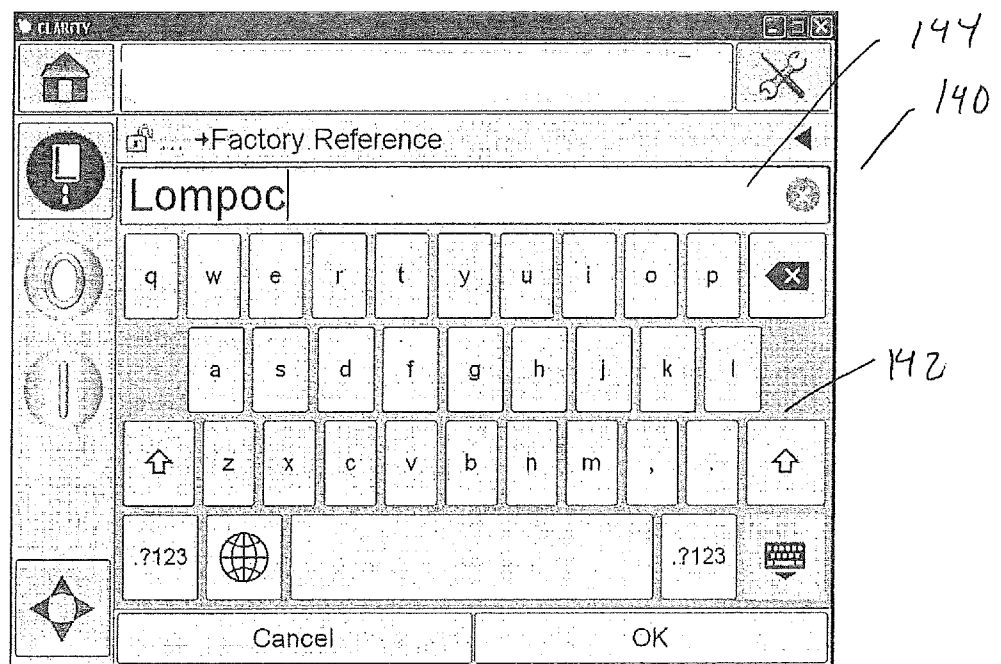


FIG. 12

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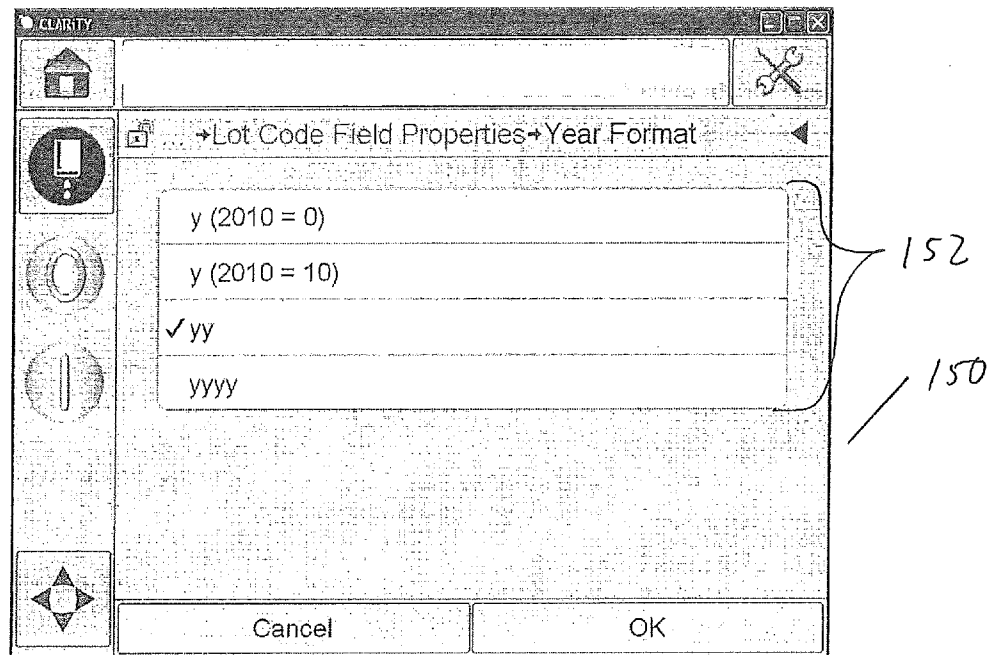


FIG. 13

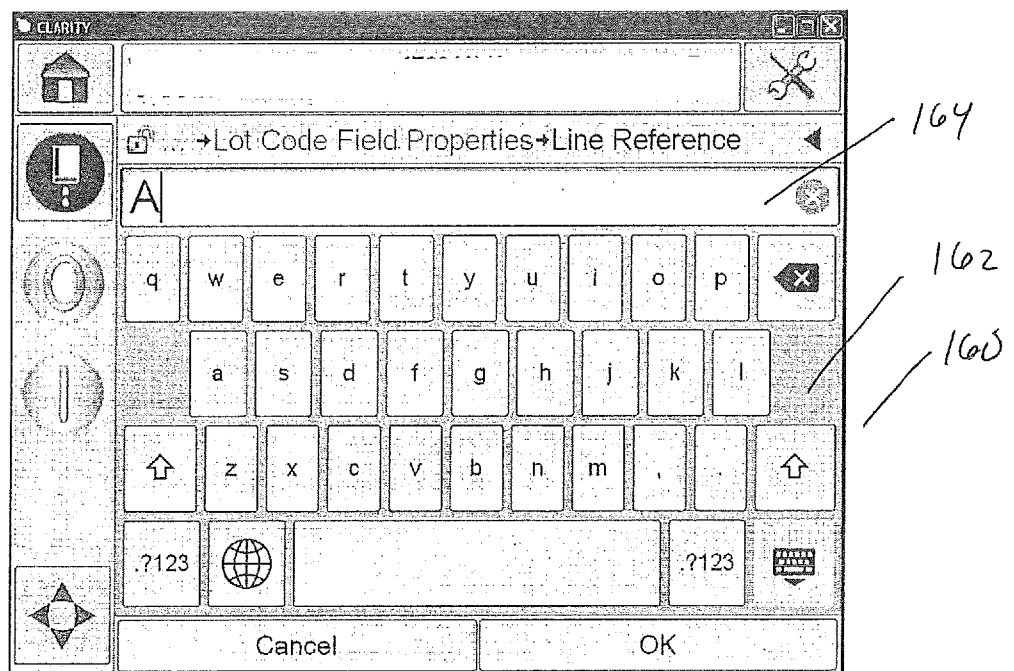


FIG. 14

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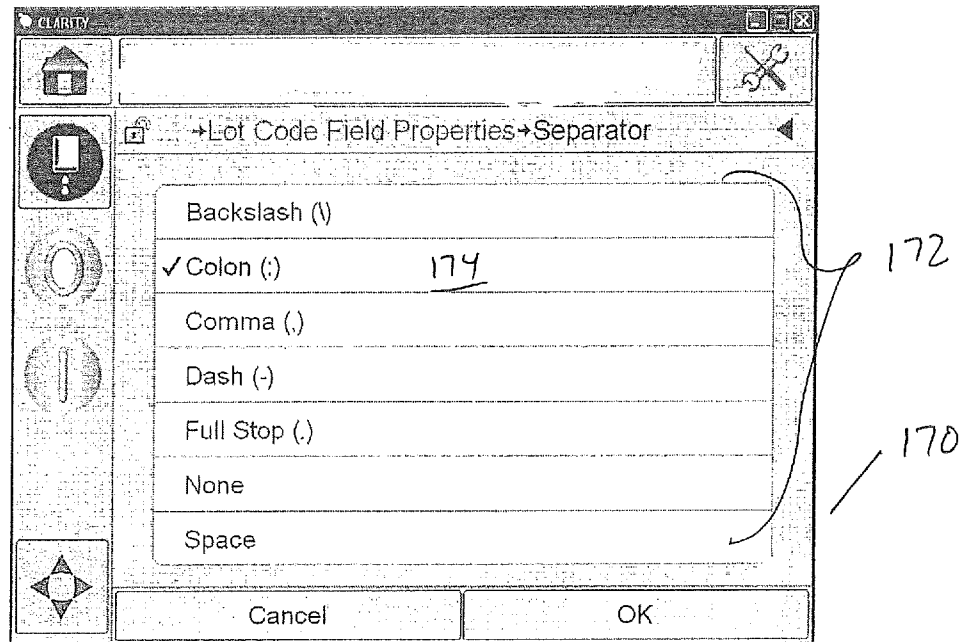


FIG. 15

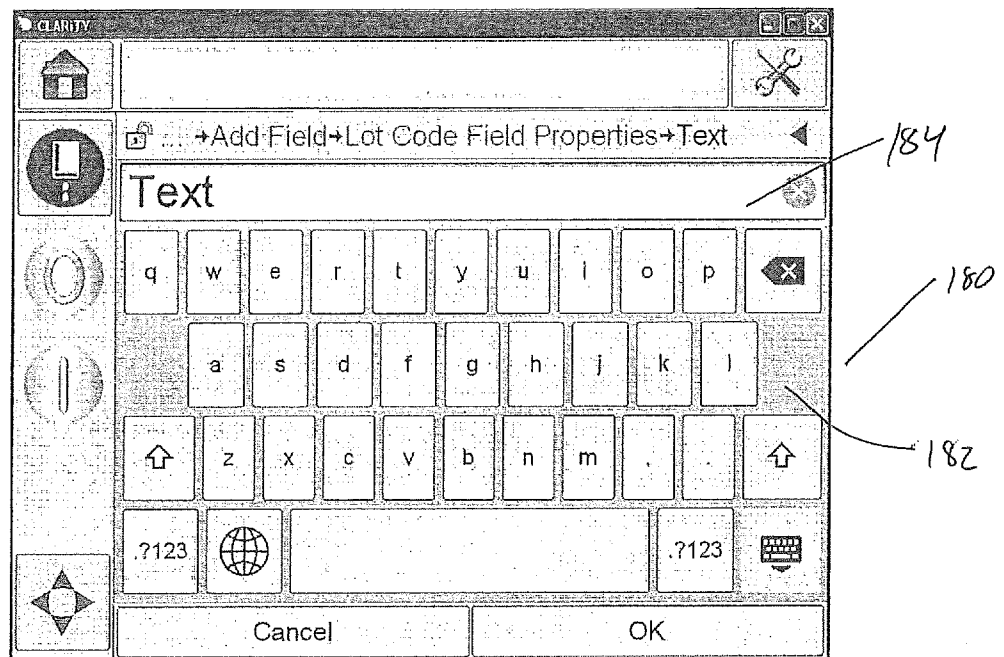


FIG. 16

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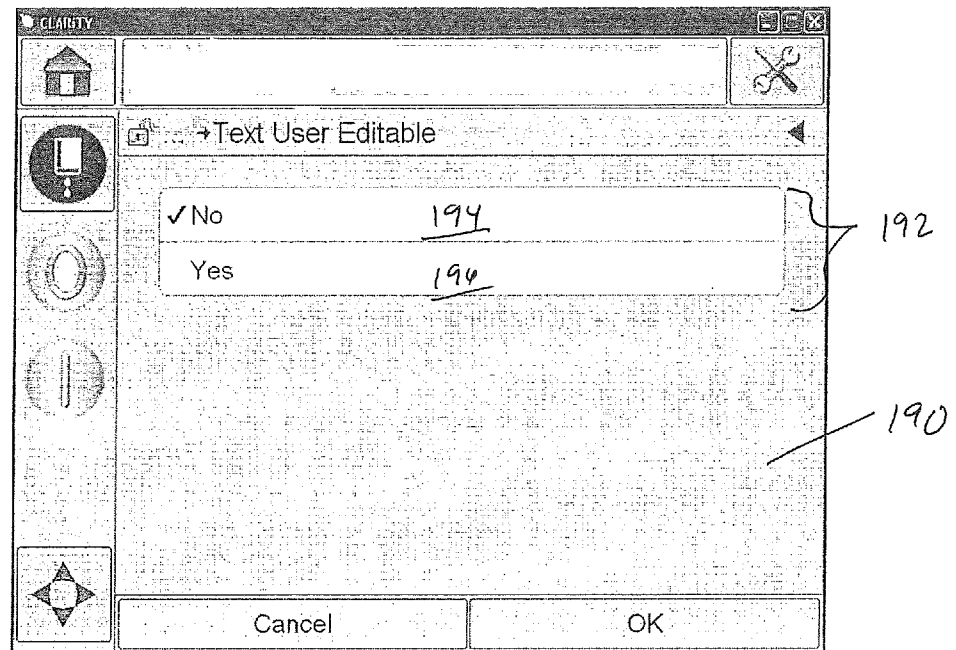


FIG. 17

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FIG. 18

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FIG. 19

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Time

17:26:45

Time Format

hh:mm:ss>

Separator

Colon

Day

Date

Month

Year

Time

Line

Factory

Text

Cancel

Save As...

12/18

FIG. 20

210

216 Time 17:26:4529/08/2013

218 Date

220

Date Format	222	ddMMyyyy	>
Separator	224	-	>
Default Date Offset	226	0	>
Minimum Date Offset	228	-2	>
Maximum Date Offset	230	5	>

Day

Date

Month

Year

Time

Line

Factory

Text

Cancel Save As...

FIG. 21

210

216

218

238

212

Time

17:26:4529/08/2013FACT1

Date

Factory

Factory Reference

240

FACT1

>

Day

Date

Month

Year

Time

Line

Factory

Text

Cancel

Save As...

FIG. 22 216 218 238

Time 17:26:4529/08/2013FACT1		Date Factory
Day	Date Format ddMMyy >	
Date	Separator - >	
Month	Default Date Offset 0 >	
Year	Minimum Date Offset -2 >	
Time	Maximum Date Offset 5 >	
Line		
Factory		
Text	Cancel Save As...	

FIG. 23

214 Time

218 Date

238 Factory

17:26:4529/08/2013FACT1 - 212

Factory Reference FACT1 >

Day

Date

Month

Year

Time

Line

Factory

Text

Cancel

Save As...

FIG. 24

216

Time

238

218

Date

17:26:45FACT129/08/2013 -212

Factory Reference

FACT1 >

Day

Date

Month

Year

Time

Line

Factory

Text

Cancel

Save As...

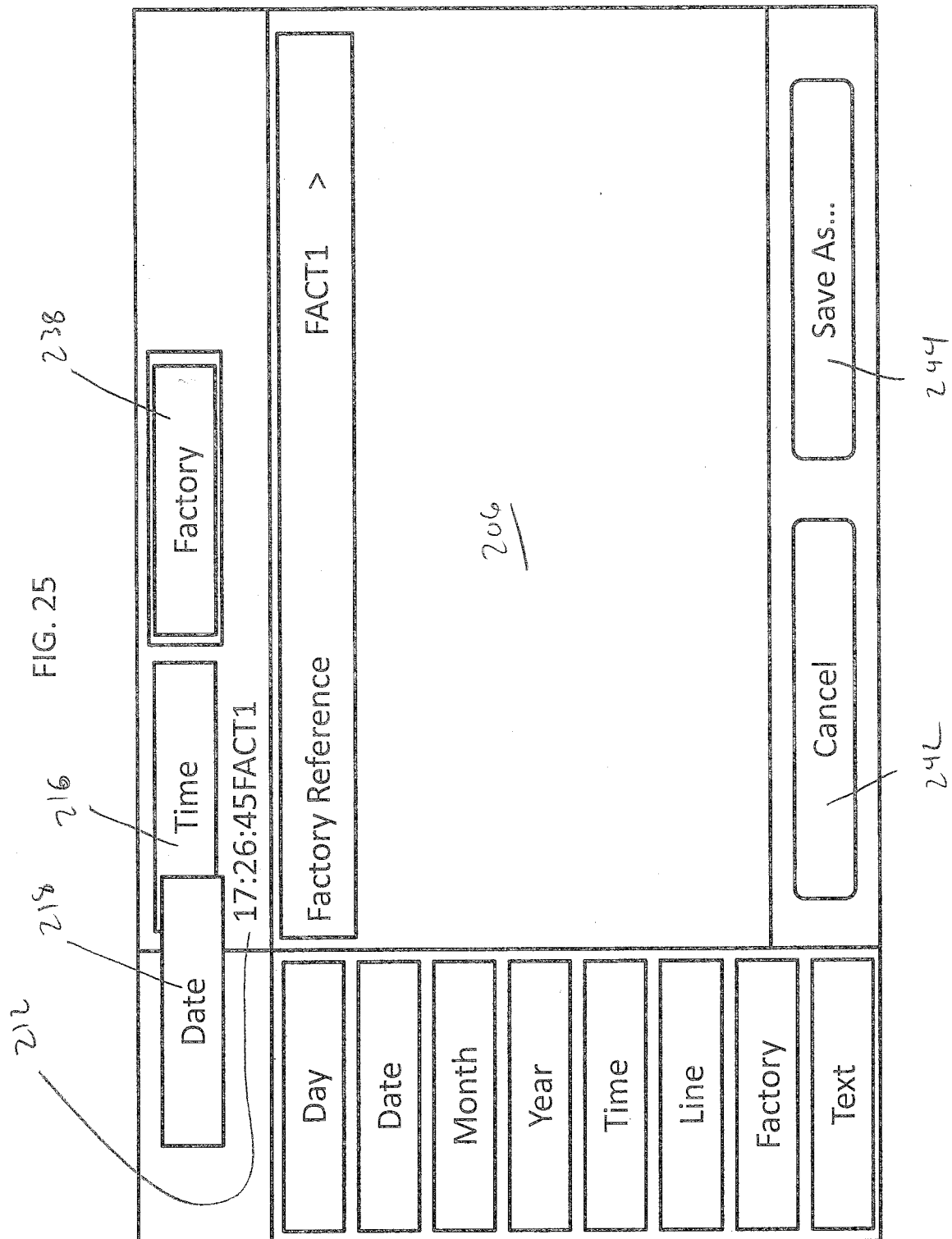


FIG. 26

00 - SCCC	01 - Case Code	10 - Batch/Lot Code	11 - Date of Production
	(01)12345678901234(10)1234(11)130829		
	Date Format YYMMDD >		
	User Data 130829 >		
	Type Current Date >		
	Cancel Save As...		