

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
28 December 2006 (28.12.2006)

PCT

(10) International Publication Number
WO 2006/137738 A2

(51) International Patent Classification: Not classified

(21) International Application Number:
PCT/NL2006/050145

(22) International Filing Date: 23 June 2006 (23.06.2006)

(25) Filing Language: Dutch

(26) Publication Language: English

(30) Priority Data:
1029326 23 June 2005 (23.06.2005) NL

(71) Applicant (for all designated States except US): **SDU IDENTIFICATION B.V.** [NL/NL]; Jan Van Krimpenweg 19, NL-2000 GH Haarlem (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **VAN DEN BERG, Jan** [NL/NL]; Bloklandpolderstraat 15, NL-2807 LH Gouda (NL).

(74) Agent: **VAN WESTENBRUGGE, Andries**; Nederlandsch Octrooibureau, Postbus 29720, NL-2502 LS Den Haag (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IDENTIFICATION CARD

(57) Abstract: Identification card, in particular a driving licence. On the back thereof, where the categories of vehicles to be driven are recorded, an additional security means is provided to prevent said categories from being imperceptibly altered. This security means consists of a series of cylindrical lenses located next to one another. Therebelow is provided a laser-writable layer wherein the relevant categories may be written. Below said laser-writable layer or at the same level there is attached a series of lines. The lines are attached with a frequency equal to, or a whole number of times less or greater than, the lens diameter. On tilting of the card thus obtained and, more particularly, the back thereof and the portion configured in the above-described manner, a moire pattern of the relevant lines is produced for the user but the information relating to the category of vehicles to be driven remains in the stationary position.



WO 2006/137738 A2

Identification card

The present invention relates to an identification card according to the preamble of Claim 1.

An identification card of this type is known from US 4892336, which describes an identification document provided with a cylinder lens structure, in the focal point of which there is provided a pattern of lines, wherein tilting allows ever-different lines to be perceived.

Cards of this type are constantly being more effectively secured against misuse. An important form of misuse is the alteration of the data provided on the identification card. The prior art discloses a large number of security means against the alteration of photos, imprints and the like. There are various levels of security. After all, some data is more important than other data and therefore has to be protected more effectively.

In the case of some identification cards, such as driving licences, the information both on the front and on the back is important. The term "front" refers to the side including, in particular, data allowing identification of the person in question, such as a photo of the holder of the identification card and biometric characteristics such as height and the like. The card may, of course, contain chips in order locally to check various factors. The term "top" refers, in the present description, to the portion located closest to the observer.

Lower requirements are set to the back of many identification cards.

This is not true, or is less true, of, for example, driving licences, since the back of these indicates the relevant categories that the holder of an identification card is allowed to drive.

US 4765656 discloses a bank card having a cylinder lens structure, wherein the above-described projecting effect of an image is obtained by tilting.

The object of the present invention is to provide a further security means for an identification card. More particularly, this security means is to be such that, on the one hand, variable data, i.e. data which is dependent on the legitimate holder of the card, may easily be attached at the location of the security means and, on the other hand, it is immediately clear if the individually input data has been tampered with.

This object is achieved with the identification card as described above having the characteristics of Claim 1.

It was described above that, according to the present invention, the position of the relevant data is not altered. However, the intensity may change as a function of the angle at which the relevant information is observed.

According to the present invention, a moiré pattern is used in combination with the writable information. Because this individual input information does not meet the requirements met by a pattern providing a moiré pattern, the user will immediately notice, on tilting the relevant portion of an identification card, the occurrence of the moiré effect of the pattern present at all times during the substantial non-alteration of the position of the individually attached information.

Any misuse will be immediately apparent from the local omission of the moiré effect.

The above-described moiré effect may be obtained in any manner known *per se* from the prior art. The moiré effect is produced in a particularly simple manner in that a line pattern is attached below the lenses. Lines of this type are preferably parallel and extend, in particular, at a low angle with respect to the longitudinal axis of the lenses, which are preferably configured as cylinder lenses. This angle is, more particularly, an angle which is between 2 and 6° with respect to the longitudinal centre line of the cylinder lenses and is, more particularly, approximately 3°.

The frequency of the lines, i.e. the distance between the lines, is preferably at most the diameter of the relevant cylinder lenses. If this distance is smaller, the pattern of the lines is preferably such that a fixed number of lines fits within the diameter of the lens.

Instead of lines, parts of lines (strips), points or a "grid" pattern may also be used in combination with the lenses. It will be understood that the lenses may also be configured as lenses other than cylinder lenses.

5

The line pattern or other pattern is preferably located above or next to the written information. This written information may be provided with a laser light-sensitive layer. Examples of a laser-light sensitive layer include a polycarbonate layer having a very low carbon content. Laser light striking the carbon results in the formation of heat, which leads to carbonisation of polycarbonate and resultant blackening. By making the lines or other portions of the moiré pattern (partially) visible, the written text, on attachment of the written text below the moiré pattern, will be significantly more visible.

According to an advantageous embodiment of the invention, the staggered pattern is located in the focal point/focal line of the relevant cylinder lens. The relevant information is preferably not located on the focal point or the focal line but may be attached, viewed from the outside, both before and after the projecting pattern.

According to the present invention, the staggered pattern is, in particular, attached in the form of any printed pattern known in the prior art. The non-staggering information, which is preferably not in focus with the lens, is preferably attached at a later stage and, more particularly, in the above-described manner using a laser beam.

If a European driving licence is to be secured, a reddish/red colour will preferably be used in combination with lenses for the lines, points and the like used to obtain a moiré pattern.

The invention will be described below in greater detail with reference to the embodiment illustrated in the drawings, in which:

30

Figure 1 shows the front of a driving licence;

Figure 2 shows the back of a driving licence according to Figure 2;

Figure 3 is a cross section along the line III-III in Figure 2; and

Figure 4 is a plan view of the lines of the moiré pattern;

Figure 5 shows the moiré pattern produced on tilting of the portion of the driving licence which is configured in accordance with the invention.

5 Figures 1 and 2 show a driving licence 1. The front is denoted by 2 and the back, illustrated in Figure 2, by 3. The front includes data relating to the holder such as a photo 7 and also a description of personal characteristics of the holder.

10 The back, as shown in Figure 2, indicates the categories for which the user is qualified. Additional data may be provided.

15 In order to ensure that illegitimate alteration of the categories is immediately apparent to the inspecting authorities, the security means shown in Figures 2 to 4 is, according to the present invention, proposed. These means consists of a lens structure 9. The lenses 9 are elongate cylinder lenses having a diameter a . These lenses may be made from any known transparent material such as, for example, a polycarbonate material.

20 Below this lens-forming layer is located a layer 10. This layer 10 consists of a laser-writable layer. On its top, the layer 10 is provided with an imprinted pattern. In the present example, this pattern consists of a large number of parallel lines 11 extending at a small angle to the longitudinal axis 16 of the cylinder lenses (Figure 4). In the illustrative embodiment shown, this small angle is approximately 3° . In the present illustrative embodiment, the lines 11, which are provided by the printer (before the attachment of the lenses 9), are red/reddish in colour and transparent to (black) information located therebelow. The distance between the lines is denoted by b . Preferably, $a = n \times b$, wherein n is an integer.

30 Information may be written in the layer 10 with the schematically illustrated laser beam 5. This information is attached in the layer 10 itself and is located below the imprinted lines 11. Because these lines are (partially) transparent, this does not impede the legibility of the information 12.

On tilting of the card shown in the present case, as illustrated in Figure 5, what is

known as a moiré effect will be produced for the observer 15 as far as the lines 11 are concerned. This effect will be clearly visible to the observer. However, the information attached using the laser beam 5 will not demonstrate the staggering effect. The observer will therefore easily be able to see on tilting whether the card has been tampered with.

5

After the above variations will be immediately apparent to a person skilled in the art. It is thus possible to provide numerous other types of moiré patterns. Moreover, it is possible to attach further security means in combination with that described above. Examples include the attachment of a metallic strip which makes photocopying impossible.

10 These and further alterations will be obvious in view of the foregoing and are within the scope of the appended claims.

Claims

1. Identification card (1) comprising a portion (3) provided with a series of elongate adjacent lenses (9), wherein below said lenses there is located an information-containing layer (10) and there is provided a layer pattern of lines and/or points, arranged with respect to said lenses in such a way that on tilting of said portion (3) provided with lenses with respect to the observer, a staggering (moiré) pattern is produced of said pattern with respect to said lenses, characterised in that adjacent to said staggering pattern there is located said information-containing layer, the position of which does not change on tilting of said portion provided with lenses.
2. Identification card according to Claim 1, wherein said information-containing layer is a laser-writable layer.
3. Identification card according to either of the preceding claims, wherein said information-containing layer is located below said pattern.
4. Identification card according to one of the preceding claims, wherein said pattern is attached to said information-containing layer.
5. Identification card according to one of the preceding claims, wherein said information-containing layer is located outside the focal line of said lenses.
6. Identification card according to one of the preceding claims, wherein said projecting pattern is located in the focal line of said lenses.
7. Identification card according to one of the preceding claims, wherein said pattern comprises a grid pattern.
8. Identification card according to one of the preceding claims, wherein said pattern comprises a repetitive pattern, the dimension (b) of said pattern being $1/n$ x the diameter (a) of the lenses, wherein n is an integer.

9. Identification card according to one of the preceding claims, wherein said pattern comprises an imprint of (partially) transparent ink.
- 5 10. Identification card according to one of the preceding claims, comprising a driving licence.
11. Identification card according to Claim 8, wherein the information-containing layer comprises information relating to the category of vehicle to be driven.
- 10 12. Identification card according to one of the preceding claims, wherein said pattern has a reddish colour and is transparent.

Fig 1

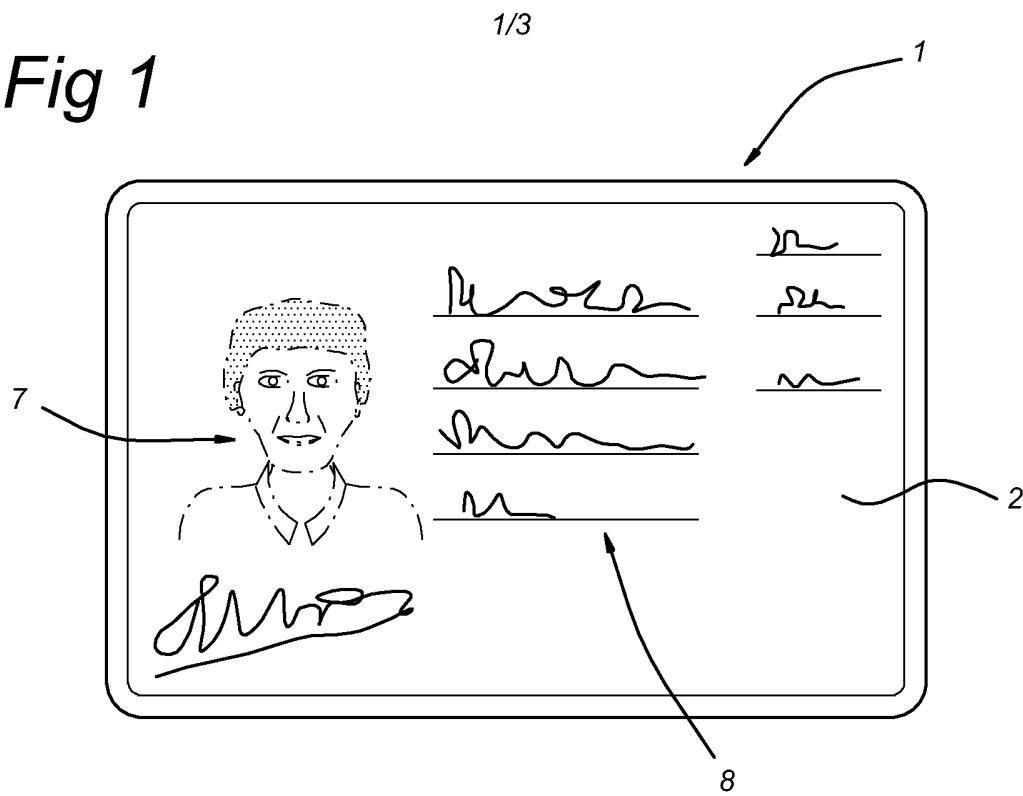


Fig 2

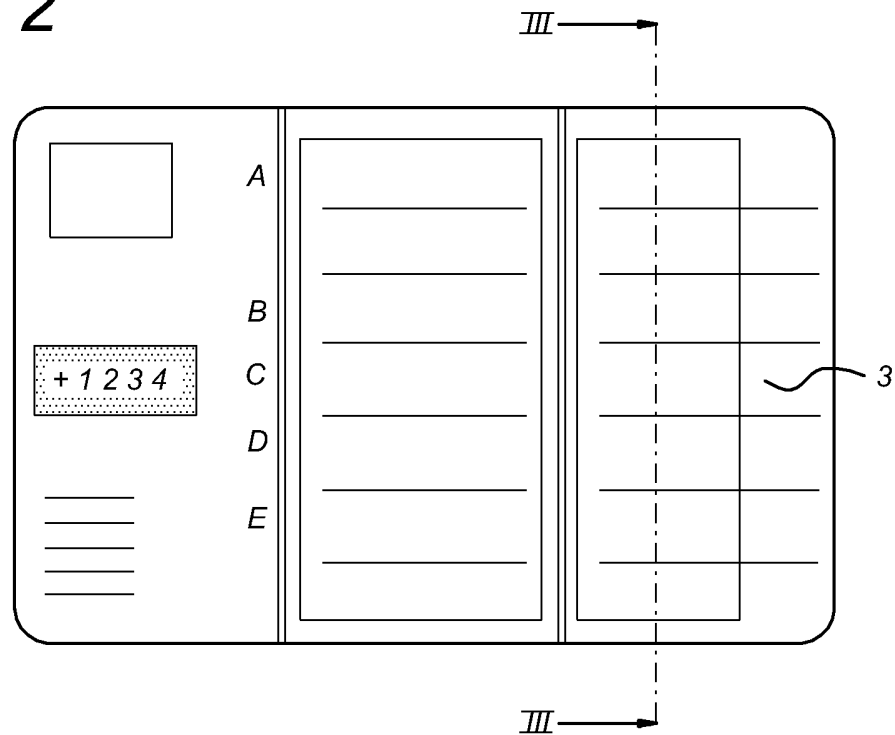


Fig 3

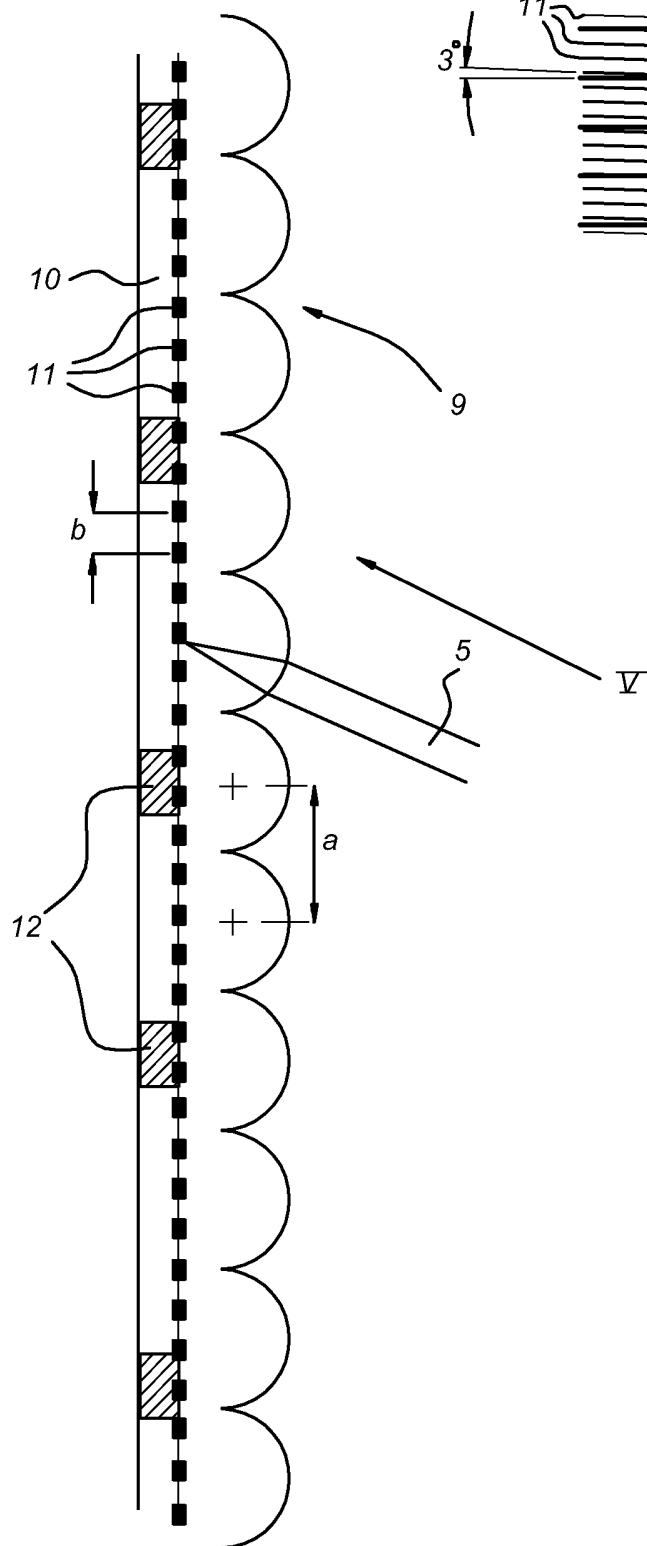


Fig 4

