

COMMISSIONER'S DECISION

Sec. 2 - Customer Identification System for Banks

The claims are directed to a coding system for identifying customers involving a plurality of grids or surfaces each having a plurality of sets of digits arranged in rows and columns. Each individual has a personal positional code which can be checked against a master copy. The system was considered to be only a plan for the conduct of a branch of business. Rejection affirmed.

This decision deals with Applicant's request for review by the Commissioner of the Final Action on application 253,122 (Class 340-124). The inventor is Edward Anthony Smagala-Romanoff. The Examiner in charge issued a Final Action on March 3, 1980 refusing to allow the application to proceed to patent. At the Hearing the Patent Agent for the Applicant was Mr. Robert Mitchell, assisted by Mr. Maurice R. Boiteau, the United States Patent Agent.

The application relates to a coding system for identifying individuals, for example persons entitled to make bank withdrawals. A plurality of grids or surfaces each having a plurality of sets of digits arranged in rows and columns is provided. The number of digits in each set is the same, with the digits on each grid being arranged in a different order from the others. The individual has a personal positional code on the grid, one which always occurs in the same position on a grid, even though the digits may be different. The bank, or identification authority, keeps the grids, and in use presents a randomly selected grid to the user who then must identify the position, and also provide another identification number. If the position and the number match the records kept by the bank, the individual is identified as a person entitled to use the banking service. Figures 1 to 3 illustrate the grids:

Fig. 1

0163	7605	2320	1923
2085	7480	5319	8076
2074	5376	8019	8519

Fig. 2

0274	8576	2023	2319
8520	7804	1953	7680
7420	7653	1980	1995

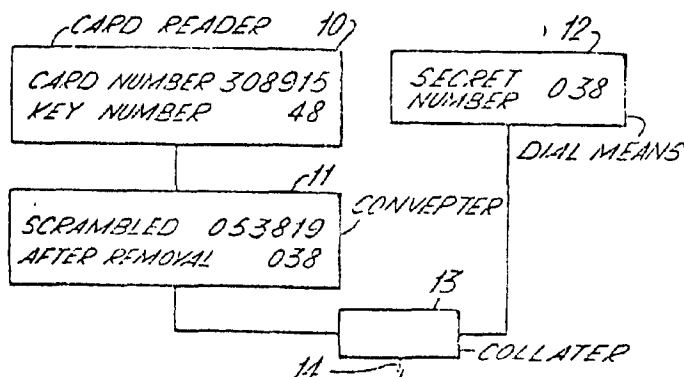
Fig. 3

¹⁰	¹¹	¹²
035 12 6981	01	26
035 12 6981	02	80
035 12 6982	01	32
035 12 6982	02	97

In the Final Action the Examiner rejected the application for disclosing and claiming non-statutory subject matter under Section 2 of the Patent Act, and for insufficiency of disclosure under Section 36(1) of the Patent Act. Further, the Examiner contended that the grid structure disclosed is well known in the art in view of the following references:

United States Patent	3,665,162	May 23, 1972	Yamamoto et al
IBM Technical Disclosure Bulletin	Vol. 13, No. 7	Dec. 1970	Gaston

The Yamamoto et al patent relates to a system which has means for introducing a card having an identification number and a key number thereon, means to convert the key number to a predetermined different number, means scrambling the identification number in accordance with a program using at least one of the numerals constituting the converted key number to achieve a secret number, and means whereby the user enters the secret memory number into the system, and means whereby the system checks the memory number entered by the user against the secret number obtained by conversion, and if they agree, the system is satisfied. Figure 4 below illustrates the system:



The IBM Bulletin discloses a system for one-way transformation of a secret number to a validation code by selection of certain numbers from a table so that upon a certain kind of addition the validation code number will be obtained which matches that on the card. The figure of the Bulletin illustrates the system:

	1st	2nd	3rd	4th	5th	6th
ABC 1		803219				
DE 2				831752		
FG 3			015729			
HIJ 4						
KLM 5					753280	
NO 6						
PQR 7						
ST 8	510573				65534	
UVW 9						
XYZ 0						039602

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 ACC # 15793278
 VALIDATION
 CODE 173096

SAFETY : 813280 → 910573 803219 015729 831752 655341 039602 <u>173096</u>	SAFETY : 813250 → 510573 803219 015729 831752 753280 C 19602 <u>231933</u>
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In the Final Action the Examiner stated, in part:

...

The applicant has disclosed and claimed a multiplicity of grids which consist of sets of digits and numbers; these grids are well known, such as shown in figures 1 to 3 of the United States patent 3,665,162 and the drawing figure in Gaston's "Preventing Of Unauthorized Use Of A Credit Card", IBM Technical Disclosure Bulletin, Volume 13, No. 7, December, 1970, pages 1910, 1911.

...

The essential features of applicant's subject matter lie in "making available for inspection by a person of an alleged identity a grid of digits selected by a representative of a participating location from a multiplicity of different grids each comprising a plurality of each of a number of different digits distributed and arranged so that the position of each digit can be identified in terms of a positional code known to the person of the alleged identity;" and "receiving from the person being checked digits appearing at the positions represented by his positional code in the selected grid" and "comparing the given digits for the specific grid with a record in which the positional code of the client of the alleged identity is recorded, together with an independent identification, in terms of the digits appearing on each of the grids at the positions represented by the code previously provided to him." The applicant has not disclosed any novel apparatus or new electronic circuits to realize these above features, but

he has merely disclosed the schemes or rules which are accomplished by means of a person's interpretive or judgemental reasonings such as "making available for inspection by a person of an alleged identity", "receiving from the person being checked digits appearing at the positions represented by his positional code" and "the positional code of the client"; these numeral schemes and rules for identification purposes are the numeral design matter with intellectual connotation; the features of "the overlay of an object outline" as stated in claim 5, such as the outline of an automobile A shown in figures 1 and 2 serve as a person's memory aid, encompass mental steps and exercises of human judgement and are performed by human eyes and mind. These above features are nonpatentable subject matter in accordance with Section 12.03.01 of the Manual of Patent Office Practice; in this section, (c) states: "Subject matter being any procedure that accomplishes a result by means of a person's interpretive or judgemental reasoning cannot form the basis of a patent"; (e) states: "Subject matter being any scheme or plan, system of doing business, method of accounting or providing statistics, personality or I.Q. test and the like is non-statutory under Section 2." and (f) states: "The subject matter that is new rules for playing games or the like, or comprises printed or design matter having intellectual connotations only is also unpatentable." Therefore, this application is rejected for disclosing and claiming the non-statutory subject matter under Section 2 of the Patent Act.

On page 8 of applicant's disclosure, the applicant has stated that "Although number grids may conveniently be displayed upon screens of computer terminals, the invention may be practised using printed grids and ledgers"; other than the above statement, the disclosure fails to disclose any novel apparatus or new electronic circuits so as to enable any person skilled in the art to make and construct them, and also the disclosure causes the claims not to be tied to specific novel apparatus or new electronic circuits. Therefore, the disclosure is rejected as inadequate and insufficient in view of Section 36(1) of the Patent Act.

...

The Applicant did not agree with the Examiner, and argued (in part):

...

The action of March 3, 1980 by the Examiner is the first time that he has applied the Gaston reference and also the first time that the Examiner has rejected the application under Section 36(1) of the Patent Act for insufficient disclosure. It is accordingly believed that the present application is prematurely before the Commissioner for review, but the Applicant hereby consents to having the patentability of the present application determined by the Patent Appeal Board.

...

As the title of the present application, "Identification Devices and Systems" clearly suggests and as the abstract also lucidly explains, the invention is directed to devices and systems for the purpose of establishing the identity of an unknown person by means of a "positional code" which permits a client to establish his identity by picking identifying digits from any of a multiplicity of grids which may be presented to him at subscriber locations.

...

The two or more positions forming the positional code may be visualized as empty pigeon holes in a sorting rack which will later be filled by random numbers, the various positional codes given to clients remaining constant for later successive identifications regardless of the digits appearing in the specific pigeon holes.

...

the first error is the Examiner's assumption that grids such as that claimed in the present application are known. He apparently decides this on the basis of his statement in his erroneous discussion of Applicant's subject matter in which he states, "These grids are well known such as shown in Figures 1 to 3 of United States Patent 3,665,162 and the drawing figure of Gaston "Preventing Of Unauthorized Use Of Credit Cards, etc."

...

What this patent relates to is a method of scrambling a number on a credit card in such a way that the secret number (single secret number) given to the authorized user of the card to identify himself as the proper user of the card, cannot be determined readily.

...

Gaston also, as the title clearly states, proposes a method for preventing the unauthorized use of a credit card.

...

By contrast with these two references, U.S. Patent No. 3,665,162 and the Gaston publication, the invention of the present application does not at all contemplate the use of a credit card, the possession of a credit card or a system of identification useful in connection with a credit card.

...

For example, both the giving of the positional code and the selection of digits from any grid may be accomplished by means of a mask adapted to fit over a grid of a predetermined size and perforated to permit only those digits which establish the identity of the client to be seen through the mask because these digits occupy positions in accordance with the positional code. It is respectfully submitted that the placement of a mask over a grid of digits does not quantify as an intellectual effort of a particularly high order.

...

While it is true that a part of the apparatus recited in claims 1 to 5 of the systems of claims 7 and 8 and of structure used in practicing methods of claims 8 and 9 may be printed matter, they need not be. Those parts of the claims which would be printed might also be displayed on the CRT of a computer terminal, a point of sale terminal or an automatic teller machine at a bank. The mere fact that in the Examiner's opinion the grids are printed matter does not necessarily make them so or render the claims which include elements that could be printed properly rejectable as printed matter.

...

It seems that by this rejection on grounds of insufficiency of disclosure, the Examiner is trying to impose upon the Applicant the duty to disclose more than he has in fact invented. The specification is sufficiently complete to teach anyone to practice identification methods and to construct identification methods and to construct identification apparatus and systems.

...

The questions before the Board are: whether or not the application contains patentable matter under Section 2 of the Patent Act; and whether or not the application satisfies Section 36(1) of the Patent Act; and whether the claims define patentably over the prior art.

Claim 1 reads:

Apparatus for performing a personal identity check for security purposes at a subscriber location comprising means including a surface upon which one of a multiplicity of possible grids of random digits is displayed, each grid including a plurality of digits, each digit occupying a predetermined and identifiable relative position in the grid and means for identifying the grid.

With regard to Applicant's comments that the Gaston reference, and the rejection under Section 36(1) of the Patent Act for insufficient disclosure, were applied for the first time only in the Final Action, we note that the Gaston reference was made of record by Applicant in a response to a Rule 40 (formerly Rule 39) letter, dated September 5, 1978, and that a rejection for insufficient disclosure under Section 36(1) of the Patent Act was made in the Examiner's action of May 30, 1979. However, since Applicant has consented to a determination of patentability being made by the Board, we perceive that there is no need to consider these objections further.

At the Hearing, Mr. Boitreau clearly presented his view that the invention is directed to an apparatus, a system, and a method which are used to establish an identity of a user so that an identification authority is satisfied. To accomplish such an identification, a positional code is assigned to each user. This code consists of specifically assigned positions on one or more surfaces, usually a set of surfaces, the positions being the same on each surface. Each surface has the same multiplicity of positions normally in rows and columns, onto which a distribution of identifiers is placed, usually digits, to occupy all positions on the surface. Thus, each surface will contain the same amount of identifiers and positions as any other surface, but the distribution of identifiers ensures that corresponding positions on the cards will contain different identifiers. The set of surfaces is numbered and recorded at an identification authority point for that user, together with another identity number of the user. In use, an identification authority picks one of the surfaces from the set, and the user must then select the identifiers which occupy the assigned positions, and inform the authority of these identifiers, and also the user's identification number. The authority then checks its register to verify that the identifiers are correct for that surface and that the identification number agrees. When this is done, the authority is satisfied.

Dealing first with the rejection of the application under Section 36(1) as being insufficient, we find in the first paragraph of page 1 that the invention is concerned with improvements in:

...devices and systems for the positive personal identification of a client for a subscriber, but more particularly the invention relates to improvements in personal identification accomplished without the use of cards or other devices which must be carried by the client....

On page 2 it is stated that the invention:

...includes an apparatus for performing a personal identity check for security purposes at a subscriber location comprising means including a surface upon which one of a multiplicity of possible grids of random digits is displayed.

At the bottom of page 2 there is introduced a register by means of which,
as per page 2a, the

...client is independently identified as by an access or
data number together with appropriate answers based on
his individual positional key to predetermined and identi-
fied grids of numbers.

From the above we find that by amendment the term apparatus is introduced into
the application to describe what was originally called a device on filing.
This apparatus is described and shown as a set of surfaces, each surface having
a plurality of predetermined positions, each position having an identifier
placed therein. Each surface has the identifiers placed in different, prede-
termined positions with respect to the other surfaces, and means to identify
one surface from another. In the claims, the surface is called a grid.

We note that the apparatus is thus only a set of surfaces which are intended
to be held by an identification authority so that, following one way of using the
system, the authority may show one or more surfaces to a user, to have the
user select the numbers occupying the user's positions. We also note that
such apparatus by itself does not perform an identity check. However, we do
find support in the application for the term apparatus, and the things it
includes.

Claim 6 calls for a system used by an identification authority which comprises, a
multiplicity of surfaces (grids) each including identifiers (digits) occupying
predetermined positions, means for identifying each grid, means independently
identifying the user (client), with the identity of the grid and the identifiers
from the predetermined positions, to be supplied by the user.

Claim 8 purports to be a method claim, and is directed to providing a user
with a predetermined, positional code, making available to a user a grid of
digits selected by an identification authority so that the user identifies the digits
occupying the positions of the user's positional code, receiving from the user

the digits selected, comparing the received digits with a record kept by the authority, together with an independent identification by the user also for comparison with the record.

We find that both the system and the method, above, are defined in the application. We also find references in the disclosure to the possibility of using a computer memory together with a terminal for convenience. However, we note that references to the computers and terminals are given to illustrate the way the invention may be used, and that no attempt to define a computer construction has been made. As Applicant noted at the Hearing a computer is not necessary, and this invention is not directed to a computer. Applicant also discussed that an appropriate mask could be used to determine the identifiers which occupy the predetermined positions, and reference to using a mask is found in the disclosure.

In summary, we are of the opinion that the application is not open to objection under Section 36(1) of the Patent Act, because the subject matter claimed finds support in the disclosure.

We now turn to a consideration of whether the application complies with Section 2 of the Patent Act. The Examiner in the Final Action has held as non-patentable:

... the numeral schemes and rules which are accomplished by interpretive or judgemental reasoning; the numeral schemes and rules for identification purposes which are considered design matter having intellectual connotation; an outline such as the automobile in figures 1 and 2 which are considered as encompassing mental steps, and an exercise of human judgement.

We are guided by jurisprudence which indicates that a new arrangement of printed matter which is associated with new structure in such a manner that combines to provide some new and unobvious result, may be patentable. Also, we are persuaded that the decisional law in the United States setting forth and applying the principles governing the patentability of subject matter relating to printed matter is good law in Canada. We refer to in Ex parte Gwinn, 112 USPQ 439 (1955) as reported in the Official Gazette of the U.S. Patent Office, Vol. 716, March 5, 1957, page 17, for a controlling legal principle, which reads:

Claims to an article of manufacture must distinguish from the prior art in structure. Structure includes the various features used together and the relationship therebetween. A combination including printed matter (as distinguished from the significance thereof, either arbitrary or of general acceptance) associated with new structure, or in a new relation to new or old structure so that the combination gives some new and unobvious result, is patentable subject matter, but where the features of structure are old and where the relationship of the printed matter thereto is also old, so that the sole difference is the significance (arbitrary or generally accepted) of the printed matter, there is nothing patentable as an article of manufacture.

In view of the above, printed matter (in any form) may only be considered patentable where it provides some new mechanical function or purpose in a proper combination.

We find that the designation of the position of the random digits is intended for the purpose of conveying a meaning in accordance with the conditions or rules established in the disclosure of the application with respect to the position of the digits. We are of the opinion that the subject matter of this application is not determined by its physical form but by the fact that it conveys information. The designations established by the positional codes may be different from the prior art only due to the meanings which are understood by the designations or meanings ascribed thereto, but in any event we are of the opinion that the difference in the meaning whether generally accepted or as per the rules established in this application, cannot serve to impart patentability to such matter.

Further, we are of the opinion that the idea of selecting digits from a known predetermined position on a surface resides in the same category of subject matter as does a system of doing business, or as does a method of accounting.

Further, we find that the positioning of the digits in a predetermined manner upon a surface amounts to a plan for a more efficient way of conducting some kind of business and does not amount to any mechanical advantage or material product. The result achieved does not produce an article of manufacture. Rather, Applicant takes advantage of the fact that a certain position of numbers may be used in order that a person by selecting numbers placed in such predetermined positions may satisfy a system set down in a register. Thus, Applicant has developed an idea which will be more efficient in determining whether a person is acceptable to an identifying or checking authority, for example by using the human memory facility to select digits and to provide those digits to an authority to be used for checking or verification purposes. However, in arriving at this system of checking a user's credentials, we note that Applicant has not manufactured anything, but has only developed a scheme that is useful in many areas of business where verification of a user is required as part of a business transaction. In summary, we are convinced that the present invention is really a plan for the conduct of some branch of business, which relies on the human act of selecting data on which acceptance or rejection by the system depends. It may be that Applicant's system and method are ingenious, and may be useful, but we are of the opinion that the subject matter is not patentable as envisaged by Section 2 of the Patent Act.

The discussion by Mr. Boiteau introduced U.S. patent 3,609,690, September 26, 1972 to Nissman et al as being a relevant reference. Mr. Boiteau also explained the differences between the Applicant's invention and that disclosed by the Gaston reference, and the U.S. patent 3,609,690, September 26, 1972 to Nissman et al. Gaston relates that the same number is used each time an identification authority makes a check of the user, as does the Nissman et al patent. Mr. Boiteau

also recounted during the Hearing, that according to the application, the numbers that are selected as occupying the positional code, known only to the user, are given, together with another number identifying the user, to an identification authority. Should the comparison be correct, then the system is satisfied. From the information contained in the Nissman patent we find that comparison at an identification authority is made by the user providing numbers known only to the user, together with another number identifying the user, for comparison by an identification authority. We find the end use of each system to be the same. The difference is that in Nissman et al, for example, memory retention of a number is needed for transfer to an identification authority, whereas in the application for example, memory retention of a position is needed, and thereafter as a result of selection by human observation, the user transfers the information derived to an identification authority. In the application, one means of observing the numbers occupying the assigned positions is by using an appropriately perforated mask. As discussed at the Hearing, perforated masks to select the information desired from a surface having writing thereon, is well known, one example being to decode written messages.

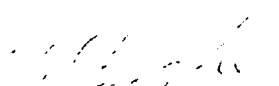
While the Nissman et al patent states that a plastic card may have the coded number included thereon, storage of such information at an identification authority is also done. Thus, Applicant's system requires a user to provide two pieces of information, just as Nissman does.

We are of the opinion that the selection of the numbers occupying the positional code positions, either by means of a mask over a surface, or by visual means, may be a different manner of selection than that disclosed in the Nissman et al patent, or in the Gaston reference, but we are not persuaded that the use of a known mask over a printed surface, or the use of visual selection, amounts to a patentable advance over the art of record.

We believe that the claims which Applicant identifies as apparatus are directed only to printed matter on a surface, from which by using either intellect or a known means, such as a perforated mask known for its capability to contain openings which permit a distinct message to be shown which is separate from the printed matter, the user is provided with a predetermined message distinct from the printed matter on the surface. In other words, the printed matter provides no new mechanical function or purpose to obtain a proper combination.

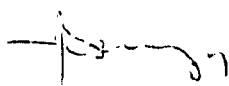
For the reasons we have presented with respect to a consideration of Section 2 of the Patent Act, and in view of the art of record, we recommend that the claims which Applicant identifies as apparatus, be refused.

Further, we recommend that the claims to the system, and to the method, be refused as presenting only a plan for the conduct of some branch of business which relies on the intellect of the user to select data on which acceptance or rejection by the system, depends. In summary, we recommend that the application be refused.



J.F. Hughes
Assistant Chairman
Patent Appeal Board, Canada

I have reviewed the prosecution of this application and considered the recommendation of the Patent Appeal Board. I concur with the reasoning and findings of the Board. Accordingly, I refuse to grant a patent on this application. The Applicant has six months within which to appeal this decision under the provision of Section 44 of the Patent Act.



J.H.A. Gariépy
Commissioner of Patents

Dated at Hull, Quebec
this 16th. day of September, 1981

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