



US 20090230184A1

(19) **United States**

(12) **Patent Application Publication**
Kubota

(10) **Pub. No.: US 2009/0230184 A1**

(43) **Pub. Date: Sep. 17, 2009**

(54) **DISCERNMENT CARD AND A DISCERNMENT CARD BUSINESS SYSTEM WHICH EMPLOYED THE DISCERNMENT CARD**

Publication Classification

(51) **Int. Cl.**
G06K 5/00 (2006.01)
G06K 19/00 (2006.01)

(76) **Inventor: Yoshinori Kubota, Tokyo (JP)**

(52) **U.S. Cl. 235/380; 235/487**

Correspondence Address:
COWAN LIEBOWITZ & LATMAN P.C
1133 AVENUE OF THE AMERICAS, 1133
AVENUE OF THE AMERICAS
NEW YORK, NY 10036 (US)

(57) **ABSTRACT**

A discernment card (1) is provided with at least one identity information recording portion (20) in card main body (10) integrally formed with 6-4 titanium alloy, the identity information recording portion (20) having plural cells (30) divided in the direction of long sides of the card and arranged in direction of short sides of the card, the plural cells consisting of the first identity information of strait line patterns with predetermined angle inscribed on the surface and the second identity information defined by the predetermined depth in which the cells are inscribed, combination of the first identity information and the second identity information creating plural-specific identity information. The surface of the discernment card is colored by metallized layer. The identity information is inscribed by laser puncheon. This discernment card can be utilized for dealing system by Automated-Teller Machine.

(21) **Appl. No.: 11/661,766**

(22) **PCT Filed: Dec. 18, 2006**

(86) **PCT No.: PCT/JP2006/325213**

§ 371 (c)(1),
(2), (4) **Date: Mar. 5, 2007**

(30) **Foreign Application Priority Data**

Aug. 22, 2006 (JP) 2006-225598

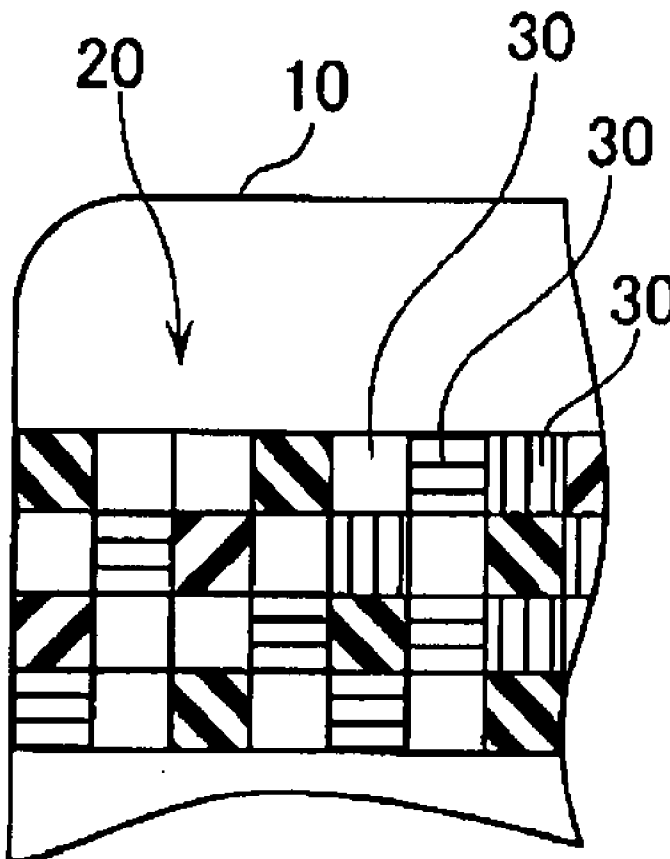


FIG.1

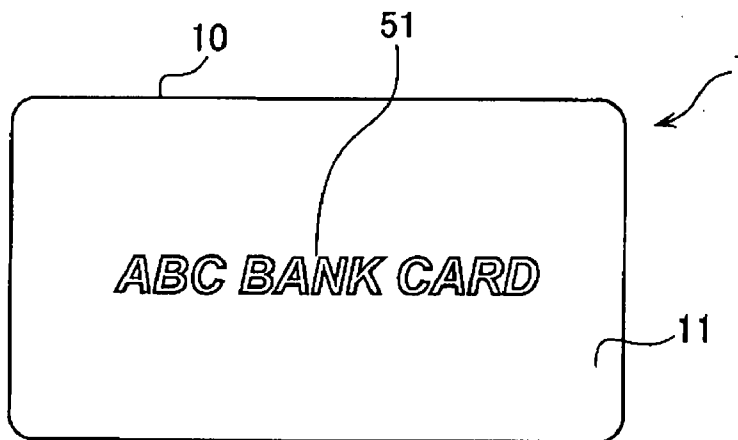


FIG.2

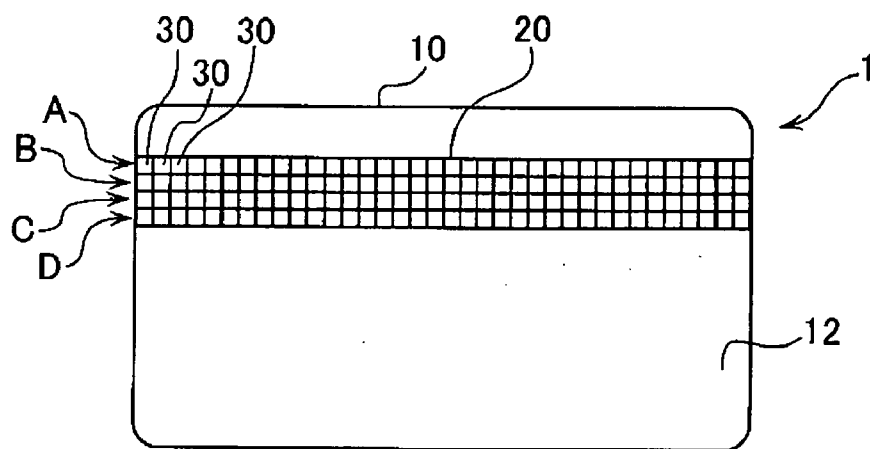


FIG.3.

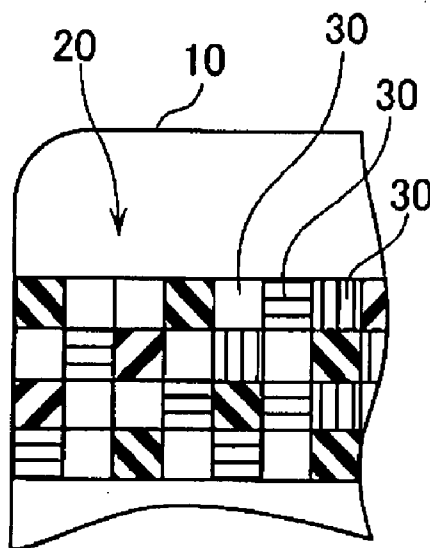


FIG.4

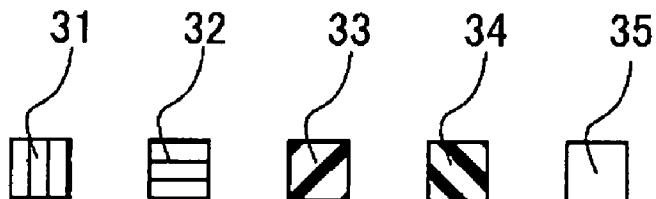


FIG.5

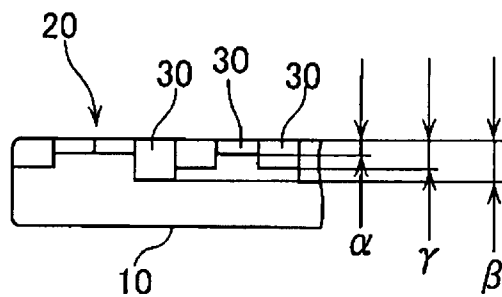


FIG.6

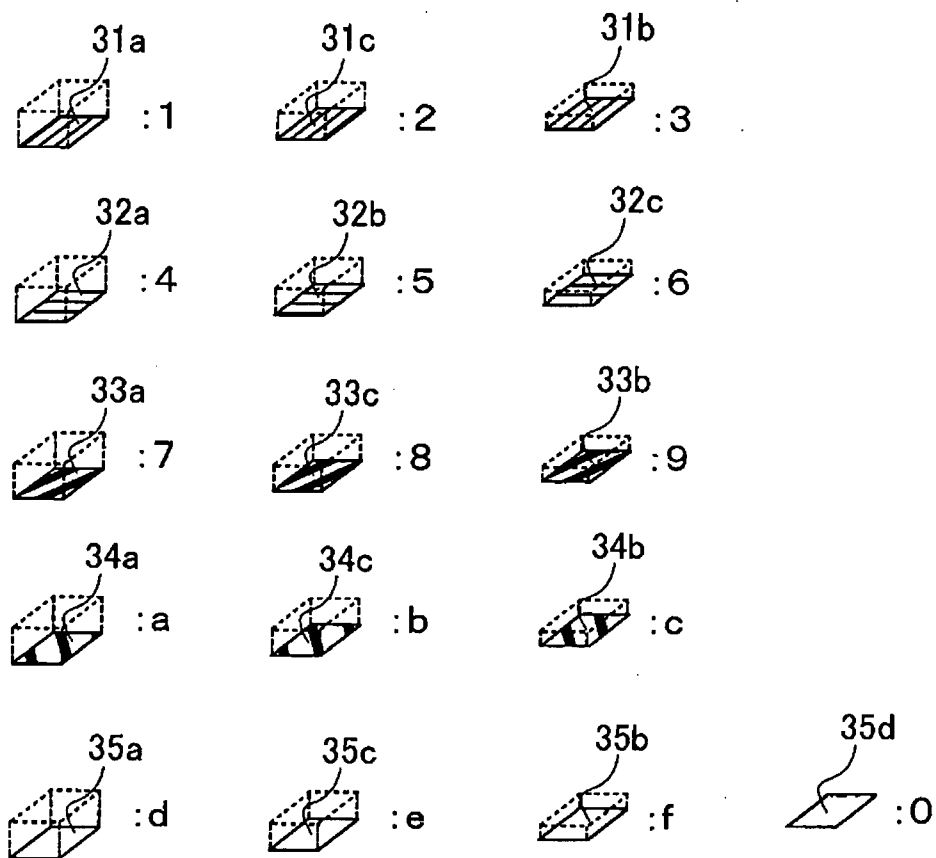
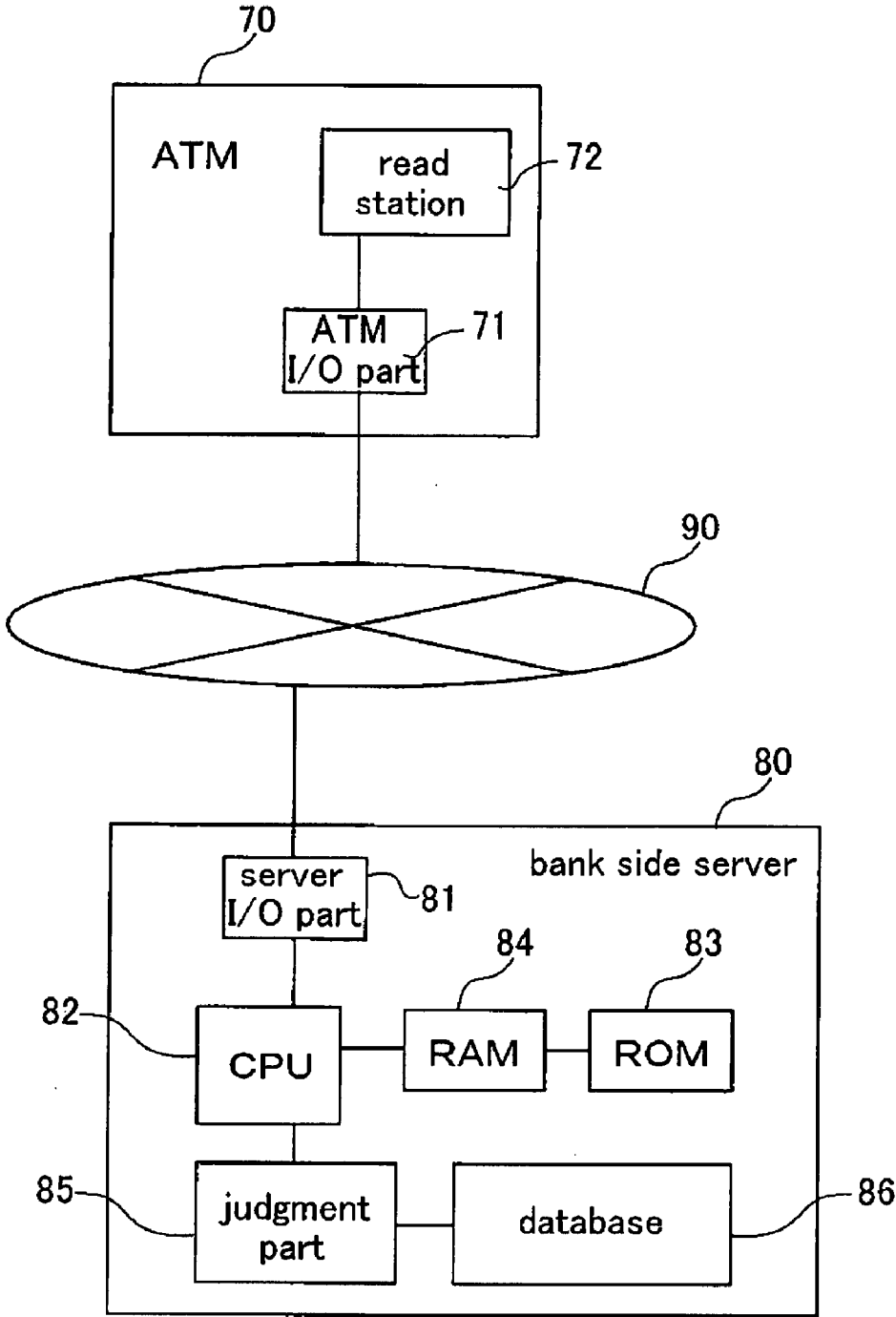


FIG. 7



DISCERNMENT CARD AND A DISCERNMENT CARD BUSINESS SYSTEM WHICH EMPLOYED THE DISCERNMENT CARD

FIELD OF THE INVENTION

[0001] The present invention relates to a discernment card and more particularly to a discernment card comprising a card main body integrally formed of a high strength alloy and having an identity information recording portion. Furthermore, the present invention also relates to a discernment card business system uses the discernment card. In addition, according to the present invention, the discernment card includes a card in the form of a thin bar, an ID card and the others to prove social position of an owner generally in addition to use of the discernment card with an Automated-Teller Machine (hereinafter called as "ATM") or credit settlement systems.

BACKGROUND

[0002] Conventionally, for example, a magnetic body domain is comprised on one surface side of a card main body formed of a resin material such as chloroethylene resin or PET (a polyethylene terephthalate) resin as a discernment card employed by ATM and credit settlement systems. Discernment cards which record identity information magnetically in the magnetic body domain according to an appointed standard are known. In addition, one example of such a discernment card is disclosed by Japanese Patent Laid-Open No. 2003-154778.

[0003] In such a conventional discernment card, there was a problem that a discernment card was easy to be damaged or bent. For example, resin materials used are subject to softening upon exposure to heat such that a resin card, when exposed to heat, is easily deformed or damaged.

[0004] Furthermore, in use of a discernment card, ATM and credit settlement machines cannot accept or recognize a damaged discernment card, so that an owner of a damaged discernment card cannot be identified and a new discernment card must be re-issued, which is a very troublesome procedure.

[0005] Thus, a discernment card that is formed by means of a metal material has been tried. However, a metallic discernment card can be troublesome for an owner carrying the card because of the increased weight, for example in the event that an iron material is used. In addition, with an aluminum material, the weight of the card may be improved, however, weakness against bending and heat may not be improved.

[0006] Furthermore, in a conventional discernment card, identity information is recorded by means of magnetism, according to an appointed public standard, in a magnetic body domain of a magnetic strip being comprised on one surface side of the card main body. In a conventional ATM or credit settlement system, by reading the identity information of the card in a magnetic reader, and accessing a database of a host computer, confirmation of a contract state of the owner of the card is possible.

[0007] Since a standard of the magnetic arrangement is published, identity information can be read by means of a commercial magnetic reader in addition to conventional ATM and credit settlement machines.

[0008] Against the intentions of an owner of a discernment card, identity information can be read these days by means of

the commercial magnetic reader, and read identity information then may be copied to other discernment cards, in a criminal act referred to as so-called "skimming" or making an illegal copy. It becomes a social problem that an owner and a discernment card company are seriously damaged because of the illegal use of such an illegally copied discernment card by a person other than its regular owner. In addition, there was the problem that personal information had been left out of by means of skimming with personal information having been included in identity information of a conventional discernment card.

[0009] Furthermore, there exists a problem wherein identity information is lost in cases that a discernment card is exposed to a strong magnetic field such as, for example, a magnet or a television set because the information was magnetically recorded in the magnetic strip.

SUMMARY OF THE INVENTION

[0010] It is an object of the present invention to provide a discernment card that is strong, is not damaged by bending or high heat, recorded identity information is not copied falsely, personal information is not leaked, and identity information is not erased. Furthermore, it is an object of the present invention to provide a discernment card business system which uses the discernment card, and which prevents illegal use of identity information.

[0011] According to one aspect of the present invention, a discernment card comprises a card main body integrally formed of a high strength alloy, having at least one discernment information recording portion consisting of specific identity information inscribed on the card main body. Plural cells are inscribed at a predetermined position of the card main body, in the identity information recording portion. Specific identity information is specified by means of inscribed depth, inscribed width and inscribed shape of the cells. Identity information may be specified by a pattern inscribed in the cells when specific identity information is specified by means of a combination of first identity information specified by the cell pattern and second identity information specified by the cell depth. In addition, the second identity information may be specified by depth of the cells.

[0012] Furthermore, plural cells may be divided and arranged between short sides of a card, and divided and arranged between long sides of the cards. In one example, 144 cells are arranged in a four by thirty-six (4 by 36) cell grid.

[0013] The first identity information may be specified by means of a combination of a straight line pattern of a plural number of lines inscribed in each cell with a predetermined angle at plan view. The straight line pattern may be a vertical pattern, horizontal pattern, a left oblique pattern, a right oblique pattern at plan view.

[0014] In addition, the surface of the card main body may be a high strength alloy as 6-4 titanium alloy colored smartly by a metal evaporation layer. The identity information may be inscribed by a laser engraver. In addition, a discernment card can employed by an Automatic Teller Machine.

According to another aspect of the invention, a trading system utilizes the aforementioned discernment card. The system comprises a discernment card according to the aforementioned description; a client system for reading specific identity information inscribed in the discernment card; a server system connected with the client system through a network; a data base provided in the server system and having said specific identity information and the information of owner of the

discernment card recorded therein; and a judging portion provided in the server system and matching said specific identity information with records in the data base, wherein the client system reads the specific identity information according to the pattern inscribed in the discernment card and further the judging portion identifies the owner of the card by checking with the data base in the server system.

[0015] According to the present invention, a discernment card is provided which is strong, and is not damaged by bending or exposure to high heat. Further, according to the present invention, recorded identity information cannot be copied falsely, personal information is not leaked, and identity information cannot be erased. Furthermore, the discernment card business system in which the discernment card is employed is prevented from illegal use of identity information.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a plan view showing a surface of a discernment card of an embodiment of the present invention.

[0017] FIG. 2 is a plan view to showing the rear side of a discernment card.

[0018] FIG. 3 is a detailed view of a portion of an identity information recording portion of the rear side of the discernment card of FIG. 2.

[0019] FIG. 4 shows straight line patterns that may be recorded in the identity information recording portion.

[0020] FIG. 5 shows depths of a recorded straight line pattern inscribed in an identity information recording portion.

[0021] FIG. 6 shows a combination of the first identity information and the second identity information.

[0022] FIG. 7 is a block diagram of the business system which employed a discernment card.

DENOTATION OF REFERENCE NUMERALS

- [0023] 1a discernment card
- [0024] 10 the card main body
- [0025] 20 a identity information recording portion
- [0026] 30 the plural cells which are arranged by a identity information recording portion

DETAILED DESCRIPTION

[0027] A discernment card 1 related to the first embodiment of the present invention is described based on an attached drawing as follows.

[0028] A discernment card 1 according to the present embodiment is employed mainly by ATM and credit settlement systems and as a so-called bank card or a card named credit card.

[0029] The discernment card 1 may comprise a physical characteristic prescribed in "JISX6301" or "an ISO/IEC7810" standard. In other words, length of a long side direction of a card (left and right-hand direction in the drawing) is 85.6 mm, the length of a short side direction (up and down direction in the drawing) is 54 mm, and the thickness is formed in 0.68 mm-0.84 mm.

[0030] In addition, size of a card follows the aforementioned standard since it is assumed to use the discernment card 1 for ATM and the credit settlement in a the present embodiment, but in order to adapt the card to other standards, the size of the card may correspond to that set forth by another standard.

[0031] A discernment card 1 is formed by a high strength alloy by one body. For example, the discernment card 1 may be formed from a sheet material consisting of a high strength alloy referred to as so-called 6-4 titanium sorted by "JIS60 class" (TAP6400) or "ASTMGrade5" in a press punching process, to be concrete by the shape.

[0032] The whole of discernment card 1 that such a physical characteristic is possessed is as a card main body 10, and the surface of the card main body 10 is processed by the metal evaporation layer on which a metal ion is electrodeposited. For example, card main body 10 is colored black, gold, platinum, pink, or blue by such a processing. In addition, even if the coloration by the metal evaporation layer of the card surface is rubbed in a use state of discernment card 1 or the card surface is washed with powerful detergent, the coloration is not removed easily.

[0033] In addition, the coloration by the metal evaporation layer was adopted in order to get the solid coloration in the present embodiment, however coloration can be done with by printing as in a conventional discernment card according to an environment of use of the discernment card 1 and consumer demand.

[0034] For example, in one side, surface side 11 of card main body 10, letters of "ABC BANK CARD" are inscribed by a laser engraver, indicating information of names of discernment card 1, as shown in FIG. 1. In addition, as discernment card information, a desired pattern and the name of the owner of the discernment card 1 may be inscribed in addition to the letters. In addition, discernment card information may be printed to the end that the discernment card information does not come off easily in a use process. Or, a seal may be affixed thereto.

[0035] On another side, the back side 12 of card main body 10, for example, at least one identity information record portion 20 is possessed as shown in FIG. 2. Cells (a cube) 30, 30 . . . of the identity information record portion 20 are introduced and arranged in a grid having a first number of cells extending along a short dimension of a card (A, B, C, D in FIG. 2), and a second number of cells extending along a long card dimension.

[0036] For example, in the present embodiment, the identity information record portion 20 is divided into a grid having, in a length direction, 36 cells, and in a width direction 4 cells. In addition, each cell is arranged without a gap.

[0037] Plural cells 30, 30 . . . , are formed by means of a laser engraver according to a unique, predetermined identity information, forming a grid or matrix as shown in FIG. 3. An arrangement of specific identity information is assigned to information to specify an owner of a discernment card.

In addition, cell shape of a quadrangle was adopted in the present embodiment, however the cell shape may be any other shape in the limit that can record identity information. For example, the shape may be a polygon such as a triangle or a pentagon, circular, or a combination of polygonal and circular forms such as a polygon having arcuate corners.

[0038] In addition, each cell is arranged in the present embodiment without a gap, however it is not limited to this and a gap may be established between each cell.

[0039] The first plural identity information is inscribed as a straight line pattern at a predetermined angle on the surface of a cell as the first identity information. In the present embodiment, a vertical pattern 31, a horizontal pattern 32, a left diagonal pattern 33, and a right diagonal pattern 34 are adopted as shown in FIG. 4 to define four kinds of the first

identity information. In addition, a fifth kind of first identity information corresponds to a lack of any straight line pattern as in cell 35.

[0040] Furthermore, as the second identity information, the first identity information is inscribed at predetermined depth. In the present embodiment, three kinds of second identity information are set by means of inscription at shallow position α , inscription at deep position β , and inscription at a middle position γ between the shallow position α and the deep position β , as shown in FIG. 5 as the second identity information.

[0041] By combining the first identity information and the second identity information, (such as combinations of a vertical pattern at deep position 31a, a vertical pattern at shallow position 31b, a vertical pattern at middle-depth position 31c, a horizontal pattern at deep position 32a, a horizontal pattern at shallow position 32b, a horizontal pattern at middle-depth position, a left oblique pattern at deep position 33a, a left oblique pattern at shallow position 33b, a left oblique pattern at middle-depth position 33c, a right oblique pattern at deep position 34a, a right oblique pattern at shallow position 34b, a right oblique pattern at middle-depth position 34c, no pattern at deep position 35a, no pattern at shallow position 35b, no pattern at middle-depth position 35c), 15 kinds of specific identity information are provided as shown in FIG. 6. Furthermore, in addition to this, a 16th kind of specific identity information is obtained by adding cell 35d having neither a pattern nor a depth.

[0042] In addition, further cases having no depth may be included, including a vertical pattern with no inscription, a horizontal pattern with no inscription, a left oblique pattern with no inscription, and a right oblique pattern with no inscription (not shown). When these are added to the 16 kinds of identity information noted above, 20 kinds of specific identity information can be obtained. Accordingly, an arrangement pattern of 144 cells, each comprising one of the 20 kinds of specific identity information, may have 20 to the 144 (20^{144}) different combinations.

[0043] In the present embodiment, an arrangement of cells inscribed in identity information recording portion 20 is divided into a grid of 36 cell in the card lengthwise direction by four cell steps in a short side direction. However, the number of cell divisions can be freely set according to inscribed information or a pattern rather than limited to this. In addition, the size of a cell may be set freely. In addition, the pattern to be inscribed comprises a straight line pattern in the present embodiment, but other patterns may be used. For example, it may be a curve pattern.

[0044] Furthermore, the identity information recording portion 20 is inscribed with the present embodiment as one zone, however this can be set from inscribed information and point of view on a pattern freely, for example, it may be inscribed as two zones. In addition, identity information recording portion 20 is inscribed on the rear side of card main body 10 as one example in the present embodiment, however it is not limited to this, and the identity information recording portion 20 may be provided by the front surface side of card main body 10.

[0045] In addition, it may be the following identity information instead of the specific identity information adopted in the present embodiment. For example, specific identity information may be specified by means of one of or a combination of depth of the inscribed cells, width of the inscribed cells, or shape of the inscribed cells, among plural cells inscribed at

the appointed position of the card main body. In addition, it may be preferable that specific identity information is specified only by the inscribed pattern on the cells.

[0046] Or specific identity information may be specified by means of the depth of the inscribed pattern as the second identity information.

[0047] In addition, depth of the inscribed pattern on a cell does not need to be uniform. For example, the pattern is inscribed so as to be deep toward one direction can be used as identity information.

[0048] As thus described, it is necessary for a laser engraver and a control program of the laser engraver to inscribe, and to control appointed identity information in order to inscribe specific identity information to other cards by 6-4 titanium alloy with composed discernment card 1 being formed with the 6-4 titanium alloy that card main body 10 is a high strength alloy afresh. Therefore, it is extremely difficult to make an unfair copying of the discernment card in which the same specific identity information as a genuine discernment card 1 is inscribed.

[0049] In addition, discernment card 1 formed with 6-4 titanium alloy possesses characteristics of the 6-4-titanium alloy. For example, while it is very lightweight, and in comparison with other alloys a high hardness is comprised, it is strong to resist bending and stress, and it is not melted or deformed in application of heat.

[0050] Accordingly, even if an owner carried with plural discernment card 1 together, the weight is not heavy. Furthermore, in a use state, in case that a hard object incidentally scrapes the discernment card 1, the discernment card 1 is not disfigured. Furthermore, the discernment card 1 is not compromised or broken off by means of external force, and if it is under an environment of a high temperature, it is neither damaged nor melted by a fire, and it is not deformed. By possessing the aforementioned characteristics, the discernment card 1 can be used for a long time, and it can hold the beautiful surface.

[0051] Furthermore, there is not the worry that personal information is leaked from a discernment card 1 since personal information is not included in the discernment card 1 by the present embodiment. In addition, there is not a concern that identity information may be erased by exposure to a strong magnetic field since the identity information is not magnetically recorded.

[0052] A description is made in a second embodiment of a discernment card business system which employs a discernment card 1 as described above. The constitution and effect of discernment card 1 are not repeated since they are similar to those of the first embodiment. For example, in the present embodiment, discernment card 1 is employed as a cash card (bank card) for an Automated Teller Machine (ATM) issued by the bank, a client system is ATM 70 as shown in FIG. 7, as for the server system, it is with bank side server 80. In this case, ATM 70 is connected to bank side server 80 by means of a network 90 (a dedicated line network, for example, or an Internet net).

[0053] In addition, in ATM 70, a read station 72 reading identity information of identity information recording portion 20 inscribed on discernment card 1 and the read station 72 and ATMI/O part 71 inputting and outputting read identity information and information from bank side server 80 are comprised.

[0054] Furthermore, the bank side server 80 comprises server I/O part 81 inputting and outputting ATM 70 and

identity information. In addition, bank side server **80** comprises the server I/O part **81** connected with CPU **82**. Furthermore, CPU **82** is connected with a ROM **83** in which a program is recorded, a RAM **84** for loading a program recorded in ROM **83** and for storing identity information to input and output temporarily, a judgment part **85** to determine identity information, and a database **86** for recording and managing specific identity information with regard to an individual discernment card.

[0055] In addition, in database **86**, each information, such as an arrangement pattern of specific identity information assigned to every owner of discernment card **1**, an account number of an owner, and the password that an owner established are necessary for accomplishment of ATM business is recorded beforehand. In addition, each information such as the account number or the password established by the owner, which are necessary for accomplishment of ATM business, (so-called personal information) are not recorded in the identity information recording portion **20** of the discernment card **1**.

[0056] In this case, as for the arrangement pattern of discernment card **1**, an arrangement pattern of specific identity information to every card owner is determined at random, and the arrangement pattern is assigned so as not to be the same as an arrangement pattern of specific identity information given to an owner of any other discernment card **1**, and it is assigned. A specific arrangement pattern that conflicts with another is not registered.

[0057] For example, in identity information recording portion **20** of discernment card **1**, as it is described with the first above-mentioned embodiment, as identity information of inscribed cell **30**, **30 . . .** to be concrete, horizontal pattern at the middle position **32c**, right oblique pattern at deep position **34a**, no pattern and no inscription, no pattern at the middle portion **35c**, left oblique pattern at the shallow position **33b**, no pattern at the deep position **35a**, vertical pattern at the shallow position . . . are arranged 144 identity information cells as 36 pieces in the card long side direction and four steps arrangements in the card short side direction.

[0058] In this case, the same arrangement pattern of 144 identity information cells is also related to an owner of discernment card **1** in data base **86** of the bank side server **80** and is recorded along with each information to be necessary for accomplishment of ATM business.

[0059] In such a constitution, when an owner of discernment card **1** inserts the discernment card **1** in an ATM **70**, at first, the ATM **70** reads, by means of laser reader (not illustrated herein) of read station **72**, specific identity information of the cells **30**, **30 . . .** inscribed in the identity information recording portion **20** in turn and then an arranged pattern of read identity information is transmitted to the bank side server **80**. At this time, the first identity information, i.e., vertical pattern **31**, horizontal pattern **32**, left oblique pattern **33**, right oblique pattern **34** and the second identity information, i.e. shallow inscription α , deep inscription β , the aforementioned α and no depth of inscription, are encoded one by one and transmitted by a transmission rule established between ATM **70** and bank server **80**.

[0060] In addition, transmitted data comprising the first identity information and the second identity information is coded by the transmission rule that is not publicly known generally. Therefore, even if transmission data of a transmission process is illegally or improperly acquired by an unauthorized person, it is very difficult to analyze the transmission

data, and to re-construct the first identity information and second identity information. Furthermore, if more than one transmission rule for use in encoded is prepared, and the plural transmission rules are changed appropriately, the transmission data becomes more secure.

[0061] As for bank side server **80** which receives the transmitted and coded arrangement pattern of identity information, the identity information is input into server I/O **81** by ATM **70**. CPU **82** of bank side server **80** carries out a program loaded from ROM **83** of bank side server **80** by RAM **84**. For the identity information input into server I/O **81**, a coded arrangement pattern of identity information is decoded to determine the arrangement pattern of identity information.

[0062] The judgment part **85** compares the arrangement pattern of decoded identity information to a record of the arrangement pattern recorded in the data base **86** together with each information necessary to ATM business, and determines whether a record has a matching identity information. If the arrangement pattern of decoded identity information matches that of an owner of discernment card **1**, the card owner is determined and specified.

[0063] After an owner of discernment card **1** is specified, CPU **82** of bank side server **80** can refer to each necessary information for accomplishment of the ATM business, e.g. account number of an owner or the password that an owner established from a record of an owner in the database **86**.

[0064] Business activity after an owner of discernment card **1** was specified is similar to the business movement that employed in a conventional ATM. For example, CPU **82** of bank side server **80** executes a loaded program in RAM **84** from ROM **83** of bank side server **80**, and an owner carries out business corresponding to operation of the ATM **70**.

[0065] In one example, when an owner performs a deposit operation, after having handled authentication of a password or confirmation of the account balance, cost of the cash which met a demand of an owner is indicated in ATM **70**.

[0066] In addition, in the present embodiment, bank side server **80** comprises judgment part **85**, however the judgment part **85** may be an application program.

[0067] According to the business system which employed such discernment card **1**, personal information is not recorded in identity information recording portion **20** of discernment card **1** at all, however identity information is merely only what is recorded by a unique arrangement pattern.

[0068] Therefore, even if discernment card **1** falls into the hands of a third party against the owner's will, there is no possibility to read personal information of an owner on the basis of information of discernment card **1** illegally.

[0069] Therefore, a skimming crime can be prevented, because there is no possibility for a discernment card to be copied illegally by a person aside from a regular owner, and a discernment card owner, a bank and discernment card publishing company avoid serious damage.

[0070] In addition, even if the person who obtained account numbers of an owner by an unjust method separately was going to make a discernment card **1** falsely, the specific arrangement pattern of identity information assigned to an owner cannot be made and thus an illegal copy of a discernment card **1** cannot be made.

[0071] Again, the discernment card owner, bank and discernment card publishing company avoid serious damage, because it is extremely difficult to make the illegal copy of discernment card **1** as explained in the first embodiment.

[0072] According to a third embodiment, since 16 kinds of specific identity information can be inscribed by means of a combination of the first identity information and the second identity information in identity information recording portion **20** of the second embodiment, a letter can be expressed by means of putting these 16 kinds of specific identity information together.

[0073] In such an embodiment, the constitution and effect of discernment card **1** are similar to those of the first embodiment, and the constitution and effect of the discernment card business system which employs discernment card **1** are similar to those of the second embodiment, and thus are not described again. According to the third embodiment, it is described to express a letter by means of identity information inscribed by identity information recording portion **20**.

[0074] Letters which follow an ASCII (American Standard Code for Information Interchange) standard can be expressed as identity information by means of putting two 16 kinds of specific identity information together according to the ASCII code.

[0075] In addition, letters which follow a JISX0208 standard can be expressed as identity information by means of putting four 16 kinds of specific identity information together according to the JISX0208 code.

[0076] In this case, 16 kinds of specific identity information will be assigned to a hexadecimal code respectively. For example, a pattern can be assigned, as shown in FIG. 6, wherein a "vertical pattern at deep position **31a**" corresponds with a hexadecimal "1", "vertical pattern at shallow position **31b**" with "2", "vertical pattern at middle-depth position **31c**" with "3", "horizontal pattern at deep position **32a**" with "4", "horizontal pattern at shallow position **32b**" with "5", "horizontal pattern at middle-depth position **32c**" with "6", "left oblique pattern at deep position **33a**" with "7", "left oblique at shallow position **33b**" with "8", "left oblique at middle-depth position **33c**" with "9", "right oblique pattern at deep position **34a**" with "a", "right oblique pattern at shallow position **34b**" with "b", "right oblique pattern at middle-depth position **34c**" with "c", "no pattern at deep position **35a**" with "d", "no pattern at shallow position **35b**" with "e", "no pattern at middle-depth position **35c**" with "f", and "no pattern and no depth cell **35d**" with "0".

[0077] As thus described, for example, by means of what is assigned, a code of letter N is prescribed with 004e with hexadecimal when expressing 6 characters of "N, A, K, A, T, A" as the letter which followed a JISX0208 standard and a code of letter A is prescribed with 0041 with hexadecimal, a code of letter K is prescribed with 0046 with hexadecimal, because a code of letter T is hexadecimal, and is prescribed with 0054 and thus "N, A, K, A, T, A" are expressed with "004e, 0041, 0046, 0041, 0054, 0041" with hexadecimal.

[0078] And a letter of "N" is expressed by an arrangement of four specific identity information, "cell **35d** without pattern and depth of inscription, cell **35d** without pattern and depth of inscription, cell **32b** having a horizontal pattern at shallow position, and cell **31a** having a vertical pattern at deep position". On the same way, letters of "A, K, A, T, A" is expressed by four arrangements (cells) of specific identity information similarly respectively.

[0079] Similarly, letters which follow a JISX0208 standard, such as "中, 田" which are a Japanese Kanji Letter are expressed with "4366, 4544" with hexadecimal. When this is expressed by specific identity information of 16 kinds, for example, it can be expressed by "horizontal pattern at deep

position **32a**, vertical pattern at middle-depth position **31c**, horizontal pattern at middle-depth position **32c**, horizontal pattern at middle-depth position **32c**, horizontal pattern at deep position **32a**, horizontal pattern at shallow position **32b**, horizontal pattern at deep position **32a**, horizontal pattern at deep position **32a**" in an arrangement of 8 kinds (cells) of specific identity information.

[0080] In addition, if the allotment is just one example, an allotment of hexadecimal corresponding to specific identity information of a plural number is defined for every owner by means of bank side server **80** at random, and it will be recorded in a record with regard to an owner of database **86**, a definition of an allotment of enormous number can be managed.

[0081] And, in business, an owner is specified from an arrangement of recorded identity information at a predetermined range of identity information recording portion **20** of discernment card **1**, therefore, identity information of a plural number of the owner and an allotment definition of a letter of a JISX0208 standard can decode a letter from an arrangement of identity information. By means of assigning a letter to this information, the letter data is ciphered.

[0082] In identity information recording portion **20** of discernment card **1**, personal information is not recorded in a readable state by normal means, however according to the business system which employs such discernment card **1**, it is merely only that specific identity information that is ciphered as a specific arrangement pattern and is recorded.

[0083] Therefore, even if discernment card **1** falls into the hand of the third party from an owner against will of an owner by any chance, it is very difficult to analyze identity information inscribed by discernment card **1**.

[0084] In addition, even if the person who obtained account numbers of an owner by an unjust method separately was going to make a counterfeit discernment card, specific arrangement pattern of identity information assigned to an owner cannot be made and thus a counterfeit copy of discernment card **1** cannot be made.

[0085] Therefore, a skimming crime can be prevented, because there is no possibility for the use of a discernment card counterfeited or copied illegally by a person aside from a regular owner, and the owner, bank and discernment card company avoid serious damage.

[0086] In addition, in each embodiment, use of the discernment card **1** for business with a bank by ATM was explained as one example, however a use of a discernment card **1** can be applied to the use of a card broadly rather than limited to this.

[0087] For example, it can be employed as a discernment card to access a basic resident register network system to manage an ID card proving personal position and social position and a Japanese family register in a range of the present invention.

[0088] As thus described, when this discernment card is employed as a personal identification card, even if unexpected external force extends to an owner, and it is the situation that birth and parentage of an owner cannot seem to be determined, the discernment card can determine the birth and parentage of the owner without collation of DNA or dental records as was done before.

1. Discernment card comprising:
 - a card main body integrally formed by high strength alloy;
 - and

at least one identity information recording portion consisting specific identity information inscribed on the card main body.

2. Discernment card according to claim 1, wherein plural cells are inscribed on the predetermined position of the card main body and specific identity information of the identity information recording portion is specified by either at least inscribed depth, inscribed width, inscribed shape of cells or combination thereof.

3. Discernment card according to claim 1, wherein plural cells are inscribed on the predetermined position of the card main body and specific identity information of the identity information recording portion is specified by combination the first identity information specified by patterns inscribed to the cells and the second identity information specified by depth of the patterns.

4. Discernment card according to claim 3, wherein the depth of pattern inscribed in each cell is three kinds of levels, first depth level, second depth level and third depth level in order of shallow, the second identity information is specified by combination of plural cells having pattern inscribed at least one kind of depth level among these first to third levels.

5. Discernment card according to claim 1, wherein plural cells are inscribed at the predetermined position of the card main body and the identity information recording portion specify particular identity information by combination the first identity information specified by patterns inscribed on the cells and the second identity information specified by the depth from opening portion to the bottom face of the cells.

6. Discernment card according to claim 5, wherein the depth of pattern inscribed in each cell is three kinds of levels, first depth level, second depth level and third depth level in order of shallow and the second identity information is specified by combination of plural cells having pattern inscribed at least one kind of depth level among these first to third levels.

7. Discernment card according to claim 6, wherein the plural cells are divided and arranged between short sides of the card and between long sides of the card.

8. Discernment card according to claim 7, wherein the plural cells consist of cubic cells and are divided into 36 pieces between short sides of the card and 144 pieces between long sides of the card.

9. Discernment card according to claim 8, wherein the plural patterns are straight line patterns inscribed on the cells with the predetermined inclination at plan view.

10. Discernment card according to claim 9, wherein the predetermined inclination of the plural straight line pattern is vertical pattern, horizontal pattern, left diagonal pattern and right diagonal pattern at plan view.

11. Discernment card according to claim 10, wherein the high strength alloy is 6-4 Titanium alloy.

12. Discernment card according to claim 11, wherein the surface of the discernment card is colored by metallized layer.

13. Discernment card according to claim 12, wherein the identity information is inscribed by laser puncheon.

14. Discernment card according to claim 13, wherein this discernment card can be utilized for dealing system by Automated-Teller Machine.

15. Discernment card trading system comprising:
discernment card according to any of claims 1-14;
client system reading specific identity information inscribed in the discernment card;
server system connected with the client system through network;
data base provided in the server system and recorded said specific identity information and the information of owner of the discernment card therein; and
judging portion provided in the server system and checking said specific identity information with record in the data base,
wherein the client system read arrangement pattern of the specific identity information inscribed in the discernment card and further the judging portion recognize the owner of the card by checking with the data base in the server system.

* * * * *