(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 409 333 A2**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **90201913.2**

(51) Int. Cl.5: **B42D 15/02**

(22) Date of filing: **13.07.90**

(30) Priority: **19.07.89 ES 8902554**

(43) Date of publication of application:
23.01.91 Bulletin 91/04

(84) Designated Contracting States:
AT BE CH DE DK FR GB GR IT LI LU NL SE

(71) Applicant: **I.D. TEC, S.A.**
Po de la Castellana, 132 -9 o
E-28046 Madrid(ES)

(72) Inventor: **Cobian Schroeder, Carlos**
P de la Castellana 132 - 10
E-28046 Madrid(ES)

(74) Representative: **Ungria Lopez, Javier et al**
Avda. Ramon y Cajal, 78
E-28043 Madrid(ES)

(54) Process for the production of highly safe visas on national passports.

(57) With the process of the invention personalized visas which include a photograph of the holder himself are obtained. Said visas can be attained on labels (1) that can be adhered to the passport or on one of the pages of the passport. In any case, the label (1) or page of the passport will be made out of special paper or safety paper with the printed watermarks, frets (2), etc.

The process consists of printing the filial data (3) in a computerized manner also effecting the integration of the photograph (5) either by silver halide diffusion transfer, or by the direct developed positive photoemulsion transfer method or by a conventional photographic process or else by printing or else by digitalization. In all cases there is a record theeof in the corresponding immigration data bank of the country issuing the visa or group of countries with a sole foreign border.

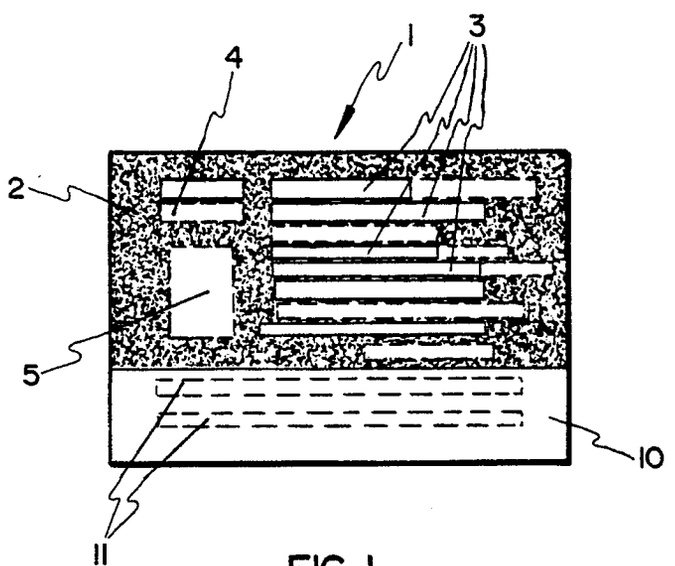

FIG-I

EP 0 409 333 A2

PROCESS FOR THE PRODUCTION OF HIGHLY SAFE VISAS ON NATIONAL PASSPORTS

BACKGROUND OF THE INVENTION

Most of the visas which are issued today by embassies and consulates of countries which bilaterally require this requirement for the entry of citizens of another country are put on the passport by means of seals-stamps in one or two dyes which penetrate the paper of the page of the passport so that they cannot be erased. Now then, these visas can be easily falsified for two very important reasons: a) because said visas do not have safety elements which guarantee that which is essential in a visa, the personalization of such a visa of the holder of the passport in a univocal manner: b) because the visa permits, at the border or immigration station of the country of destination which issues the visa, the documentary demonstration and proof that said visa corresponds to the holder and that there has not been any fraudulent manipulation of the same or of the passport that contains it. In many existing passports the holder's photograph can be replaced once the visa, as they are issued today, has been deposited on one of the pages of said passport, whereby a legal identity on the passport is definitively covering the entry of one person with a false identity in the country of destination. It is known that there are all types of organizations that resort to these fraudulent manipulations and which operate on a world-wide level.

DESCRIPTION OF THE INVENTION

By means of the visa which is obtained with the process of the invention, these problems are overcome. For this purpose, it has been foreseen that the visa which is proposed is univocally related with the holder of the passport, there being no greater guarantee for this purpose than the holder's photograph being integrated on the visa itself. Besides, the visa is highly safe in order to prevent the possibility of reproducing or altering the same.

The fact that the identity itself of the holder of the visa, once the visa has been issued in a computerized manner, is transmitted in the form of data by the embassies or consulates themselves, must be added to this condition. The data are transmitted to an immigration data bank of the country issuing the visa so that by means of scanning at the border the authenticity of the visa and the identity of the holder of the passport are made evident.

The process in question is based on the filial data, validity and/or expiration, control sequential number and other data of the visa that each country considers pertinent, as well as the holder's photograph being integrated on special or safety paper provided with the corresponding frets, watermarks, iris, emblems, etc. This is all computerized so that in the central immigration data bank of the country issuing the visa, or in the group of countries with a sole foreign border, such as the case of the European Economic Community will be, as of 1992, there is a record thereof.

Said process has the purpose of univocally relating the visa itself with the holder of the passport, by means of a photograph; in other words, the visa is personalized by integrating the photograph on the same.

Depending on the process, the visa can be attained either on an independent label which is adhered to the passport itself, or else directly on the passport. In the latter case, the support of the visa-label must be of special or safety paper.

The photograph remains integrated on the visa, either by silver halide diffusion trasfer, or by the direct developed positive photoemulsion transfer method, or by a conventional photographic process, or by electrophotographic or photoelectrostatic printing (laser), or else by digitalization.

In order to complement the description which is going to be made hereinafter and for the purpose of providing a better understanding of the features of the invention, some drawings on the basis of which the process and each one of the types of visa will be described in detail are attached hereto.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1.- It shows a general view of a visa in the form of a label, on which the possible arrangement and configuration of the filial data of the holder and the photograph transferred by silver halide diffusion, or the direct developed positive photoemulsion transfer method or by a conventional photographic process, as well as the data that are printed and that will be optoelectronically legible, and the highly safe validation and printings, can be seen. This figure is likewise valid when the visa is made directly on one of the pages of the passport itself, although in this case without the holder s photograph.

Figure 2.- It shows a section of the structure of

the visa when it is comprised of a label. In this figure the adhesive for adhering the label or visa to the passport, as well as a protective cover which can be optionally placed on the visa are shown independently. The cover is applicable indistinctly to the visa in label form or to the visa put directly on a page of the passport.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As one can see in said figures, and more specifically in figure 1, the visa (1) either formed by a label or put directly on a page of a passport, includes the corresponding safety fets and watermarks (2), which are printed on the label itself or on the page of the passport, as well as the set texts which by way of example correspond to the reference areas (3), and the variable data of the visa, such as the filial data of the owner and of his passport; validity of the visa, controls, etc.; while area (5) corresponds to the holder's photograph, and area (4) to the control number.

When the visa is comprised of a label, as is shown in figure 2, the core consists of a sheet of special or safety paper (6) with the respective designs, watermarks, frets, etc. already mentioned and referred to as (2.)

Said core (6) can be provided with an adhesive (7) so that it be adhered to the passport, or else the adhesive (7′) is placed on the back between a pair of paraffin sheets (8), so that first of all one of the paraffin sheets (8) will be freed to fasten the adhesive (7′) to the passport, and afterwards the other paraffin sheet (8) will be freed and the core itself (6) forming the visa or label (1) will be fastened to the adhesive (7′.)

The safety color printing (frets, watermarks, emblems, etc. (2), as well as the set texts, variable data (3), control number (4), etc.) is printed continuously on web in an individualized manner.

According to a preferred form of the process for the production of the visa, on the cited printed surface of the web of special or safety paper, in other words, the core (6) of the label, is deposited by impregnation by hot extrusion of a very fine layer of polyethylene (9), following application of discharge by crown effect to anchor the fastening of the same on said paper core (6.) Upon said layer of polyethylene (9), which is transparent, a photoemulsion layer (10) is continuously hot deposited and thus a special photographic paper which is cut to the size that it must have as the format of the visa (1) in label form is formed. The photosensitive paper thus produced can be converted into single-sheet paper if between the photosensitive emulsion (10) and the polyethylene layer (9) a transfer layer is deposited for the silver halides of layer (10), which may be a vehicle layer.

Either using the single-sheet photosensitive paper cut into labels for visas, or using the negative-positive process, the corresponding photograph furnished by the holder requesting the visa is exposed in chamber, printing a negative paper which introduced with positive paper in the automatic developing bath with pressure contact, produces the transfer by diffusion of the silver halides of the negative paper to the positive paper, forming the photo of the holder on area (5) of the visa.

As is shown in figure 1, the visa or label comprising the visa produced in accordance with the described process has the particular feature that the safety frets and watermarks (2), as well as the set texts (3) color preprinted on the paper support or core (6) remain in the open and visible after having transferred by diffusion the photo of the holder, and after the automatic developing the surface may remain peeled; in other words, lose the emulsion layer (10) in the points where there has been no transfer of halides.

The variable data of the visa, such as the control number (4), filial data of the holder and of his passport, etc. are printed with a needle impact printer or laser printer connected to a terminal or computer issuing visas in the consulate/embassy, in such a way that said variable texts will personify the visa.

Likewise, the data (11) of the holder's passport and of the visa can be printed with optoelectronically legible OCR types. The signature of the consulate issuing the visa can be set with a pen or felt-tip pen with ink that is very difficult to erase with chemical reagents.

The visa thus formed, as a label, will be adhered to the holder's passport as has been commented above. It may be protected by a transparent sheet (12) of polyester (13) and polyethylene (14), which is hot rolled/laminated on the visa adhered to the passport.

As a safety measure, the polyester layer (13) of the transparent sheet (12) can have printed on its inner surface, frets, coats-of-arms, acronyms, etc. with one or two dyes visible only under ultraviolet light and with close wave lengths.

On the other hand, the embassy/consulate which has issued the visa will previously consult, in the country of origin, the immigration data bank to determine whether the applicant has the requirements necessary for the granting of the visa. Once the visa has been issued, with the visa issuing terminal or computer, the consulate/embassy will transmit to the computer that the immigration data bank of its country has the data of the granted visa, in such a way that at the border or immigration station at the destination the officer, with his termi-

nal connected to said data bank, verifies the authenticity of the visa and of the identity of the holder or, failing this, any fraudulent manipulation of the visa or passport.

As an alternative of the proposed process, the production of visas may be done by means of direct transfer by printing on special paper in the form of a visa-label the filial data, the holder's photo, data of the passport and of the visa itself, all in such a way that said special paper will contain luminescent fibrils, special granules that change colors withspecific reagents or with suds, etc.,as well as water marks.

Starting with this special paper, with these features, the frets, emblems, watermarks, etc. will be color printed on the front surface of the same either in sheets, or webs, as safety and validation elements. Original visas which have not been personalized and in label form are placed in sheets or webs of a personal computer printer, either by perforations to separate the label-visa once it has been personalized, or because the label-visa already has its self-adhesive.

The transfer of the variable data of the visa in the consul/embassy which issues it, is done either by scanning of the photograph furnished by the holder of the passport who applies for the visa, or else by digitalized shot with a video camara of the facial image of the applicant of the visa, directly through a personal or multistation computer, which has a non-impact, photoelectrostatic (laser) printing or electrophotographic print by thermotransfer printer, in color as well as in black and white with a range of grays, so that all the variable data of the visa will be printed, just as it is shown in figure 1. The registers of the visa thus personalized with the holder s photograph printed by thermocomponent, as well as the identification control number itself, once digitalized, are transmitted by the consulate or embassy to the immigration data bank of the country of destination, so that when the holder of the passport with the visa passes through the border of the country of destination his personality can be univocally identified by the officer in the above described manner.

In another alternative or type of visa, this visa can be produced according to any of the cited processes but done directly on one of the pages of the passport. In other words, in this case, instead of a label-visa that is adhered to the passport, all the data are printed directly on the passport by means of a special color printer connected to a personal or multistation computer in the consulate/embassy that issues the visa. The frets, watermarks, etc. are color printed by said printer. The same visa format as the one represented in figure 1 can be obtained. Optionally the photograph furnished by the holder of the passport applying for the visa may or may not be adhered to the passport and the photo may be validated with a safety stamp. However, the photograph may also be printed, and in any case it is digitalized by a scanner connected to the computer of the consulate/embassy, compressing the register thereof by means of a special and original compression algorithm which reduces the content of significant information to 1 KByte or to 4 KBytes, depending on whether the photograph is larger, its quality in gray tones or its contrasts it is in color.

In the computer of the consulate/embassy which has issued this type of visa all the data of the same have remained stored in a digitalized manner in the memory thereof. They are preceded by the visa control or identification number, including the digitalized photo of the holder of the visa. All this register is transmitted to the computer of the country of destination that contains the immigration data bank, by the embassy/consulate of said country which issues the visa. When the person crosses the border the immigration officer introduces the visa in a scanner connected to the border graphic terminal which in turn is connected to the immigration data bank.

Said scanner reads the codification of the visa and automatically interrogates the data bank, which transmits the complete register of the visa. The data of the complete visa including the photograph of the holder of the visa appear on the screen. This way the authenticity of the visa shwon at the border and the personality of the holder thereof are revealed.

Said visa can also be coated with a protective transparent sheet (12) of polyester (13) and polyethylene (14), hot rolled.

The described alternative can be changed in the production of the visas, in order to attain different types within the same general concept established in accordance with the cited personification process.

Claims

1. Process for the production of highly safe visas on national passports, essentially characterized because it consists of printing all the filial data of the holder of the passport for which the visa is issued, as well as the data of the visa itself, on special or safety paper provided with the corresponding security printing frets, watermarks, etc.i special paper capable of consisting of a label that can be adhered to the passport or effecting the cited security printing directly on one of the pages of the passport; it being provided that, aside from printing said information, in the case of being a label, the holder's photograph is integrated; while in the case of

doing so directly on one of the pages of the passport, the photograph is optionally adhered or printed, following digitalization of the same, this all being done in a computerized manner in order to have a record thereof in the central immigration data bank of the country issuing the visa, or group of countries with a single foreign border.

2. Process for the production of highly safe visas on national passports, according to claim 1, characterized because the surface of the label of the visa with the security printing, on which the set texts and variable texts are optionally pre-printed, is optionally covered by depositing or extruding a fine transparent polyethylene layer, effecting in turn upon said layer a photosensitive emulsion deposit, constituting positive black/white or color photographic paper for transfer of the photograph by silver halide diffusion, or by the direct developed positive photoemulsion transfer method or by a conventional photographic process, either applying the single sheet or negative-positive system with developing by contact and pressure in an automatic developing bath.

3. Process for the production of highly safe visas on national passports, according to claims 1 and 2, characterized because after the transfer by diffusion, or the direct developed positive photoemulsion transfer method or by a conventional photographic process the photograph of the holder, the filial data, validity and/or expiration and other data of the visa will be printed. This printing is done by needle printer or by printing without impact: Likewise the printing is done in OCR characters or ones of any other type which are optoelectronically legible.

4. Process for the production of highly safe visas on national passports, according to the above claims, characterized because the photograph is transferred to the label forming the visa, following scanning. Said transfer is done by electrophotographic, laser printing or photoelectrostatic printing.

5. Process for the production of highly safe visas on national passports, according to claim 1, characterized because the printing of the visa itself is done with a color printer or thermoprinter connected to a computer so that the safety frets or printings, as well as the printing of the set texts and filial data, with the corresponding OCR configuration and structure, is done directly on one page of the passport of the holder; with the particular feature that the photograph is optionally adhered or printed and always digitalized by scanning. Afterwards, there is compression of the register obtained with a special compressing algorithm comprised between 1 KByte and 4 KBytes. The embassy/consulate issuing the visa transmits all the data, including the compressed register of the photograph, to the immigration data bank.

6. Highly safe visa on national passports, which obtained by the process of claims 1 to 4, is characterized essentially because it comprises a label (1) with security color printing of watermarks, frets, etc. (2), as well as set texts (3); with the particular feature that said label (1) includes a core (6) on which said information is printed. On the core (6) there is a photosensitive emulsion layer (10), with the insertion of an extruded transparent polyethylene layer (9), while on the rear surface thereof it has an adhesive (7 or 7′) so that it is adhered to the passport. The possibility of incorporating a protective layer or cover of transparent polyester/polyethylene hot rolled/laminated on the front surface of said label-visa adhered to the passport is also provided.

7. Highly safe visa on national passports, characterized because it consists of safety or special paper provided with frets, watermarks (2) and other safety elements, with the particular feature that upon said special or safety paper the photograph (5) of the holder, as well as the set and variable data (3) for identification of the holder are incorporated. The latter are transferred by means of printing with a printer.

8. Highly safe visa on national passports, according to the above claim, characterized because the special paper with the frets, watermarks, etc. (2) is formed by a sheet or core (6) which on its reverse side had an adhesive layer (7) for the adhering thereof on the passport itself, while on the front surface thereof there is optionally a fine transparent polyethylene layer (9).

9. Highly safe visa on national passports, according to the above claim, characterized because the adhesive layer is an independent layer (7′) protected between a pair of paraffin sheets (8.)

10. Highly safe visa on national passports, according to claims 1 to 4, characterized because the label (1) comprising the visa itself, is capable of being protected by a cover transparent sheet (12) formed by the superimposition of a polyester layer (13) and a polyethylene layer (14,) that is thermoliminated with the visa-label by means of a special thermoadhesive consisting of polyolefin.

11. Highly safe visa on national passports, according to the above claims, characterized because the special paper with frets, watermarks (2), etc. consists of one of the pages itself of the passport, likewise including the set and variable data, as well as the photograph of the holder.

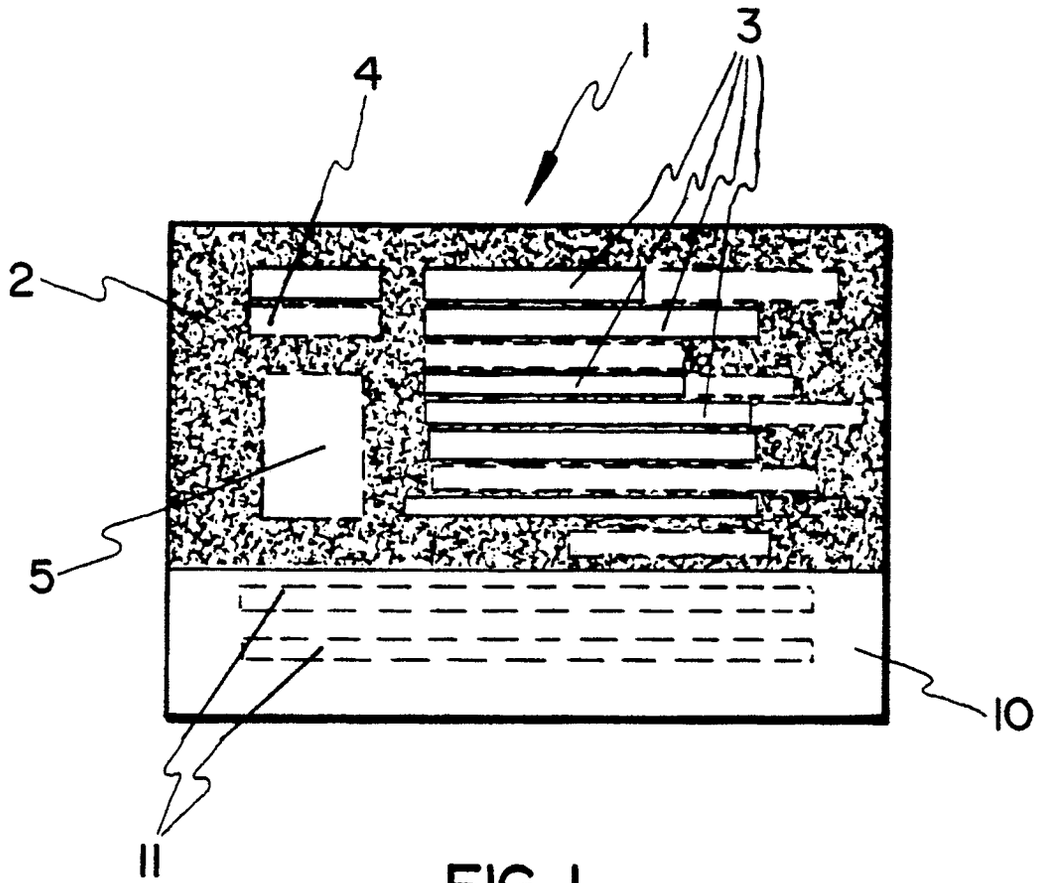

FIG-1

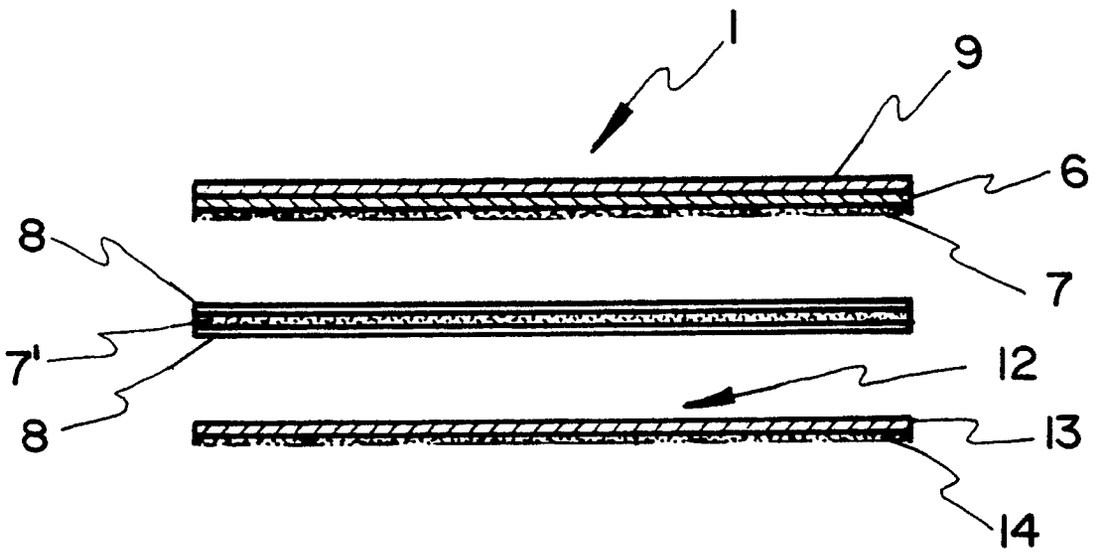

FIG-2