

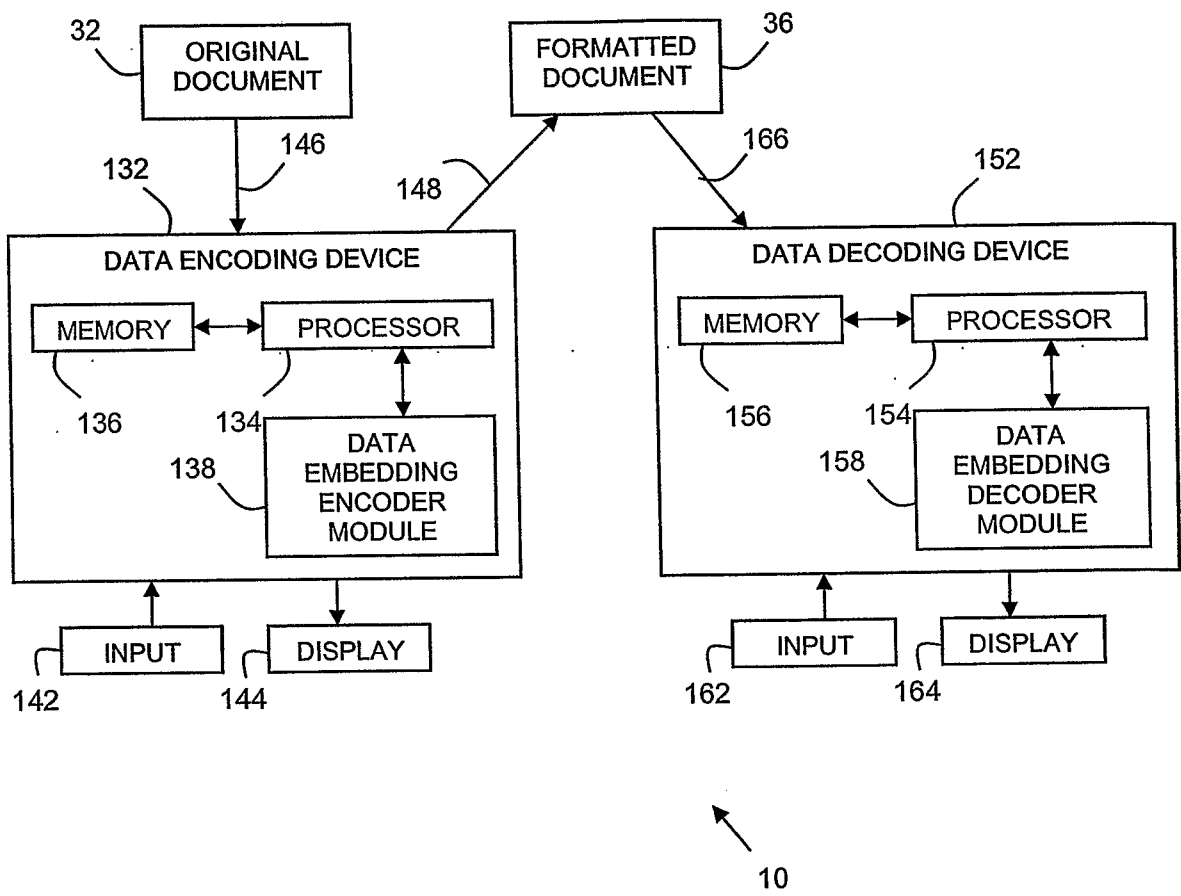


FIG. 1

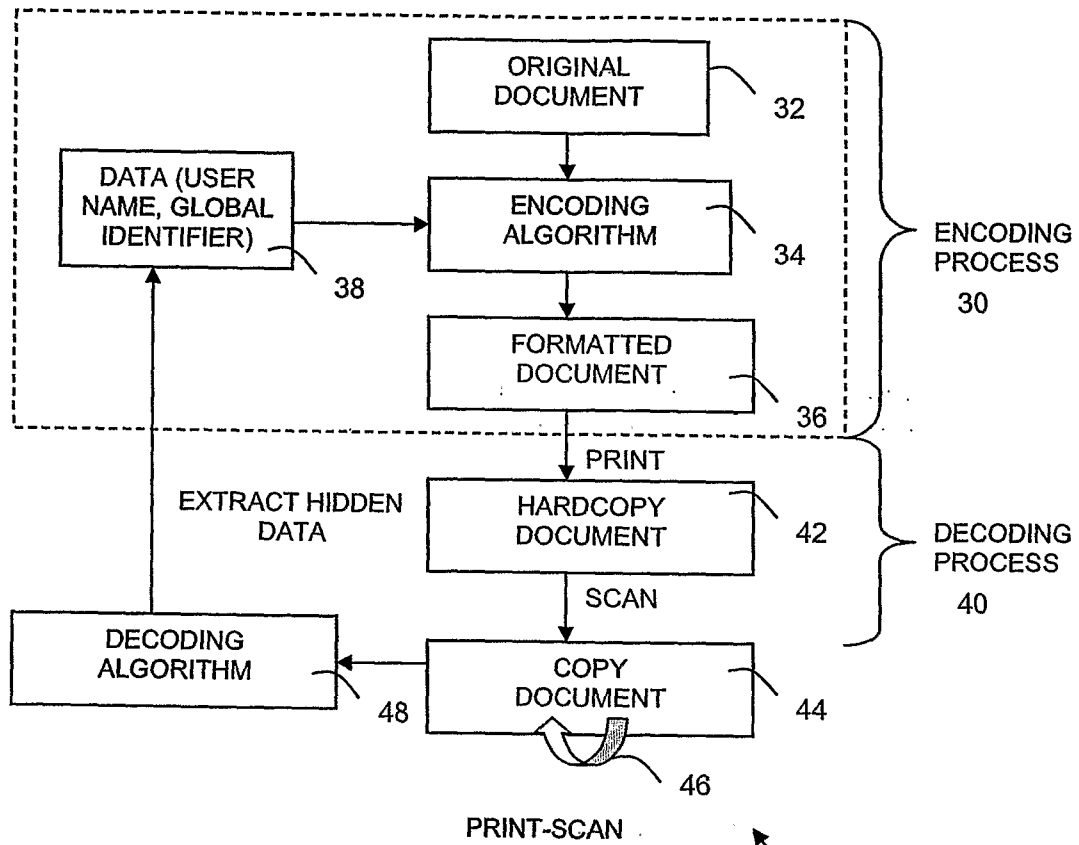
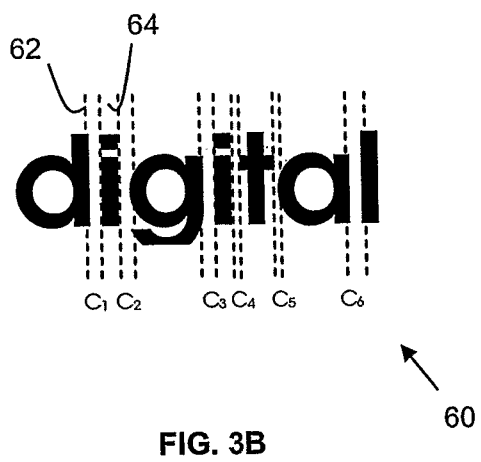
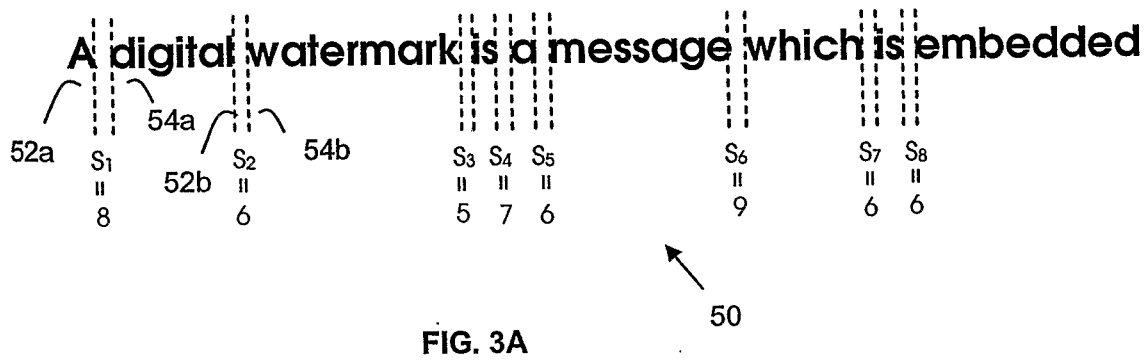


FIG. 2

20



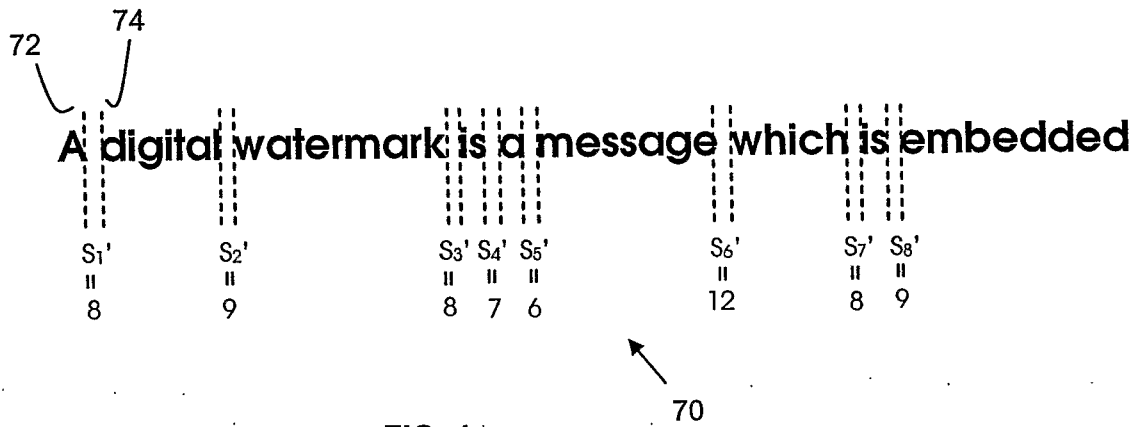


FIG. 4

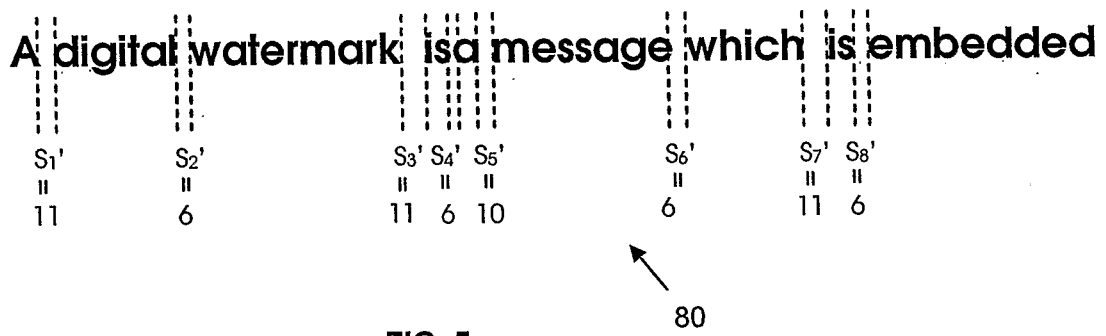


FIG. 5

K (number of inter-word space)	Encoding	Capacity per row
2	Embed(0) = + - Embed(1) = - +	1 bit
3	Embed(0) = + - + Embed(1) = - + -	1 bit
4	Embed(0) = + - + - Embed(1) = - + + -	1 bit
8	Embed(00) = + - + - + - + - Embed(01) = - - + + - - + + Embed(10) = + + + - - + + + - - + + Embed(11) = - - + + + + - -	2 bit
16	Embed(000) = + - + - + - + - + - + - + - Embed(001) = + + - - + + - - + + - - + + - - Embed(010) = + + + - - + + + - - + + + - - Embed(011) = + - - - + - - - + - - - + - - - Embed(100) = + + + + - - - - + + + + - - - - Embed(101) = + - + + - + - + + - + - + + - + Embed(110) = + + + + - - - - - - - - + + + + Embed(111) = - - - - + + + + + + + + - - - -	3 bit

FIG. 6

100

Techniques	Covert storage capacity	Robustness			Document Restrictions	Self verifiable?
		PS	AT	Sc		
Dots encoding	High: > 1000 bits (A4)	1-2	Partial	Yes	Binary text document without halftone	Yes
Space modulation (sentence or words)	Medium: 1 bit per sentence, word	~10	Yes	Yes	NIL	No
Luminance modulation	Medium: 1 bit per word	1-2	Yes	Yes	NIL	Yes
Halftone quantization	High: 1 bit per word or character	1-2	Yes	Yes	NIL	Yes
Component manipulations	High: 1 bit per component variation	1-2	Yes	Yes	NIL	No
Syntactic methods	Low: 1 bit per syntax variation	No limit	Yes	Yes	Language with sufficient syntax variations	No
Current Embodiment of the Invention	High: > 1 bit encoding per sentence	~10	Yes	Yes	NIL	Yes

200

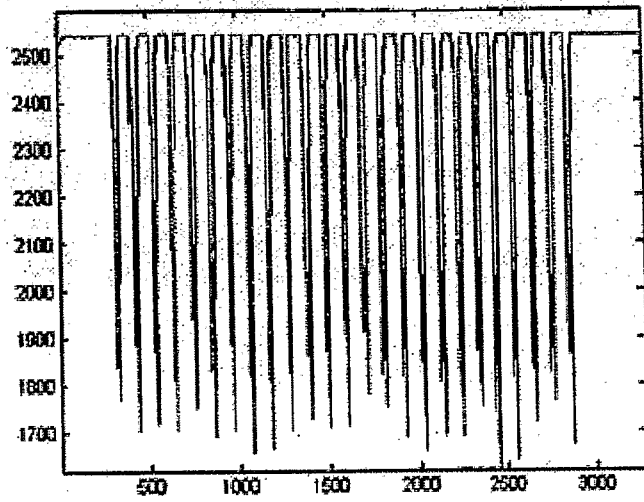
FIG. 7

Table A

Y-coordinates and widths of the lines detected in a typical text page.		
Line Number	Y-Coordinate	Width
1	310	35
2	415	36
3	521	36
4	629	33
5	733	35
6	847	28
7	952	27
8	1055	30
9	1154	37
10	1260	36
11	1366	35
12	1471	35
13	1576	36
14	1690	27
15	1787	35
16	1891	36
17	1997	36
18	2103	36
19	2217	27
20	2315	34
21	2419	36
22	2526	35
23	2632	36
24	2739	35
25	2854	27

FIG. 8A

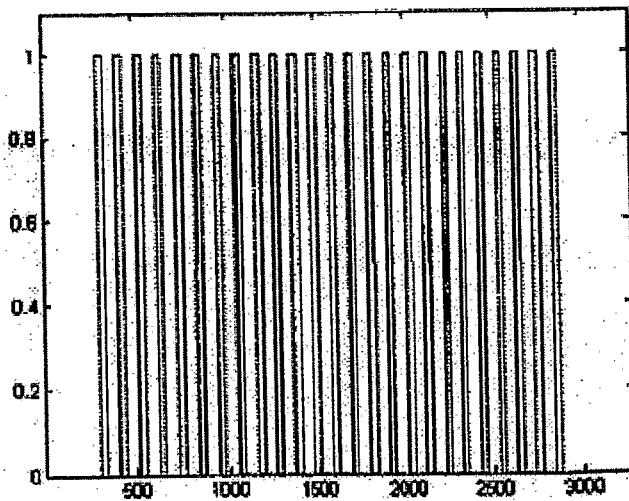
210



Vertical signature

220

FIG. 8B



Extracted lines positions

230

FIG. 8C