



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**29.02.2012 Bulletin 2012/09**

(51) Int Cl.:  
**B41M 3/00 (2006.01) A63F 3/06 (2006.01)**

(21) Application number: **11006915.0**

(22) Date of filing: **24.08.2011**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**

(72) Inventors:  
• **Brignani, Ivan**  
**20813 Bovisio Masciago (MB) (IT)**  
• **Brignani, William**  
**21040 Gerenzano (VA) (IT)**

(30) Priority: **31.08.2010 IT MI20101586**

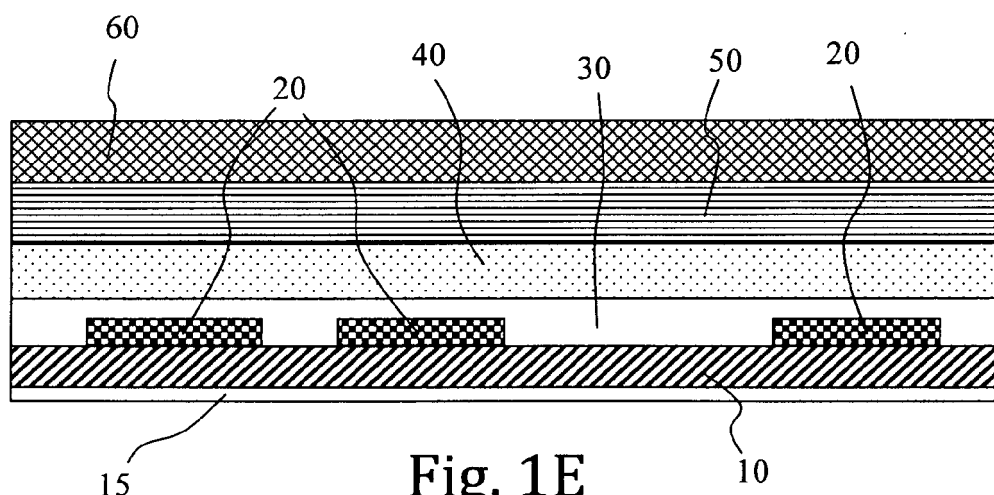
(74) Representative: **Valentini, Giuliano**  
**Marietti Gislon e Trupiano S.r.l.**  
**Via Larga 16**  
**20122 Milano (IT)**

(71) Applicant: **New-Old Printing S.r.l.**  
**20121 Milano (MI) (IT)**

(54) **Process for producing a printed article for instant lottery games**

(57) A process is described for the production of a printed article intended for "scratch and win" type instant lottery games, wherein the print support consists of a thin paper support. A variable message which represents the outcome of the game is printed on a paper support, then covered by at least one transparent protective layer on

which a transparent conditioning layer is superimposed which will favour the removal of one or more masking layers superimposed on it. The process is particularly suitable for use with thin supports intended for thermal printing of receipts, cashpoint and vending machine slips or similar.



## Description

[0001] The present invention concerns a process for the industrial production of a printed article for instant lottery games and, in particular, a printed article on a thin paper support.

[0002] The definition "instant lottery games" here identifies "scratch and win" type gaming systems, i.e. systems in which a covering layer is removed to show a variable message which instantly establishes the outcome of the game.

[0003] The "scratch and win" type printed articles are generally produced on particularly thick paper supports, for example card or paper weighing more than 90 g/m<sup>2</sup>, as the support has to be thick enough to prevent the hidden characters constituting the variable message from being seen through it.

[0004] Furthermore, the printed articles of known type are produced with paper supports that have a particularly smooth surface using flexoprinting and screen printing techniques, i.e. techniques in which the matrix is of the relief printing type and the printing ink is transferred directly to the support to be printed by means of a slight pressure exerted by a pressure cylinder.

[0005] In practice, the teachings of the known technique are inadequate for the industrial scale production of printed articles for instant lottery games on thin paper supports.

[0006] The object of the present invention is therefore to make available a process that allows printed articles to be produced for instant lottery games using particularly thin supports, in particular paper treated for thermal printing.

[0007] Another object of the present invention is to make available a process of the type cited above that allows complete masking of the hidden variable message to be obtained, independently of the thickness of the paper support used.

[0008] These objects are achieved by the present invention thanks to a process as claimed in claim 1. Further particular characteristics of the present invention are described in the respective dependent claims.

[0009] The invention therefore consists in a process for the production of a printed article for instant lottery games, wherein the article includes a paper support on which at least one variable message is printed which represents the result of the game and at least one superimposed layer, removable by abrasion, able to conceal the variable message below it.

[0010] The expression "variable message" indicates here and below a piece of information that can vary from one printing area to the other along the same support according to a predefined scheme, for example information consisting of numbers, characters, symbols, wording, alphanumerical codes or similar which, appropriately combined, indicate a positive or negative result of the game.

[0011] The process comprises the steps of

- a) printing at least one variable message on a paper support;
- b) applying a transparent covering layer on the variable message;
- c) applying on the transparent covering layer at least one transparent conditioning layer able to adhere to the layers below, at the same time favouring removal of the layers above; and
- d) applying at least one layer masking the variable message on the conditioning layer.

[0012] In the process according to the present invention, the paper support consists of paper for thermal printing and the at least one masking layer includes one or more layers of printing that reproduce at least one graphic characteristic of the variable message in an offset position with respect to that of the variable message printed in step a).

[0013] The definition "graphic characteristic" of the variable message indicates that the wording or the symbols present in the one or more masking layers are characterised so as to be confused with wording or symbols of the variable message.

[0014] For example the one or more masking layers can feature wording containing the same characters as the variable message. Alternatively various combinations of the variable messages possible for the lottery in question can be represented. Or, in the one or more masking layers, portions of the variable message or the entire variable message can be reproduced, but in such a way that the offset position of the wording of each layer makes the nature of the message unrecognisable through the masking layers.

[0015] The variable message and the masking layers having the same graphic characteristics as the variable message can be printed in positive or in negative, but in any case in such a way that the concealed variable message cannot be seen through the masking layers.

[0016] This allows a product for instant lottery games to be obtained which can be easily printed on a thin paper support, in particular on paper treated for thermal printing, without it being possible to see the result of the game through the paper support.

[0017] Preferably, the offset reproductions of at least one graphic characteristic of the variable message of the masking layer are produced in the same colour as the one used for printing the variable message and, even more preferably, in a more intense shade of the same colour as the one used for printing the variable message.

[0018] A further aid to masking of the variable message is provided by four-colour images which are superimposed on the masking layers constituted by the variable message itself. In addition to providing further masking capability of the layers below, the four-colour images can illustrate any lottery logos, the prizes to be won, the lottery rules, any advertising messages or similar, with a wide choice in terms of the colours and types of image that are printed.

**[0019]** It is preferable to use special paper for thermal printing available on the market, in particular the so-called "protected" thermal paper. The thermal paper of this type has a coating layer to protect the support so as to make the product longer lasting and more reliable, in particular to prolong the UV ray resistance of the support, avoiding consequent deterioration (or yellowing) of the paper and the layers of treatment which allow the thermal printing.

**[0020]** According to a preferred embodiment of the present invention, the paper support is protected thermal printing paper with weight of between 40 g/m<sup>2</sup> and 80 g/m<sup>2</sup>, for example protected thermal paper produced and distributed by Mitsubishi which is identified by the code PF 5067.

**[0021]** In the process according to the invention, printing of the variable message in step a) is performed preferably by means of inkjet technique, while steps b) to d) are performed preferably by means of offset printing techniques. These are techniques that allow printing on particularly thin paper supports: inkjet printing does not involve any contact with the support, while offset printing is performed indirectly using flat matrixes. Alternatively, printing of the variable message in step a) can be performed by means of laser printing via the use of toner.

**[0022]** The process according to the present invention is particularly suitable for printing on paper supports for thermal printing, for example the paper supports of receipts issued by cash registers, cashpoint machines and similar. The variable message and every layer superimposed on it are applied on the face opposite the one treated for thermal printing.

**[0023]** This offers considerable advantages in economic and social terms. A receipt which is combined with an instant lottery games motivates the purchaser to register a purchase and/or a drink or snack, thus reducing tax evasion due to non-issue of a receipt.

**[0024]** Furthermore, since the lottery is combined with a purchase, the purchaser is incentivised by the possibility of a win to ask for the receipt, without having to purchase separately a specific "scratch and win" product. In practice, the purchaser participates free of charge in a lottery for which he/she does not have to pay any further sums with respect to what he/she has already paid for a purchase and/or a drink or snack.

**[0025]** An article produced according to the process of the present invention is advantageous also in terms of safety against possible theft or fraud. The issue of a printed receipt certifies the validity of any win with the instant lottery games on the back of the receipt. In the event of theft of a cash register roll, any win under the instant lottery games associated with the roll will not be validated if the receipt has not been printed or, if printed for example by a cash register, it will be possible to identify the official origin or an attempted fraud.

**[0026]** Further characteristics and advantages of the present invention will become clearer from the following description, provided merely by way of non-limiting ex-

ample, with reference to the accompanying drawings, in which:

- Figures 1A-1E are section views of the successive preparation phases of a printed article produced according to the process of the present invention;
- Figure 2 is a section view of the printed article of Figure 1E after removal of the layers covering the variable message;
- Figures 3A-3C represent a possible embodiment of the masking layer;
- Figures 4A-4D represent an alternative embodiment of the masking layer;
- Figures 5A-5C represent an alternative embodiment of the masking layer; and
- Figures 6A-6D represent an alternative embodiment of the masking layer.

**[0027]** In the following figures, the thicknesses of layers and supports are deliberately exaggerated and not to scale in order to make the arrangement of the various materials applied during the process clearer.

**[0028]** Figure 1A shows a paper support 10 provided with a layer 15 making it suitable for thermal printing. On the face opposite the one treated for thermal printing, a variable message 20 is printed, for example wording, an icon or similar, which represents the result of the game.

**[0029]** The variable message 20 is printed by inkjet technique, with black or coloured inks. For example, during experimental tests, the variable data 20 were printed with a Scitex system using Versamark black water-based ink by Kodak identified by code 1040. Other printing forms can be used, for example laser printing via the use of toner.

**[0030]** A transparent layer 30 (Figure 1B) is then applied on the variable message 20 which protects the variable message and allows it to be seen after removal of the superimposed layers. The transparent lacquer also acts as a "primer" to promote adhesion of the next layer. A product suitable for production of the layer 30 consists for example of a UV Lowodor 99500 transparent lacquer produced and distributed by Colorgraf which is applied by means of dry offset printing technique, if necessary with the addition of a UV 11500 catalyst by the same firm.

**[0031]** A conditioning layer 40, also transparent, is then applied on the layer 30. The structure of the intermediate product thus produced is shown in Figure 1C. The expression "conditioning layer" here indicates a layer (also known in the art as "release promotion layer") made of a material able to adhere to the layers below, at the same time favouring removal of the layers above. A suitable material for this purpose is, for example, the UV Release 93013 varnish by Colorgraf applied by dry offset printing technology, if necessary with the addition of a Flexo 99077/c catalyst by the same firm.

**[0032]** At least one masking layer 50 of the variable message is applied above the conditioning layer 40. The structure of the intermediate product thus obtained is il-

illustrated in Figure 1D. The masking layer 50 consists preferably of one or more print layers bearing at least one graphic characteristic of the variable message, but offset with respect to the variable message 20 below.

**[0033]** According to the embodiment of Figures 3A-3C the variable message 20 consists of wording and is reproduced in an offset manner in the masking layer 50 in its possible combinations, in this case "*Hai vinto*" ("You have won") and "*Non hai vinto*" ("You have not won"). In particular, Figure 3A shows only the variable message 20; Figure 3B shows by way of example a few prints of the masking layer 50 superimposed on the variable message 20; Figure 3C shows the final result with the variable message 20 unrecognisable due to the superimposed offset wording forming part of the masking layer 50.

**[0034]** According to the embodiment of Figures 4A-4D the variable message 20 consists of a combination of symbols, chosen from a set 22 of symbols. The masking layer 50 presents offset printing of symbols which can be chosen from the set 22 of symbols and/or symbols 24 which present at least one portion in common with the set 22 of symbols. In particular, Figure 4A shows a possible set 22 of symbols, Figure 4B illustrates only the variable message 20, Figure 4C presents a possible masking layer 50 consisting of symbols chosen from the set 22, offset with respect to the variable message 20, and in Figure 4D the masking layer 50 consists of symbols chosen from the set 22 and symbols 24 which share a portion, in this case the outer circumference, with the set 22 of symbols and differ in another portion, i.e. the oblique line and the cross, from the set 22.

**[0035]** According to the embodiment of Figures 5A-5C the variable message 20 consists of a word. The masking layer 50 consists of portions 26 of characters forming part of the word of the variable message 20, printed offset with respect to the same. In particular, Figure 5A shows only the variable message 20, Figure 5B presents by way of example a few prints of the masking layer 50 superimposed on the variable message 20 and Figure 5C presents the final result with the variable message 20 unrecognisable due to the portions 26 of characters superimposed and offset forming part of the masking layer 50.

**[0036]** According to the embodiment of Figures 6A-6D the variable message 20 consists of one of the two symbols of the set 22b of symbols. The masking layer 50 consists of portions 28a, 28b, 28c of the symbols forming part of the set 22b of symbols, printed offset with respect to the variable message. In particular, Figure 6A shows a possible set 22b of symbols, Figure 6B illustrates only the variable message 20, Figure 6C shows by way of example a few prints of the masking layer 50 superimposed on the variable message 20 and Figure 6D shows the final result with the variable message 20 unrecognisable due to the portions 28 of symbols, superimposed and offset, forming part of the masking layer 50.

**[0037]** Obviously other types, quantities and combinations of symbols and/or wording can be used to produce

the variable message 20 and the masking layer 50, and other graphic characteristics of the variable message, for example the type character, can be reproduced in printing of the masking layer 50.

**[0038]** The various layers that present offset reproductions of at least one graphic characteristic of the variable message in the masking layer 50 are printed by means of the offset printing technique.

**[0039]** A suitable material for producing the various layers that make up the masking layer 50 is for example an intense black ink "49 UE 4018" distributed by HUBER GROUP applied by means of wet offset printing.

**[0040]** The final printed article is shown in Figure 1E. Masking of the variable message 20 can also comprise one or more layers 60 of four-colour images applied above the masking layer 50. This allows not only further masking of the variable message below, but also adaptation of the article to different types of use illustrating, for example, the type of lottery, the rules for the lottery and/or for playing, the lottery prizes, promotional messages and similar.

**[0041]** The layer of images 60, in four colours is applied by means of offset printing using inks of the relative four colours (black, cyan, magenta and yellow). Products suitable for this purpose are for example those of the Europa line by Colorgraf or the Huber-Farbe European four-colour line.

**[0042]** Although not explicitly shown in Figure 1E, the printing of images 60 by four-color process can also be optionally preceded by the printing of a white primer layer, between the layers 50 and 60, to enhance the colours of the images printed by four-colour process. In this case, an opaque white ink UV 4892638 by Colorgraf applied by dry offset printing can be used, if necessary with the addition of catalyst 11500 by the same firm and/or mixed with a limited quantity of a suitable colour, for example cyan.

**[0043]** Figure 2 shows the printed article after removal of the masking layers 50 and the four-colour images 60. The conditioning layer 40 acts as a release promotion layer, thus favouring removal of the layers above it, while the layers 30 and 40 protect the variable message 20 below from abrasion. The transparency of the layers 30 and 40 thus allow display of the variable message 20 below.

**[0044]** Various modifications can be made with respect to the process described here purely by way of example without departing from the scope of the present invention. For example, while the process is mainly suited to printing on thin paper supports, such as supports treated for thermal printing, it can also be adopted to produce printed articles on thicker supports.

## Claims

1. A process for the production of a printed article for instant lottery games, wherein said article includes

a paper support on which at least one variable message is printed which represents the outcome of the game and at least one superimposed layer, removable by abrasion, able to conceal the variable message below it, comprising the steps of

- a) printing said at least one variable message on said paper support;
  - b) applying a transparent covering layer on said at least one variable message;
  - c) applying on said transparent covering layer at least one transparent conditioning layer which can adhere to the layer below, at the same time favouring removal of the layers above; and
  - d) applying at least one layer masking said variable message on said conditioning layer;
- characterised in that** said paper support consists of paper for thermal printing and **in that** said at least one masking layer includes one or more layers of print which reproduce at least one graphic characteristic of said variable message but offset with respect to the one printed in step a).
2. The process as claimed in claim 1, wherein said paper for thermal printing is a protected thermal paper.
  3. The process as claimed in claim 1, wherein the reproduction of at least one graphic characteristic of said variable message in said at least one masking layer is obtained by means of reproduction of portions of the variable message in each of said one or more layers of print.
  4. The process as claimed in claim 1, wherein the reproduction of at least one graphic characteristic of said variable message in said at least one masking layer is obtained by means of reproduction of the entire variable message in each of said one or more layers of print.
  5. The process as claimed in claim 1, wherein the reproduction of at least one graphic characteristic of said variable message in said at least one masking layer is obtained with the same colour as said variable message.
  6. The process as claimed in claim 5, wherein the reproduction of at least one graphic characteristic of said variable message in said at least one masking layer is obtained with a more intense colour shade than that of said variable message.
  7. The process as claimed in claim 1, wherein above said at least one masking layer one or more layers of four-colour printed images are applied.
  8. The process as claimed in claim 7, wherein said

transparent covering layer on said at least one variable message and said one or more layers of four-colour printed images are applied by offset printing technique.

9. The process as claimed in claim 1, wherein an opaque white layer is applied above said at least one masking layer.
10. The process as claimed in claim 1, wherein said variable message is printed in said step a) by means of inkjet technique.
11. The process as claimed in claim 1, wherein said variable message is printed in said step a) with toner applied by means of laser technique.
12. The process as claimed in claim 1, wherein the reproduction of at least one graphic characteristic of said variable message in said at least one masking layer is obtained by means of one or more layers of print applied by offset printing technique.
13. The process as claimed in claim 1, wherein said paper support weighs between 40 g/m<sup>2</sup> and 80 g/m<sup>2</sup>.
14. The process as claimed in claim 1, wherein said at least one variable message and the layers of print superimposed on it are applied on the opposite face to the one treated for thermal printing.
15. A printed article for instant lottery games obtained by means of a process as claimed in any one of the claims from 1 to 14.

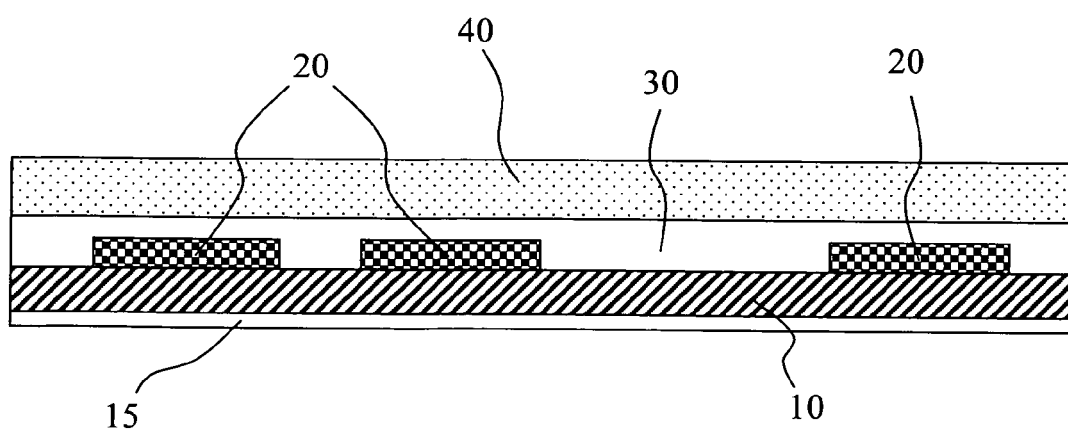
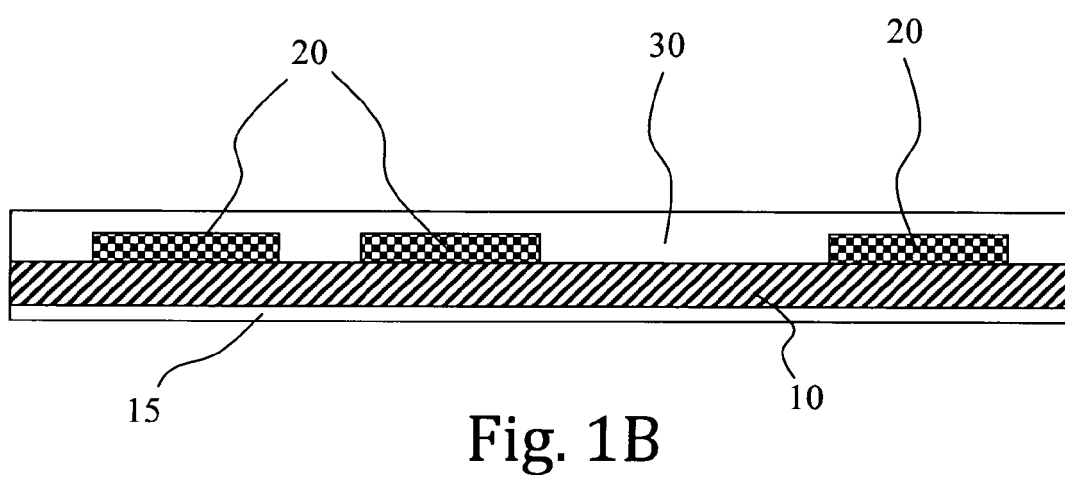
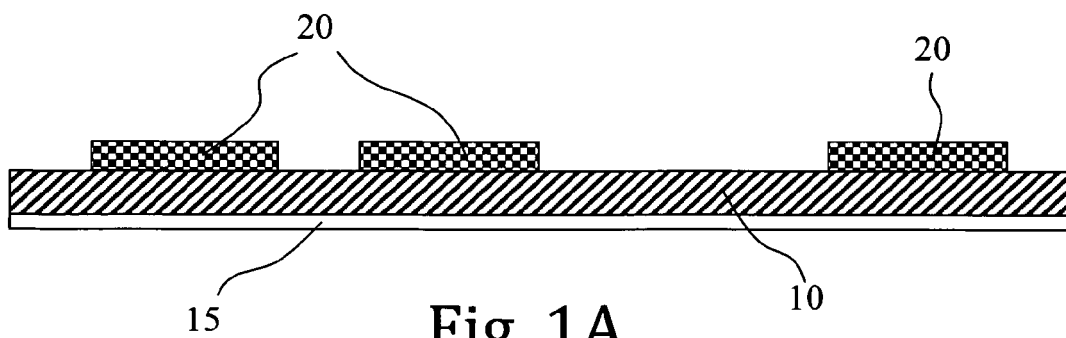
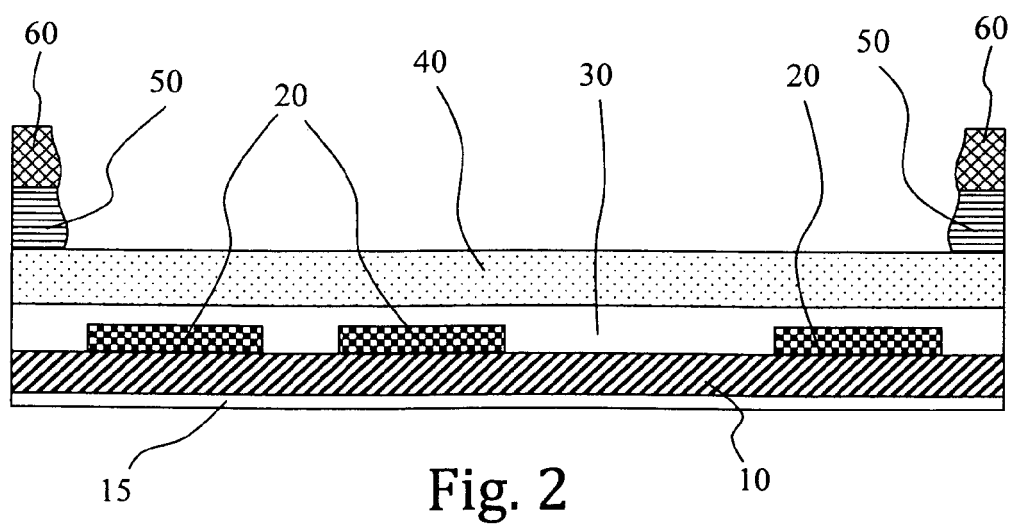
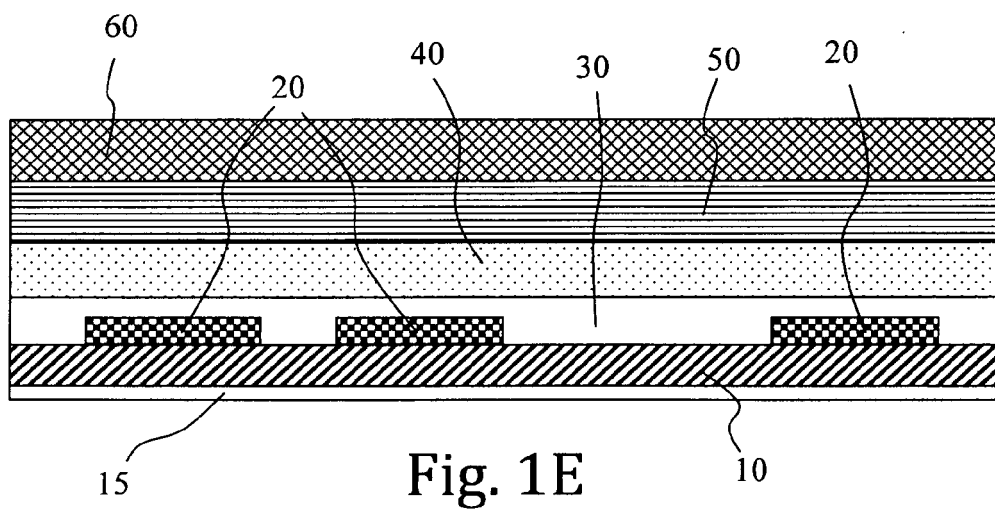
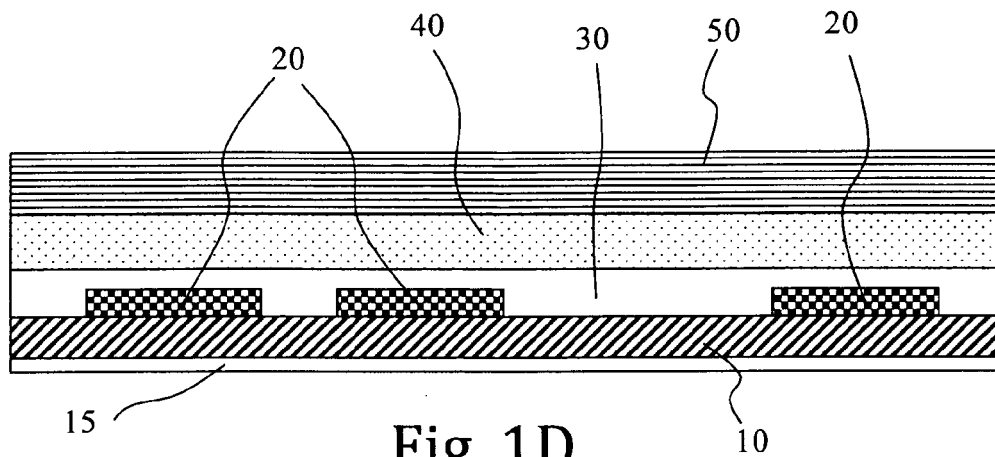
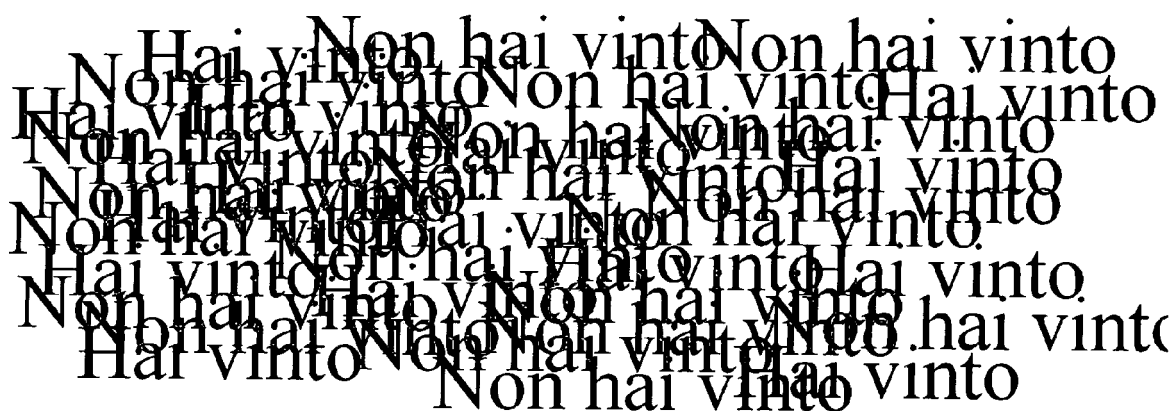
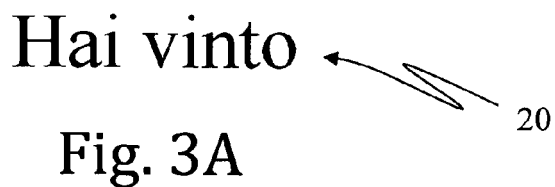
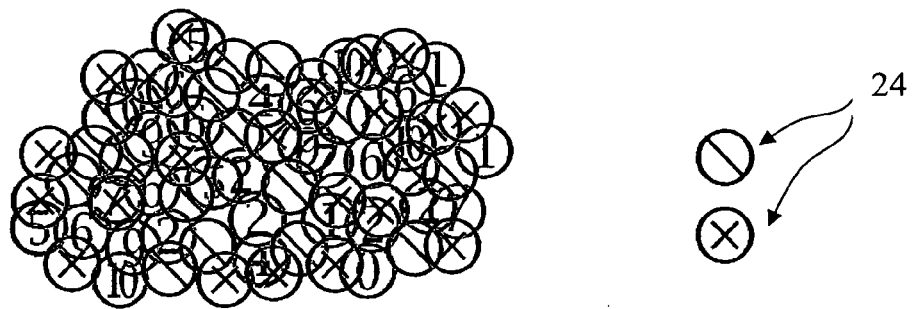
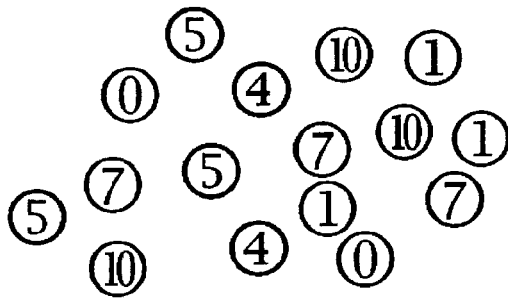
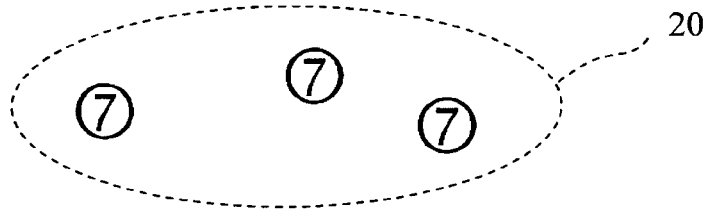
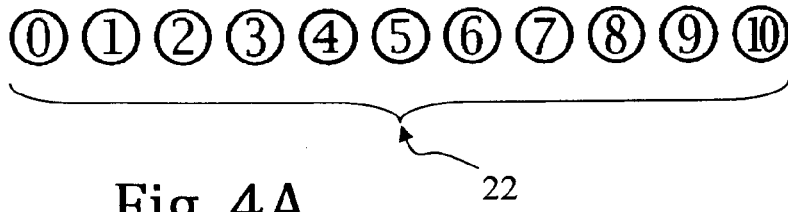


Fig. 1C









20  
Messaggio

Fig. 5A

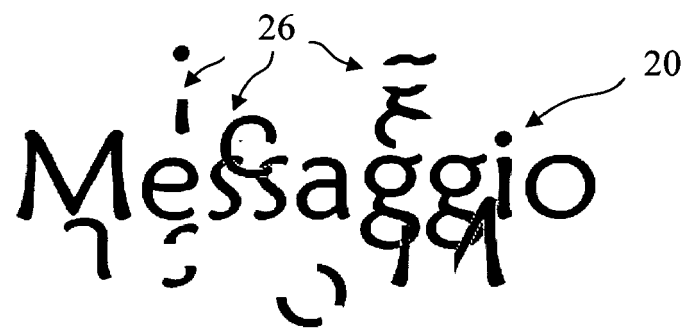
26 20  
Messaggio

Fig. 5B



Fig. 5C

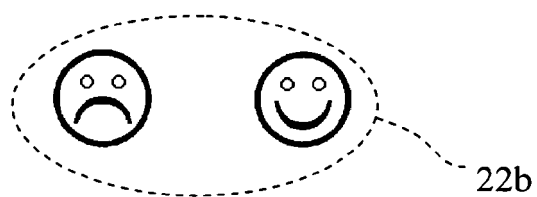


Fig. 6A

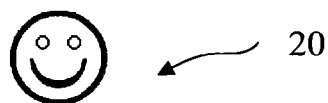


Fig. 6B

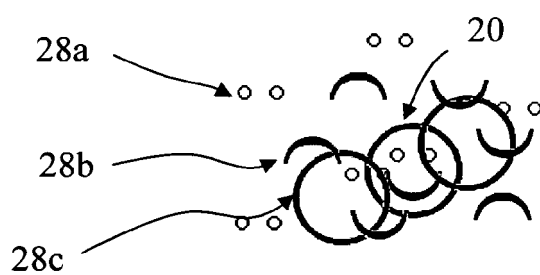


Fig. 6C

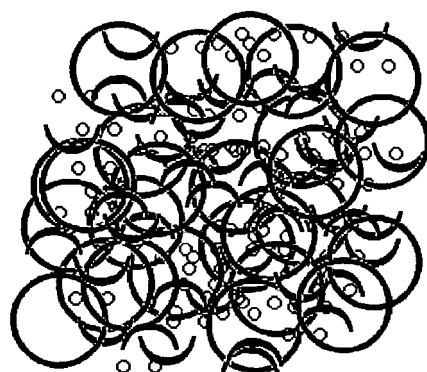


Fig. 6D