

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 819 513 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
21.01.1998 Bulletin 1998/04

(51) Int Cl.⁶: **B29C 63/04**, B32B 31/06,
B65B 11/50, B65D 75/30,
G09F 5/00

(21) Application number: **97202127.3**

(22) Date of filing: **10.07.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**

(30) Priority: **18.07.1996 IT MI961484**

(71) Applicant: **I.P.S., INTERNATIONAL PRODUCTS &
SERVICES S.R.L.**
I-20097 San Donato Milanese(Milano) (IT)

(72) Inventor: **Marzorati, Vittorio**
20091 Bresso (Milano) (IT)

(74) Representative: **Riccardi, Sergio**
Riccardi & Co.
Via Macedonio Melloni, 32
20129 Milano (IT)

(54) **Process for the production of advertising and/or promotional printed matter comprising samples of scent, essence or smell and printed matter so obtained**

(57) A process for the production of advertising and/or promotional printed matter comprising samples of scent, essence or smell and printed matter so obtained are described. By using a single pass in a printing press,

printed matter (10), wherein a layer (28) based on scent is enclosed in a sandwich structure by a material (26) such as polyethylene or a waterproofing paint and by the printed matter (10) itself, below a die-cut portion (32), which can be lifted to test the scent, is obtained.

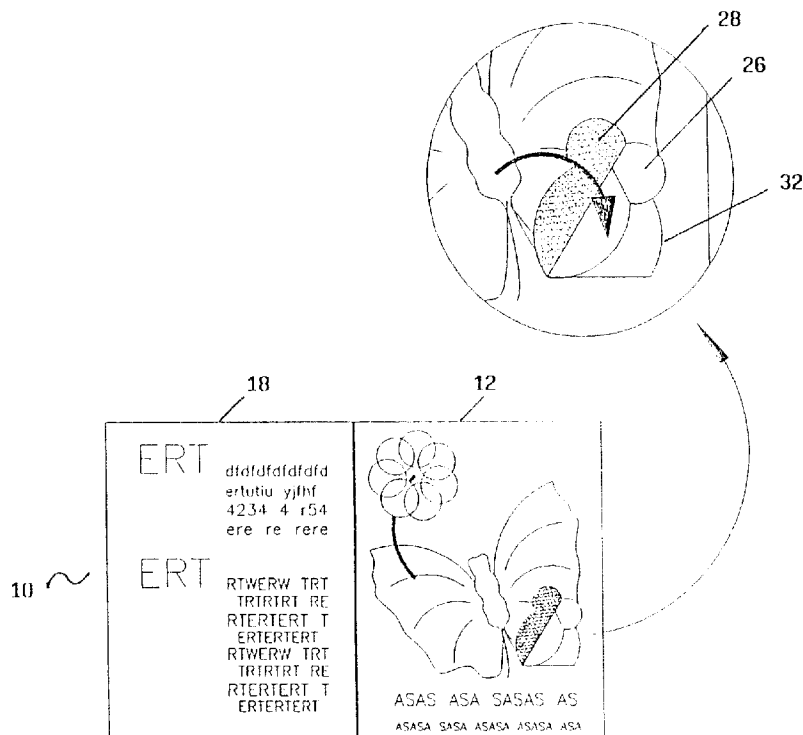


Fig. 15

EP 0 819 513 A2

Description

The present invention relates to a process for the production of advertising and/or promotional printed matter comprising samples of scent, essence or smell and the printed matter so obtained.

Two different methods, shown respectively in Figs. 1 and 2, have been recently developed in addition to the traditional samples for the promotion and the advertising of essences and the like. The first method, shown in Figure 1, consists of at least an unprinted zone (102) on a printed matter, whereon a scent (104) comprised in microcapsules, is applied and afterwards is covered by another unprinted strip (106) by folding (108) of the printed matter. A detachment of the superior strip (106) causes the microcapsules to be broken and the scent to be emitted. This printed matter is produced in a very convenient manner, e.g. during an offset printing, but it shows some disadvantages. First of all, particular attention must be paid to the material used for printed matter and glue, because they can alter the essence of scent. Secondly and for the same reasons, the zone (102), which the essence is deposited on, must not be, as said, printed, with a consequent lack of aesthetics of the final product.

The second printed matter of the prior art, shown in Fig. 2, solves the two cited inconvenients because it shows a deposition of scent (110) on a transparent label (112) of a suitable polymeric material, such as polyethylene, which isolates the scent from the printed matter and from the underlying material. The scent (110) is subsequently covered with a second transparent label (114) of the same material, which can be lifted in order to appreciate the scent. The disadvantage of the process in order to obtain this second known printed matter consists of its slowness and insufficient automatism due to the need of applying subsequently the second label.

Object of the present invention is to provide a process for the production of advertising and/or promotional printed matter comprising samples of scent, essence or smell and the respective printed matter, which combine the advantages of the two aforementioned known techniques, i.e. a process which allows printed matter, having excellent features of retaining the original scent until the promotional printed matter is tested by a receiver, to be obtained in a single pass in a printing press, in particular but not exclusively in the finishing part of a printing press such as rot offset press.

The above mentioned problems are brilliantly solved through a process for the production of advertising and/or promotional printed matter comprising samples of scent, essence or smell and through the printed matter obtained by the process, and both having the features stated respectively in the characterizing part of claims 1 and 6. Further advantageous features of said process and said printed matter are recited in dependent claims.

Features, objects and advantages of the present invention will be more evident from the following descrip-

tion and from the accompanying drawings concerning examples of non limiting embodiments of the invention. Obviously the same reference numbers in the drawings indicate identical or equivalent parts.

The various figures show:

Figures 1 and 2: two examples of scented printed matter of the prior art;

Figure 3: a finishing part of a rot offset printing press, adapted to the process according to the invention;

Figures from 4 to 13: the main steps of the process according to the invention;

Figures 14 and 15: operations carried out by the receiver of printed matter according to the invention to test the scent comprised therein; and

Figures 16 and 17: two steps of an alternative process according to the invention.

As figures 1 and 2 are already described in the preliminary part of the present description because these show two known types of printed matter, the description of the process and the printed matter according to the invention, will now follow by making reference to the remaining figures.

Figure 3 shows the finishing part of a rot offset printing press, adapted to the process according to the invention. In such a finishing part at inlet A, each leaflet (10) of the printed matter of the present invention is as shown in Figures 4 and 5, which show the two faces of the leaflet. Figures 4 and 5 point out that both faces have been printed, for example in four-color printing, in the previous part of the printing press, but this part may also be separated from finishing part. These faces are ideally divided in three zones, stated respectively as 12, 14, 16 and 18, 20, 22. The zones 20, 22 are basically unprinted because they are not visible in the finished product as it will be clear as the description goes on, with the exception of a possible drawing 24 in a portion of zone 20 (this drawing 24 is omitted from the following figures for simplicity). The leaflets 10 reach inlet A like a roll, wherein they are located as in figure 7. Figure 6 shows the step identified as B in figure 3, i.e. the deposition of an adhesive label 26 consisting of polyethylene or similar material or a waterproofing paint between the two zones 20, 22. The material of label 26 or paint has to show neutral features compared to scent and when the drawing 24 is present it has to be transparent. Not considering for the moment step B1 concerning a variant of process of the invention, step C shows a longitudinal slitting of the leaflets 10, better shown in Figure 7 already referred to, whereby the zones 18 and 22 or respectively 12 and 16, of two rows of adjacent leaflets 10, are separated. Afterwards in step D of figure 3, a thin layer 28 based on scent is deposited on label 26 or waterproofing paint (Figure 8). As before step B2 will be explained further on, while the preparation of the substance to be deposited on layer 28, hereinafter stated briefly as scent layer, will be subsequently described.

The substance is obtained by cross-linking of an essential oil or a scent with appropriate thickening agents, which help the obtained suspension to be structured when mixed, by confining in its own gel-lattice a lot of molecules, with a consequent increase of viscosity. In this way the scent layer is grasped at the label below without spreading out further on the printed matter. The lattice so obtained is "ruptured" by a contemporaneous action of temperature, acidity and moisture (eudermic values) so as to liberate the entrapped guest from the cross-linked structure.

The process for producing the flavouring substance comprises the following steps:

1) cross-linking mix melting: the components of the cross-linking mix, which are properly prepared, are melted while taking care of temperature not to rise excessively above 80°C and of course an appropriate stirring is carried out in order to amalgamate the melted substances.

2) cross-linking mix - essential oil or scent emulsion: the components of this step are the cross-linking mix at temperature of 80°C and the essential oil or scent. The essential oil or scent is added slowly to the cross-linking mix placed in an emulsifier with variable speed. Therefore the speed of the emulsifier is progressively increased but avoiding vortex formation. As the addition of essential oil or scent is completed, the speed should have reached a high value: once speed considered optimal is reached, the emulsion is left under stirring for some minutes until a determined homogeneity is obtained.

3) chemical-physical condition adjustment: before the temperature goes down below 35°C, a progressive cooling and pH regulation has to be promoted; in case these operations are extended, an action is needed in order to maintain the temperature at an adequate level.

4) slow cooling down to 35°C of temperature.

5) rapid cooling : below 35°C a rapid cooling to 25°C is carried out. At 25 °C a stabilization agent is added under stirring and the stirring is maintained for an hour. The mix so obtained is ready to be used in deposition steps.

Going back to the description of the process, after the deposition of scent, the deposition step E of the glue 30 is carried out (figure 9) around the label or paint 26 on zones 20,22 of the leaflets 10. Of course this is a delicate step because the glue 30 must not interfere with scent 26 already deposited. On the other hand glueing is less critical according to the present invention than it is in the first cited prior art (Figure 1), because here there is no contact between scent and glue, which can thus be of any kind suitable to the material of which the printed matter is constituted. Immediately after the deposition of glue, during step F and step G the leaflets can be folded and glued by superposing and coinciding the

zones 20,22 (Figura 10). In this way, the scent 28 is confined between two layers of label 26 consisting of polyethylene or waterproofing paint and separated from the glue 30 and from the leaflet 10 so as to preserve its features for a long time. Subsequently a diecutting step is carried out which sometimes can be carried out conveniently also before the deposition step of scent and glue (H in Figure 3, Figure 11), wherein a die-cut 32 is made on zone 12, in correspondence with label or waterproofing paint 26 comprising scent 28 and optionally with drawing 24 (Figure 5). This must be a very light die-cut because only the leaflet 10 or optionally part of the label thickness has to be cut into, in order to avoid emissions of scent 28. In figure 12 the second folding I of zone 18 is represented on zone 12 and the horizontal or transverse cutting (L in Figure 3), which finishes the process of the invention, is represented in Figure 13.

The leaflet 10 according to the invention obtained by the described process, is used as shown in Figures 14 and 15: a promotional campaign receiver opens the leaflet 10, now closed like a book, while exposing zone 12 having the die-cut 32. Afterwards a small window is opened by lifting the punched part as appropriately explained in the captions on the leaflet, and this causes rupture of the underlying label 26 and the emission of the scent layer 28, which can be tested. When the drawing 24 is present it will be visible below scent 28. So this drawing can coincide with the one on the part confined by the die-cut 32. The small window can be taken off completely or rather attached to the leaflet on one of its sides so as to be closed and opened at will.

Figures 16 and 17 show two steps of an alternative process according to the invention. For this alternative process, in step B the first label or waterproofing paint 26' is located on zone 20 and in step B1 the second label or waterproofing paint 26" is located on zone 22. After the side slitting in step C, the scent will be deposited on one of the labels 26', 26" or painted zones so as to form respectively layer 28' in step D or layer 28" in step D1. Of course the two labels or painted zones 26', 26" will be in a symmetrical position against the parting line of the two zones 20,22 so as to coincide during the following folding of step F in order to bind scent 28', 28" in a sandwich structure between polyethylene and painted zones in this alternative process too.

It will be clear that many variations, arrangements, integrations, variants and substitutions can be carried out in the examples of embodiments of the invention previously described as being illustrative and not limitative, without departing from the scope of the invention, so as stated in the enclosed following claims. In particular, it must be clear that, though the invention has been described with reference to a leaflet folded in three parts, either a leaflet, which is folded in the only two functional parts to be tested for scent, or a leaflet, which is folded in four or more parts and comprises many samples of scent also different from each other, falls also within the invention, as the variations to be carried out

in the shown process are obvious and in the knowledge of a skilled person of art. This may also be said for the printed matter arrangement in the rool, which can be different from the one shown in Figure 7. Thus with the terms leaflet and/or printed matter it is to be understood any printed article adapted to be treated with the process of the present invention. The same production, here described on a rotoffset printing press, can be easily carried out horizontally or, however on other printing press models.

Claims

1. Process for the production of advertising and/or promotional printed matter (10) comprising samples of scent, essence or smell characterized by the following steps:

- depositing (B; B1) at least an adhesive label (26; 26', 26'') consisting of polyethylene, similar material or waterproofing paint on printed matter (10),
- depositing (D; D1) at least a layer (28; 28', 28'') based on scent, essential oil or similar substance on the label, or respectively on the labels or waterproofing zones (26; 26', 26''),
- depositing (E) a glue layer (30) around said at least one label or waterproofing zone (26; 26', 26''),
- folding (F) and glueing (G) the printed matter (10) so as to coincide two parts of the sole label (26) or respectively two labels (26', 26'') or waterproofing zones;
- making (H) at least a die-cut (32) on the printed matter (10) in correspondence with said at least one label or waterproofing zone (26; 26', 26'') and on the opposite face of the printed matter (10).

2. Process of Claim 1 characterized by the further step of folding (I) another part of the printed matter (10) above the printed matter part (10) wherein said die-cut (32) is made (H).

3. Process according to Claim 1 or 2, characterized by the fact that it is carried out during the finishing step of a rotoffset printing press as not limitative example and furthermore comprising the step (C) of longitudinal slitting of leaflets (10) between the deposition step (B; B1) of label or waterproofing paint and the deposition step (D; D1) of scent, and comprising the final step (L) of horizontal or transverse cutting of individual leaflets (10) of the printed matter.

4. Process according to any one of preceding claims, characterized by the fact that said at least one layer (28; 28', 28'') based on scent and deposited in step

(D; D1) is produced by cross-linking an essential oil or a scent with appropriate thickening agents, which help the obtained suspension to be structured when mixed, by confining in its own gel-lattice a lot of molecules of the flavouring substance, with a consequent increase of viscosity, the lattice so obtained being able to be "ruptured" by a contemporaneous action of temperature, acidity and moisture so as to liberate said entrapped guest from the cross-linked structure.

5. Process according to Claim 4, characterized by the fact that the production of said at least one layer (28; 28', 28'') comprises the following steps: melting the components of the cross-linking mix, without rising excessively above melting temperature and while stirring, adding the essential oil or scent to the cross-linking mix by increasing progressively the speed of the emulsifying step, cooling the emulsion initially slowly and then rapidly, adding a stabilizer agent under stirring and maintaining stirring as long as the emulsion stabilization is reached.

6. Advertising and/or promotional printed matter comprising samples of scent, essence or smell, comprising at least a layer (28; 28', 28'') based on scent and bound in a sandwich structure by polymeric material (26; 26', 26'') or waterproofing paint, characterized by the fact that the polymeric material or waterproofing paint (26; 26', 26'') is present on the printed matter (10) in coincident positions due to a folding of the printed matter (10) itself, a die-cut (32) being furthermore provided on the printed matter (10) in correspondence with the polymeric material (26; 26', 26'') or waterproofing zone and on its opposite face.

7. Printed matter (10) according to claim 6, characterized by the fact that a drawing (24), which is at least partially uncovered after having lifted the printed matter (10) part confined by said die-cut, is present below said polymeric material (26; 26', 26'') or waterproofing zone.

8. Printed matter (10) according to Claims 6 or 7, characterized by the fact that an adhesive layer (30), adapted to hold the folding of the printed matter (10), is provided around said polymeric material or waterproofing zone (26; 26', 26'').

9. Printed matter according to any one of Claims 6-8, characterized by the fact that said polymeric material or waterproofing paint (26) is a single label (26) or waterproofing zone located between said folding of the printed matter (10).

10. Printed matter (10) according to any one of Claims 6-9, characterized by the fact that said at least one

layer (28; 28',28") based on scent is produced by means of cross-linking of an essential oil or a scent with appropriate thickening agents, which help the obtained suspension to be structured when mixed, by confining in its own gel-lattice a lot of molecules of the flavouring substance, with a consequent increase of viscosity, in order to obtain a stabilized cross-linked structure, which will be ruptured when the emission of scent, confined therein, is requested.

5

10

15

20

25

30

35

40

45

50

55

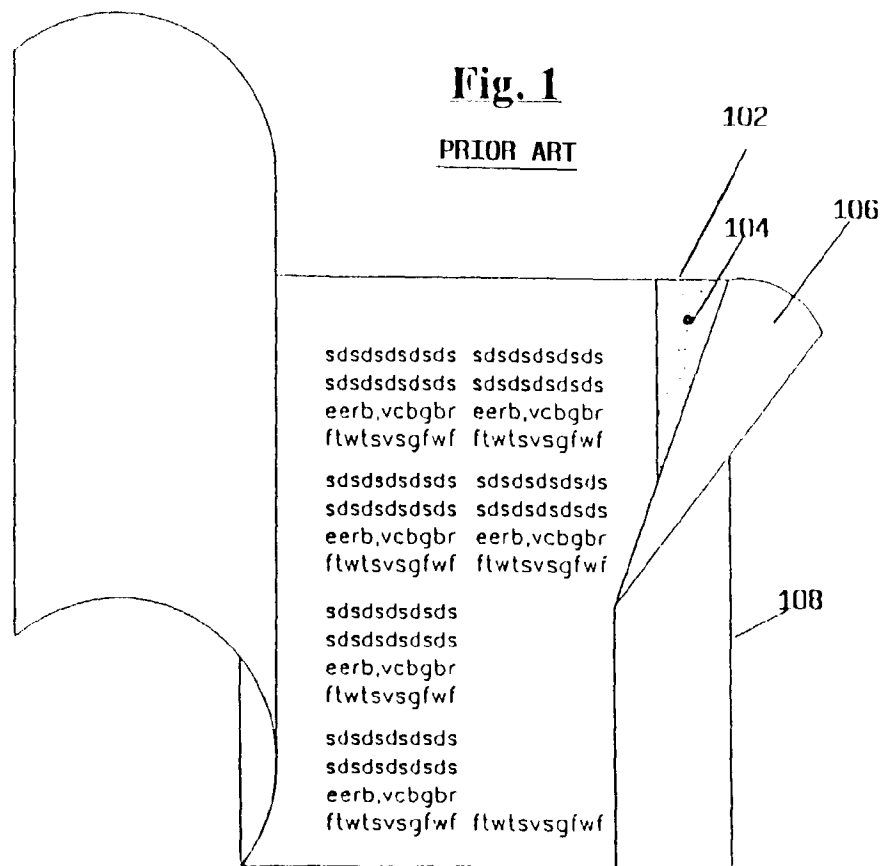
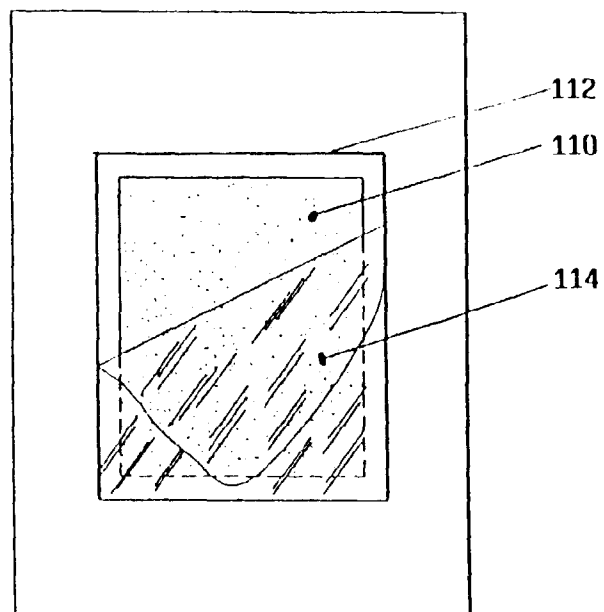


Fig. 2
PRIOR ART



ROTOFFSET FINISHING

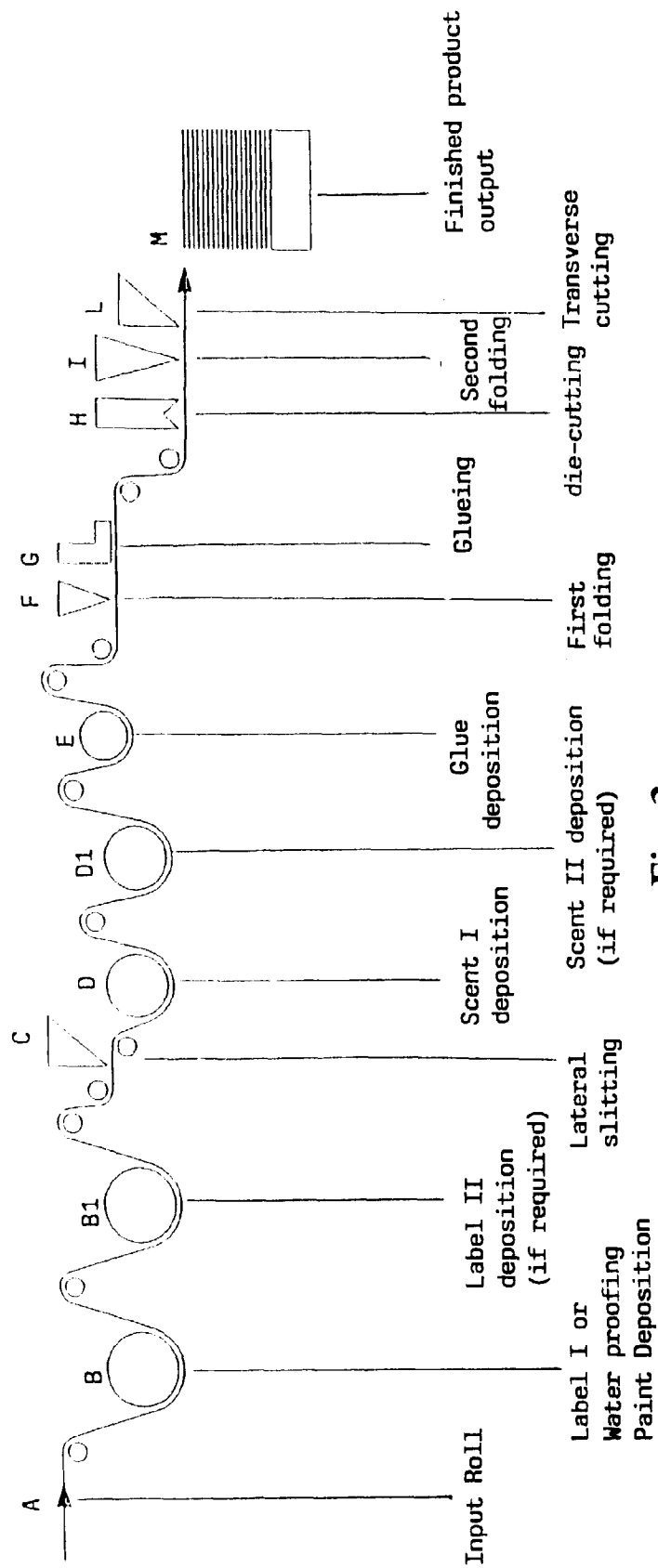


Fig. 3

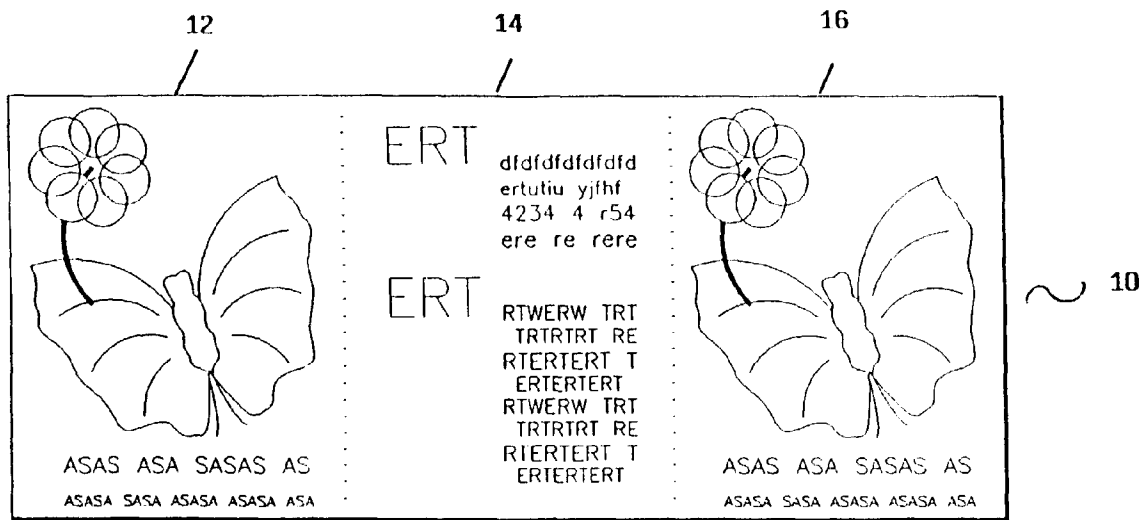


Fig. 4

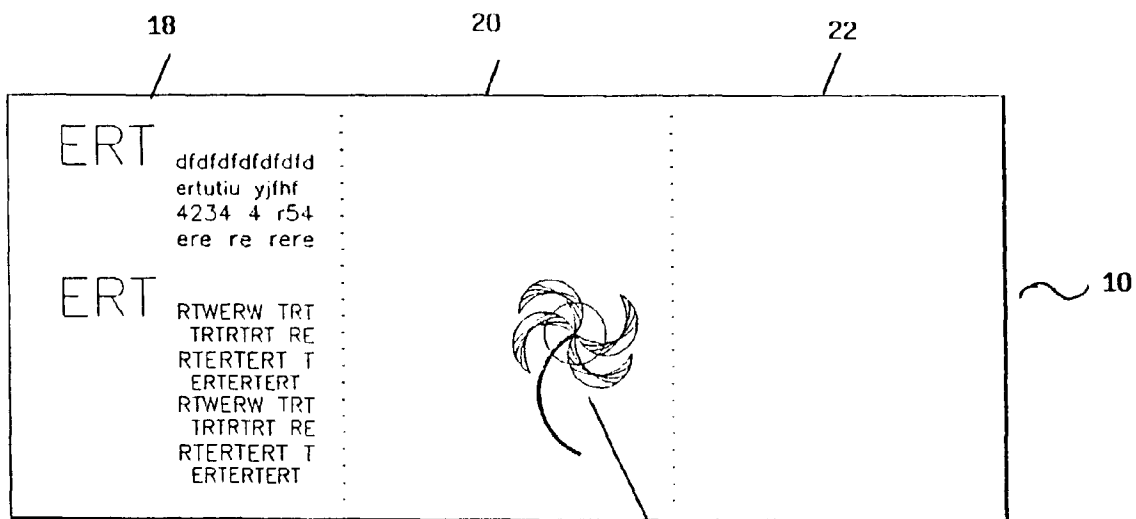


Fig. 5

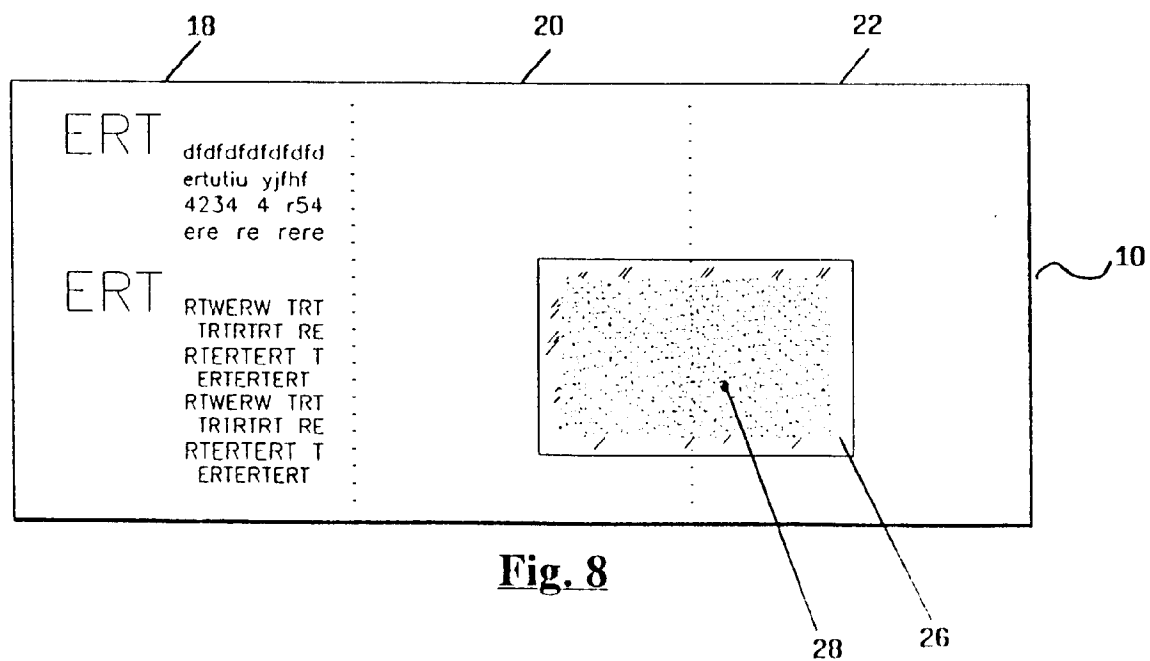
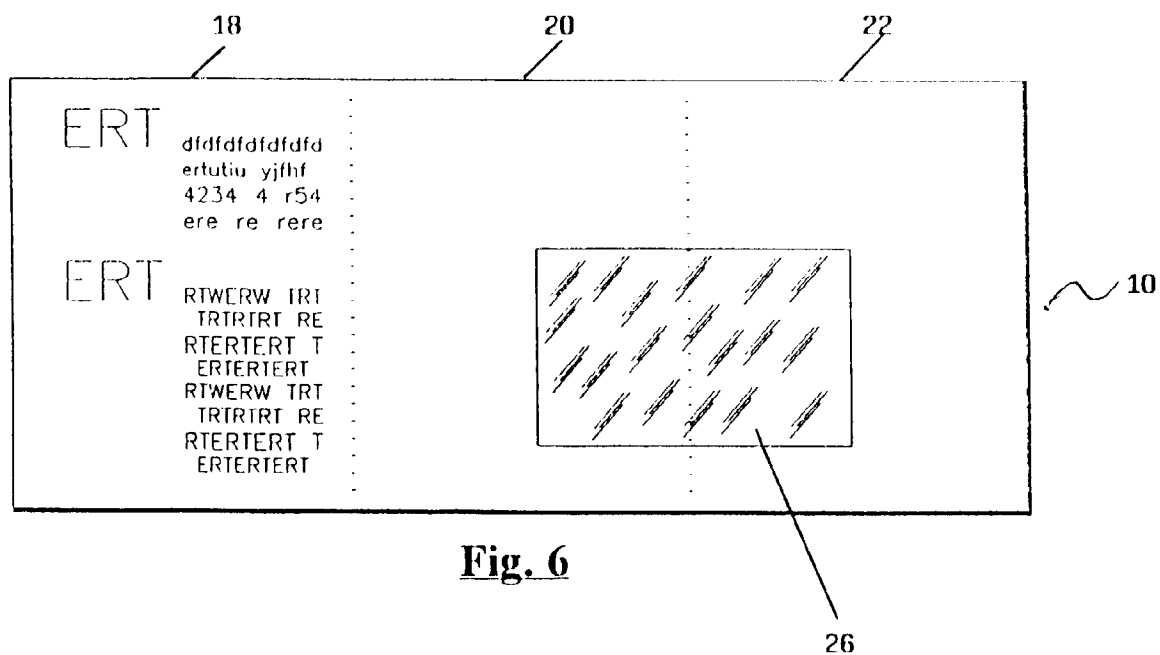


Fig. 7

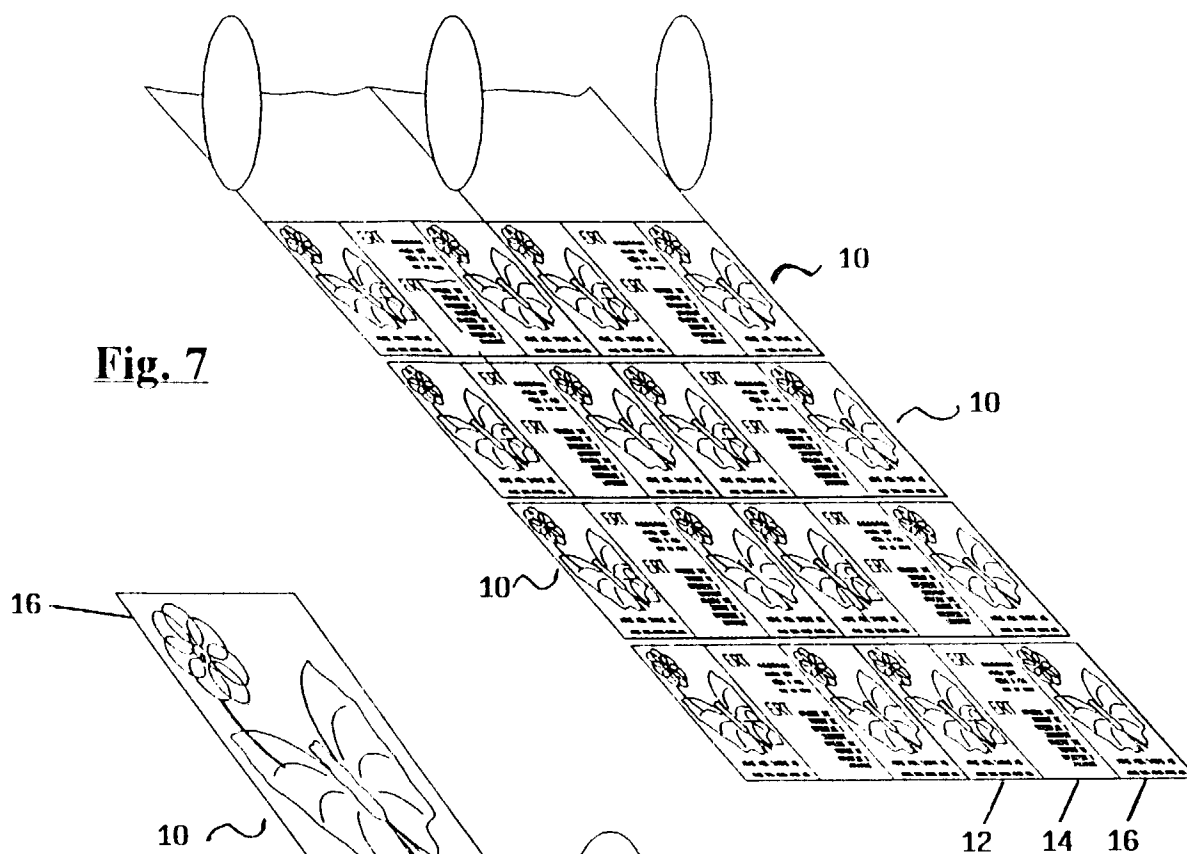
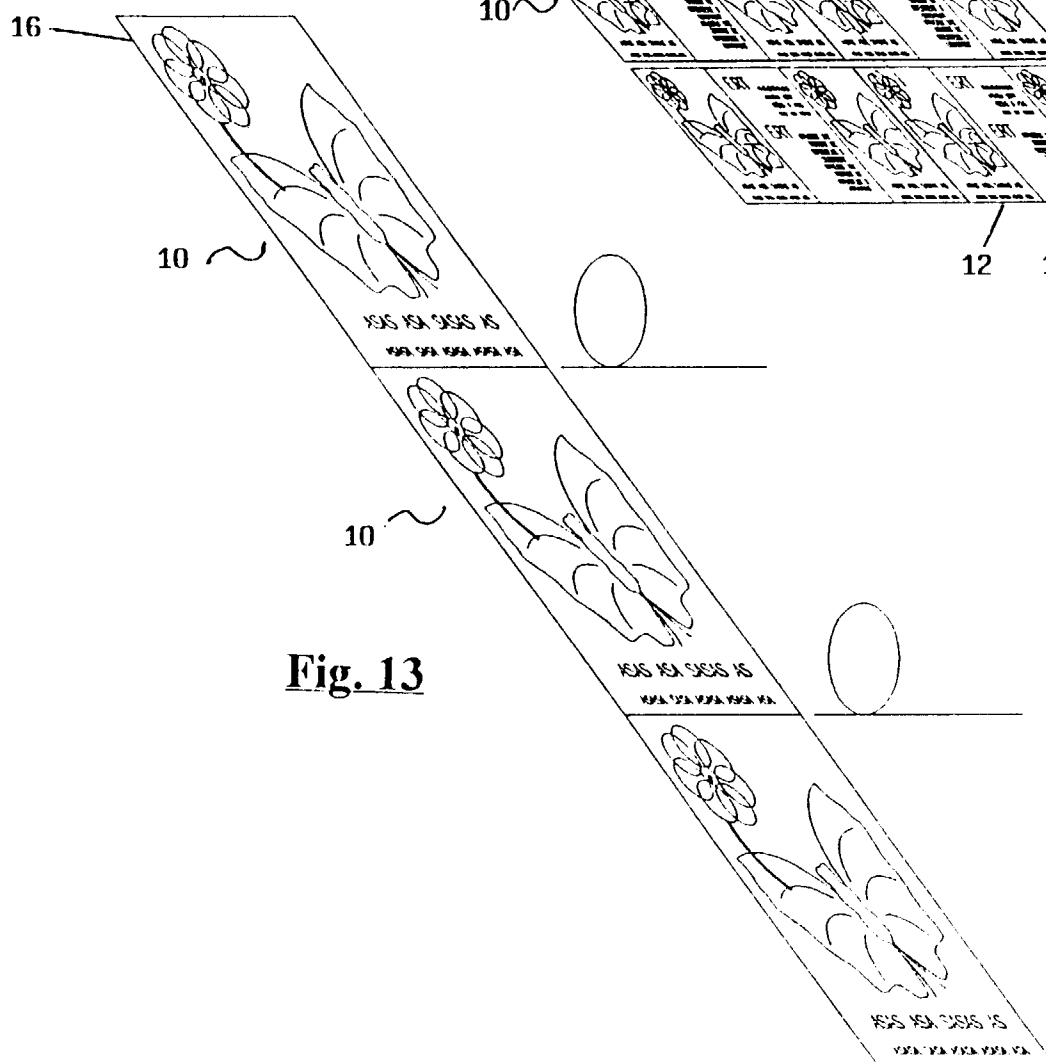
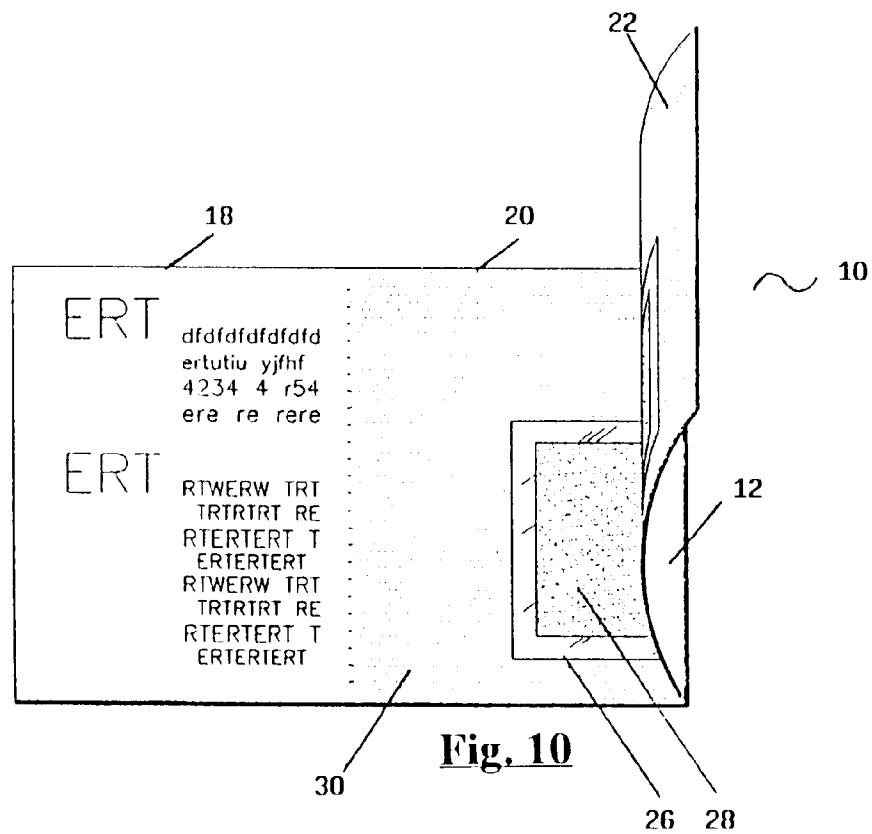
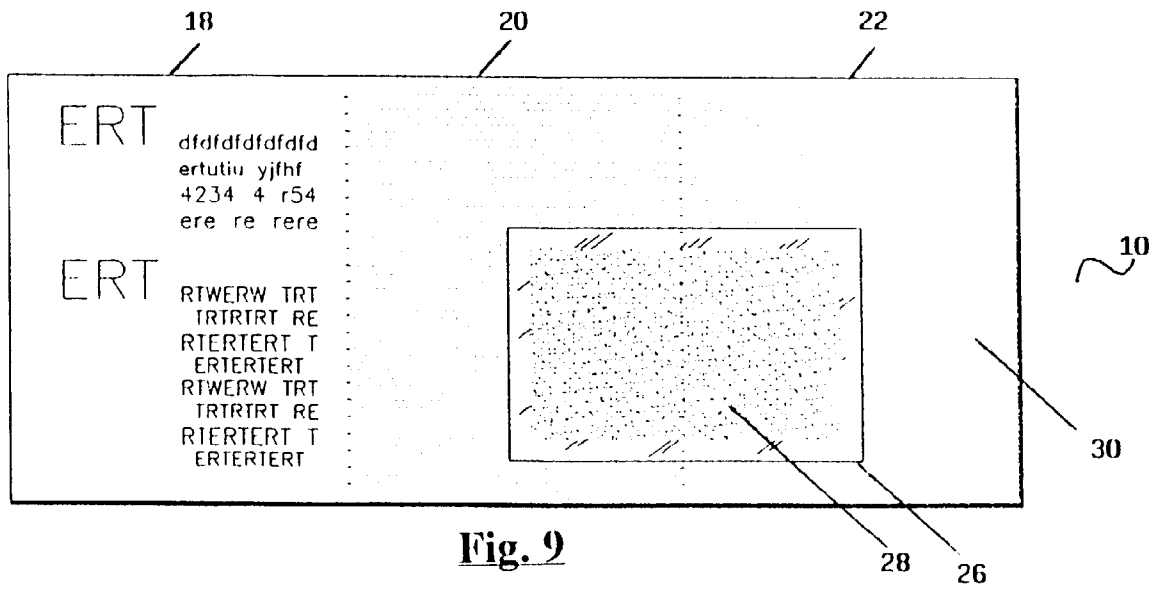


Fig. 13





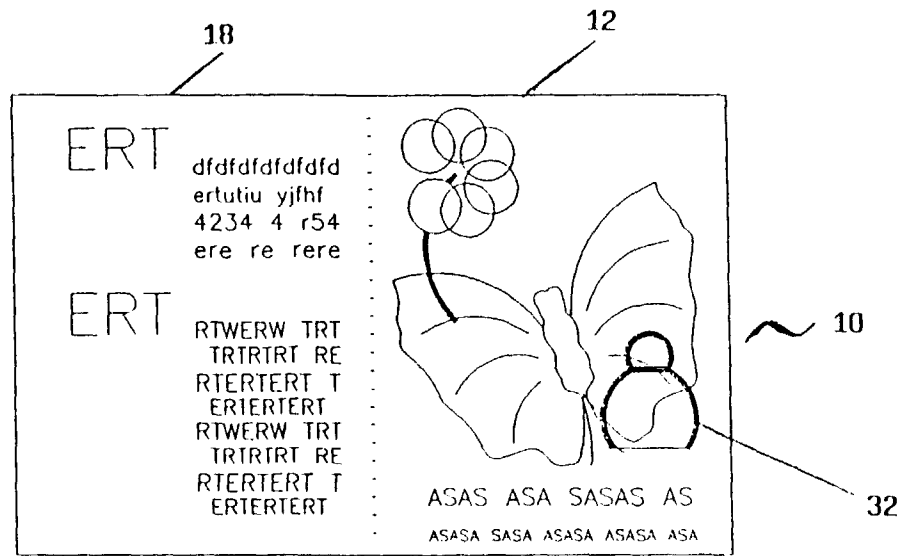


Fig. 11

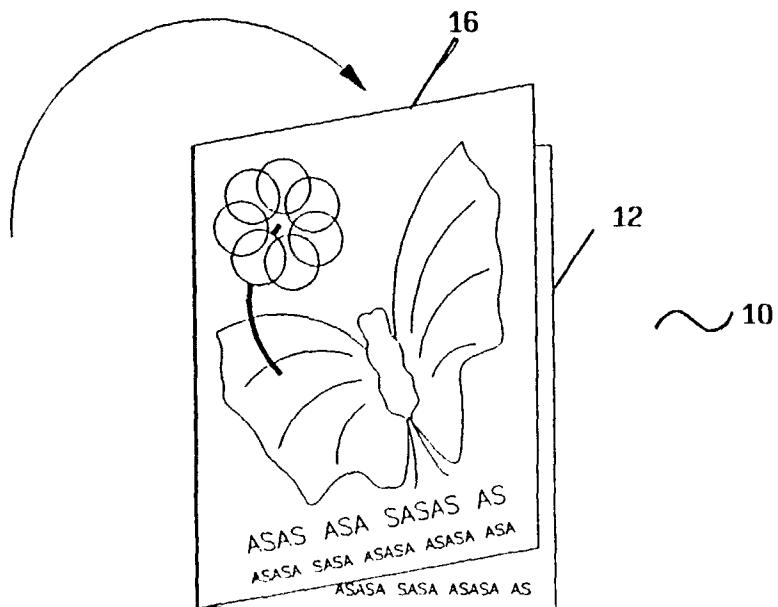


Fig. 12

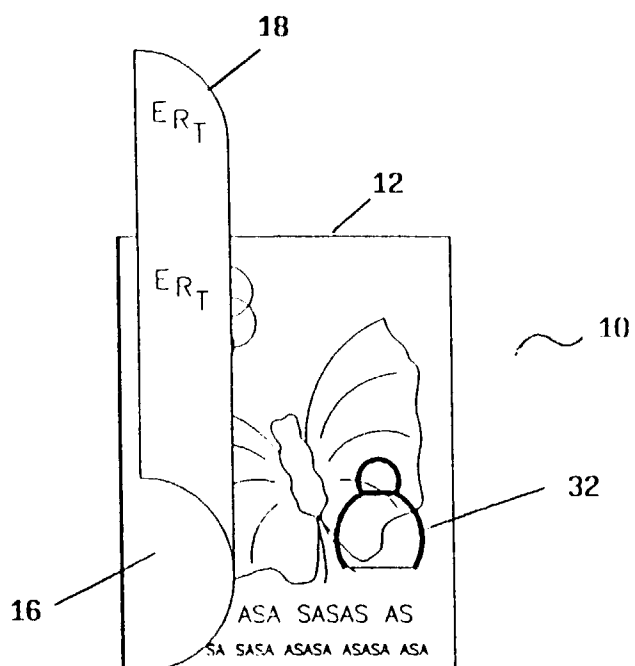


Fig. 14

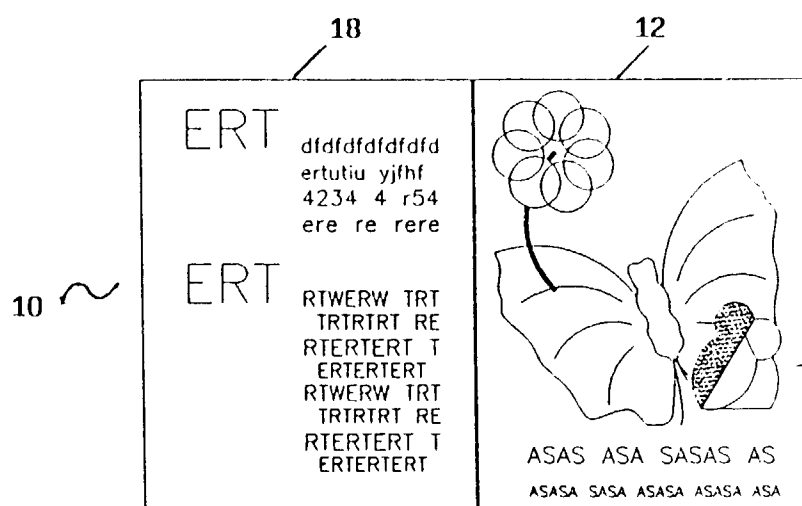
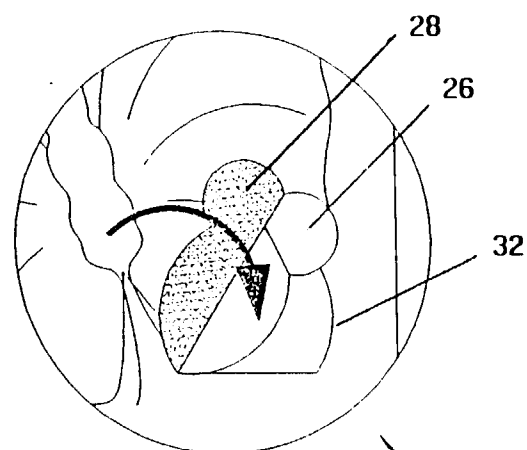


Fig. 15

