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(54) **Printing system for printing data including common and individual items on printing medium.**

(57) Visiting cards carried by businessmen and businesswomen in the same company contain common character items such as company name and address and individual character items such as personal name and position or title. The common character items have been printed on printing cards in a large quantities by an offset press or any other printing device. Data regarding the individual character items for many employees are separately inputted with a keyboard and stored in the lump in a memory. Data are sequentially read out from the memory to be given to a printer of thermal transfer recording type for setting the individual character items on the printing cards on which the common character items have been printed.

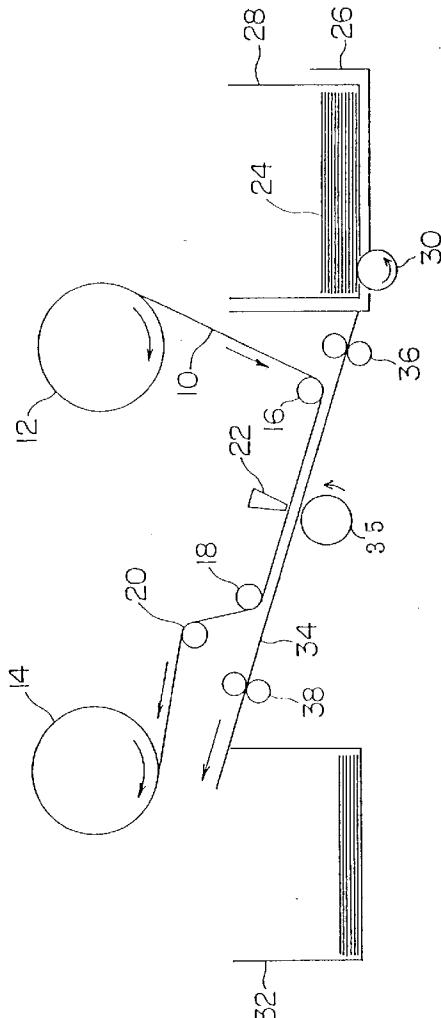


FIG. 2

BACKGROUND OF THE INVENTIONField of the Invention

The present invention relates to a printing system for printing data including common and individual items on a printing medium.

Prior Art

Most of businessmen and businesswomen carry about their own visiting cards or business cards which should be given to a person at the first meeting to say hello and introduce themselves to him or her.

On a visiting card many characters are printed in general by typographical or photographic printing method. Character items printed on the visiting card may include the owner's personal name, name, address, telephone and facsimile numbers of a company or firm, the owner's position or post in the company or firm.

Many persons in the employment of the same company respectively possess separately printed visiting cards. However, among the character items printed on their visiting cards, information regarding the company should be the same. Differently printed on each person's visiting cards are, in fact, only individual information including the personal name and their position or post in the company.

Since typographical or photographic printing will require expert skill and equipment, it is not advantageous to separately print the visiting cards of the employees in the same company which includes company's common information items and individual information items.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide a novel printing system capable of printing, at a low cost, character items including common items and individual items.

The printing system according to the present invention is particularly applicable to produce many kinds of visiting cards on which individual character items should be differently printed but which also contain items common to many possessors.

The most suitable application of the printing system of the present invention will be to produce at the same time visiting cards of substantially all of workers in the same company.

In order to accomplish the object, according to the present invention there is provided a printing system comprising printing common items on a printing medium by any printing method; inputting individual items to be printed on the printing medium with input means; and setting the individual items at predetermined blank areas on the printing medium with a prin-

ter of thermal transfer recording type in response to a print command signal from the input means.

The inputted individual items are preferably stored in the lump in a memory, which may be selectively or sequentially read out at any time to output the print command signal to the printer.

BRIEF DESCRIPTION OF THE DRAWINGS

10 Other objects and advantages of the invention will be understood from the following description when read in conjunction with the accompanying drawings in which :

15 Fig. 1 is a diagrammatic view showing the system arrangement according to a preferred embodiment of the present invention;

Fig. 2 is a diagrammatic view showing arrangement of a printer used in the system; and

20 Fig. 3 is a diagrammatic plan view showing an example of layout of character items on a visiting card.

DETAILED DESCRIPTION OF THE EMBODIMENTS

25 Referring to Fig. 1, a print system embodying the invention employs a word processor or computer which includes a keyboard 2 for inputting data regarding individual character items which should be printed

30 on a printing card of a given size and thickness. Data inputted by operation of the keyboard 2 are transmitted to a control unit (CPU) 1 and may be stored therethrough in a random access memory (RAM) 3. A display 4 is connected to CPU 1 to represent inputted and stored data.

35 There is also provided a read only memory (ROM) 5 which stores a layout program for suitable placement of the individual character items when printed in predetermined areas on the printing card by a printer of thermal transfer recording type 6 in response to a print command signal outputted from CPU 1.

40 The printer 6 is, by way of example, constructed as shown in Fig. 2. A continuous ribbon 10 of thermal transfer ink having width corresponding to a shorter side of a printing card 24 is unwound from a ribbon supply roller 12 and travels at a predetermined speed toward a rewind roller 14 when the rollers 12 and 14 are rotated in the same direction shown. Guide rollers 16, 18 and 20 are provided to assure proper plane of travel near a thermal head 22 which is movable in a direction normal to the plane of travel of the ribbon 10.

45 50 55 A stack of the printing cards 24 are stored in a stocker 28 detachably mounted within a box 26 fixed to the printer 6. One of the printing cards 24 positioned in the lowermost of the stack is in a frictional contact with a supply roller 30 of the printer 6 which is intermittently rotated in a direction shown in synchronism with transmission of the print command signal. Each

time the supply roller 30 is rotated, the lowermost positioned printing card 24 is supplied by a platen 35 from the stocker 28 on a plane of travel 34 which is slightly spaced apart from, and substantially in parallel with, the plane of travel of the ribbon 10 between the guide rollers 16 and 18. The plane of travel of the printing card 24 is defined by guide roller pairs 36 and 38.

When the printing card 24 arrives at a position just below the thermal head 22, the thermal head 22 is moved down so that a solid thermal transfer ink previously applied to the ribbon 10 is melted by contact with the thermal head 22, which is substantially at the same time transferred to a surface of the printing card 24. Since the print command signal supplied to the printer 6 is regulated by the layout program stored in ROM 5, the individual character items are set on the card 24 in respectively predetermined areas. The card 24 on which the individual character items have been set is collected in a stocker 32.

In accordance with the printing system employing the thermal transfer recording type printer, the individual character items may be beautifully set on any kind of printing medium at a relatively low cost. By employing a printer having resolvability of 400 DPI (dots per inch) or more, the individual character items may be set in a highly qualified form which is really equivalent to typographically or photographically printed characters.

Fig. 3 shows an example of layout of character items to be printed on a visiting card in accordance with the printing system of the invention. On the printing card 24 there are provided a first area 40 for representing a logo or symbol mark identifying a company, a second area 42 for a name of the company, a third area 44 for address, telephone number and facsimile number of the company, a fourth area 46 for a personal name of an businessman or businesswoman in the company and a fifth area 48 for his or her position, post and title in the company. Among these areas, the first to third areas are used to display the common character items and the fourth and fifth areas are allocated to set the individual character items.

At first, the common character items are printed in the predetermined areas 40, 42 and 44 on the printing card 24 by any type of printer, particularly by an offset press, for example. It is possible that volumes of printing cards 24 for all employees are printed with the common character items at the same time.

The individual character items are inputted by the keyboard 2 and set by the thermal transfer printer 6 in the areas 46 and 48 on the printing cards 24 which has been printed with the common character items by the offset press. The individual character items are peculiar to each employee even in the same company. Preferably, the individual character items for many employees are stored in RAM 3, which are automatically and sequentially read out therefrom to be set on

the card 24, so that the visiting cards for many employees may be produced at one time.

Although the invention has been described in connection with a specific embodiment, it is to be understood that many variations and modifications can be made without departing from scope of the invention as defined in the appended claims.

10 **Claims**

1. A printing system comprising printing common items on a printing medium by any printing method; inputting individual items to be printed on the printing medium with input means; and setting the individual items at predetermined blank areas on the printing medium with a printer of thermal transfer recording type in response to a print command signal from said input means.

2. The printing system according to claim 1 wherein the individual items inputted with said input means are stored in first memory means.

3. The printing system according to claim 2 wherein the individual items for many persons are inputted with said input means to be stored in the lump in said first memory means, and data stored in said first memory means are sequentially read out therefrom for printing on the printing medium.

4. The printing system according to claim 1 which further comprises second memory means storing layout program for defining respective areas to be printed with the individual items on the printing medium.

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FIG. 1

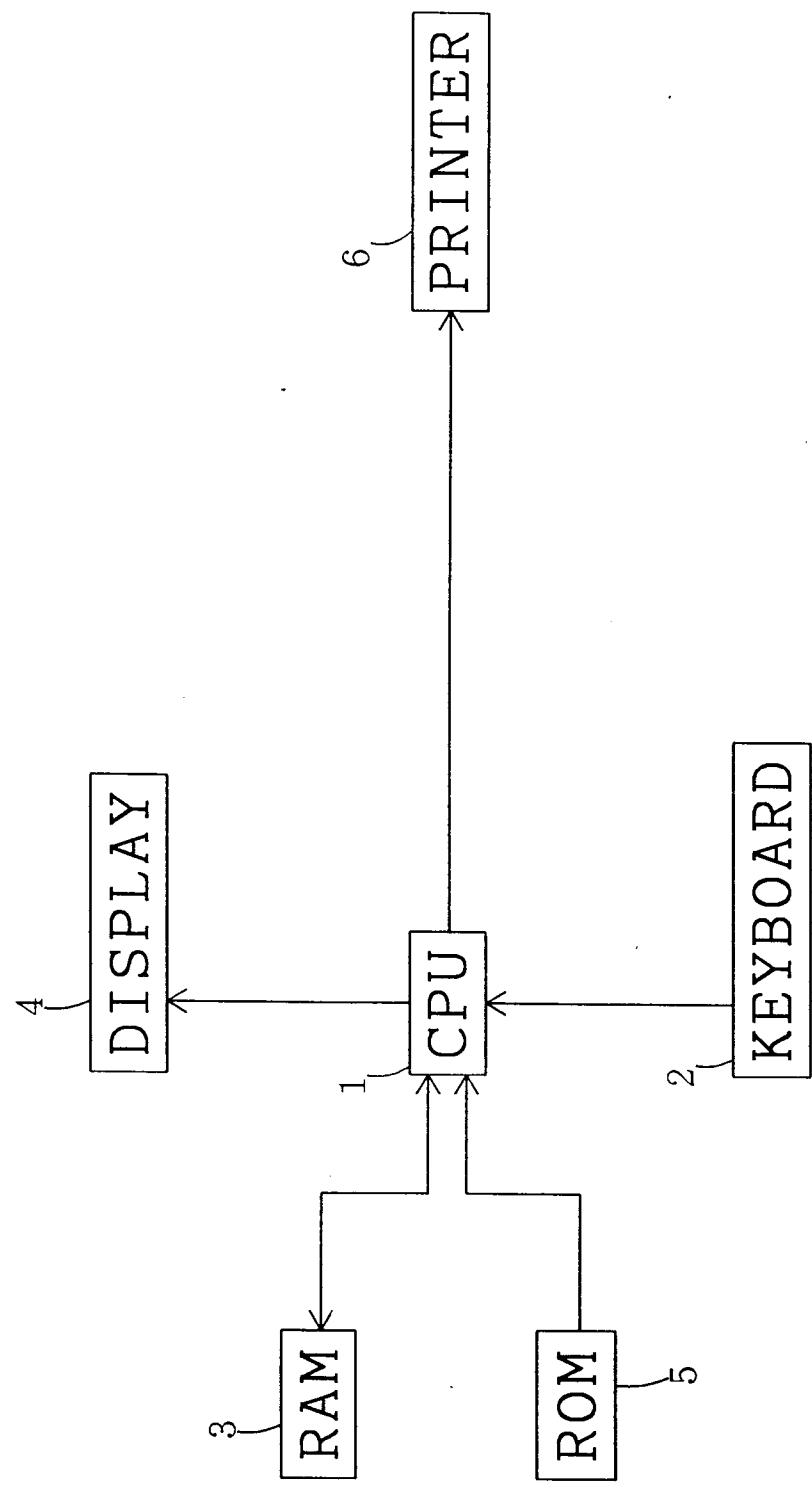


FIG. 2

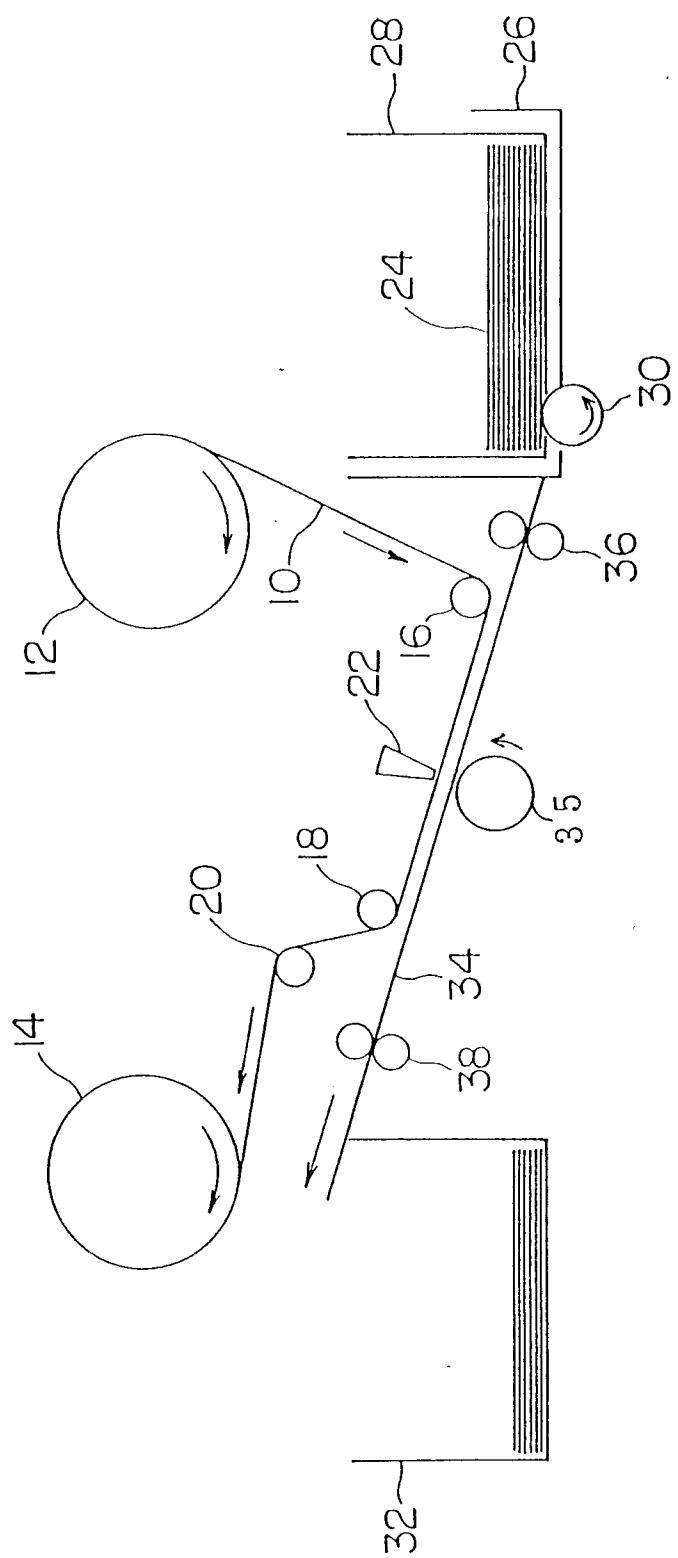
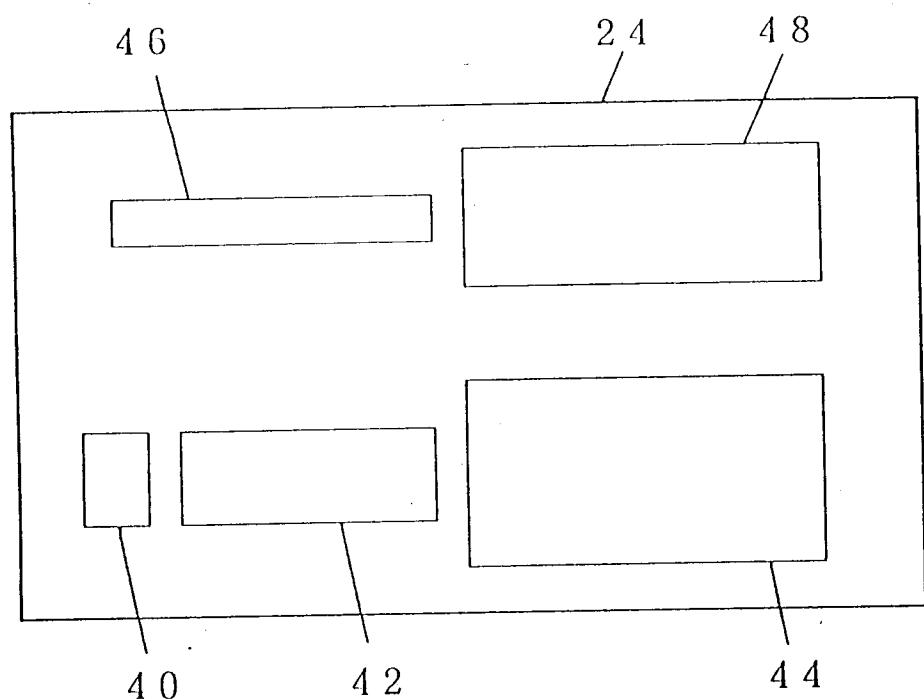


FIG. 3





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 92 30 4382

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl.5)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
X	WO-A-9 000 979 (DATA B S.R.L.) * the whole document * ---	1-4	B42D15/02						
A	EP-A-0 364 730 (GAO GESELLSCHAFT FÜR AUTOMATION UND ORGANISATION) * column 6, line 54 - column 7, line 18 * ---	1							
X	GB-A-2 073 661 (TRANSACTION TECHNOLOGY INC.) * page 3, line 38 - page 4, line 17; figures 1-4 * ---	1-4							
A	EP-A-0 195 104 (SKI-DATA COMPUTERHANDELSGESELLSCHAFT M.B.H.) * the whole document * -----	1-4							
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)						
			B42D						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>11 AUGUST 1992</td> <td>MEULEMANS J.P.</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	11 AUGUST 1992	MEULEMANS J.P.
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<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document							