Commissioner’s Decision No. 1518

Décision du commissaire n^{o} 1518

TOPICS: O00 Obviousness

SUJETS: O00 Évidence

Application No. 2,495,718

Demande n^{o} 2 495 718

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,495,718, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019, has consequently been reviewed in accordance with paragraph 199(3)(*c*) of the *Patent Rules* (SOR/2019-251). The recommendation of the Board and the decision of the Commissioner are to allow the application.

Agent for the Applicant

SMART & BIGGAR

2300-1055 West Georgia Street
Box 11115 Royal Centre
Vancouver, BC
V6E 3P3

INTRODUCTION

[1] This recommendation concerns the review of rejected Canadian patent application number 2,495,718 which is entitled "Gaming machine using controllable LEDs for reel strip illumination" and is owned by GTECH GERMANY GMBH ("the Applicant"). A review of the rejected application has been conducted by the Patent Appeal Board ("the Board") pursuant to paragraph 199(3)(*c*) of the *Patent Rules* (SOR/2019-251). As explained in more detail below, our recommendation to the Commissioner of Patents is to allow the application.

BACKGROUND

The Application

[2] The application, with claimed priority date of May 14, 2004, was filed on January 31, 2005, and was laid open to the public on November 14, 2005.

[3] The application relates to reel-type slot machines. More specifically, it relates to an illumination device for backlighting the reel strips in a rotating reel assembly.

Prosecution History

[4] On October 25, 2016, a Final Action ("FA") was issued, in which the application was rejected on the basis of obviousness. The FA stated that claims 1 to 22, dated September 28, 2011 ("the claims on file"), were obvious and therefore did not comply with section 28.3 of the *Patent Act*.

[5] On April 25, 2017, a response to the FA ("R-FA") was filed by the Applicant. In the R-FA, a set of amended claims ("the proposed claims") was also submitted, with arguments in favour of the non-obviousness of the claims.

[6] Since the Examiner maintained the position that the application still did not comply with section 28.3 of the *Patent Act* after considering the R-FA, the application was forwarded to the Board on March 1, 2018, along with a Summary of Reasons ("SOR"). In the SOR, the Examiner stated that the proposed claims were obvious and did not overcome the obviousness objection raised in the FA.

[7] The SOR was forwarded to the Applicant on March 6, 2018. On May 9, 2018, the Applicant indicated its continued interest in the application being reviewed by the Board.

[8] The present panel ("the Panel") was formed to review the instant application under paragraph 199(3)(*c*) of the *Patent Rules*.

[9] For the reasons that follow, it is our view that the application is in a condition for allowance. Therefore, there is no need to hear from the Applicant further on this matter.

ISSUE

[10] The issue to be addressed by the present review is whether the claims on file would not have been obvious to a person skilled in the art, thus complying with section 28.3 of the *Patent Act*.

LEGAL PRINCIPLES AND OFFICE PRACTICE

Purposive construction

[11] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC, essential elements are identified through a purposive construction of the claims done by considering the whole of the disclosure, including the specification and drawings (see also *Whirlpool v Camco*, 2000 SCC 67 at paragraphs 49(f) and (g) and 52). In accordance with the *Manual*

of Patent Office Practice (CIPO) at §12.02, revised June 2015, the first step of purposive claim construction is to identify the skilled person and his or her relevant common general knowledge (CGK). The next step is to identify the problem addressed by the inventors and the solution put forth in the application. Essential elements can then be identified as those required to achieve the disclosed solution as claimed.

Obviousness

[12] The *Patent Act* requires that the subject-matter of a claim not be obvious to a person skilled in the art. Section 28.3 of the *Patent Act* reads:

> The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to
>
> (a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and
>
> (b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[13] In *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61, at paragraph 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to use the following four-step approach:

> (1) (a) Identify the notional "person skilled in the art";
> (b) Identify the relevant common general knowledge of that person;
> (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
> (3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;
> (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

ANALYSIS

Claim construction

[14] There are two independent claims on file:

> 1. A device comprising:
>
> a rotatable reel for a gaming machine, the rotatable reel for supporting a reel strip around its periphery, the reel strip having symbols located along a central portion of the reel strip and having a border between the symbols and side edges of the reel strip;
>
> a first array of light emitting diodes (LEDs) in a fixed position for backlighting the reel strip, the LEDs being controllable to selectively backlight portions of the reel strip, the first array of LEDs being mounted on a first circuit board that substantially faces a back surface of the reel strip;
>
> a second array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a second circuit board substantially perpendicular to the first circuit board and along a first side edge of the first circuit board for illuminating a first side edge of the reel strip, the LEDs in the second array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the second array not being behind any symbols on the reel strip;
>
> a third array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a third circuit board substantially perpendicular to the first circuit board and along a second side edge of the first circuit board for illuminating a second side edge of the reel strip, the LEDs in the third array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the third array not being behind any symbols on the reel strip; and
>
> control circuitry coupled to the LEDs in the first array, second array, and third array to control brightness levels of the LEDs, the control circuitry configured to control the first array of LEDs separately from the LEDs in the second array and third array, such that the LEDs in the second array and third array are controllable to highlight borders of the reel strip, and the LEDs in the first array are controllable to backlight one or more symbols on the reel strip.
>
> 17. A method of backlighting reel strips in a gaming machine, the reel strips being mounted on rotatable reels, the reel strips having symbols located along a central portion of the reel strips and having a border between the symbols and side edges of each reel strip, the method comprising:

energizing a first array of light emitting diodes (LEDs) mounted in a fixed position for backlighting each reel strip, the LEDs being energized to selectively backlight portions of each reel strip, the first array of LEDs being mounted on a first circuit board that substantially faces a back surface of the reel strip;

energizing a second array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a second circuit board substantially perpendicular to the first circuit board and along a first side edge of the first circuit board for illuminating a first side edge of the reel strip, the LEDs in the second array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the second array not being behind any symbols on the reel strip;

energizing a third array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a third circuit board substantially perpendicular to the first circuit board and along a second side edge of the first circuit board for illuminating a second side edge of the reel strip, the LEDs in the third array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the third array not being behind any symbols on the reel strip; and

controlling the first array of LEDs separately from the LEDs in the second array and third array for each reel strip, such that the LEDs in the second array and third array are controlled to highlight borders of the reel strip, and the LEDs in the first array are controlled to backlight one or more symbols on the reel strip.

[15] For clarity, Fig. 2 of the instant application is shown below. Fig. 2 illustrates a reel backlighting assembly 20, which includes printed circuit board 30, and two side circuit boards 32 and 33, boards 32 and 33 being perpendicular to board 30. LEDs 34 and 35 are installed on all three boards 30, 32, and 33. Boards 30, 32, and 33 are affixed to a plastic frame 36, which includes a flange 38. The frame 36 is affixed to a reel frame assembly for backlighting a reel strip (not shown).

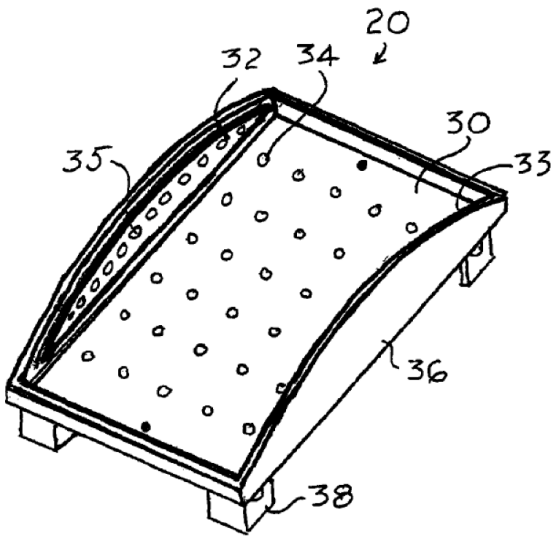

Figure 2 of the instant application

The person skilled in the art

[16] The FA defined the person skilled in the art at page 2:

> The skilled person or persons may consist of electrical engineers familiar with the design of gaming machines lighting, the lighting requirements in a casino and the general design of the illumination of objects including the selection of the type, the power and the placement of light sources.

[17] The Applicant has not disputed this identification and we adopt it for this review.

The relevant common general knowledge (CGK) of the skilled person

[18] The FA identified the CGK of the skilled person at page 2:

> The skilled person has in-depth knowledge of lighting arrangements in gaming machines such as pinball games, reel machines, electronic games of chance, etc. He/she would also be familiar with the configuration and setup of light shows which are displayed by a gaming machine.

[19] The Applicant has not disputed this identification and we adopt it for this review.

Essential elements

[20] In the present review, there was no dispute with respect to whether or not any of the claimed elements of the independent claims were non-essential. Therefore, we consider that all elements of independent claims 1 and 17, which define a combination of features, are essential.

Obviousness

(1)(a) Identify the notional "person skilled in the art"

[21] The person skilled in the art has been identified above at paragraph [16].

(1)(b) Identify the relevant common general knowledge of that person

[22] The relevant CGK of the skilled person has been identified above at paragraph [18].

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

[23] As explained earlier, we have taken into account all the elements of the independent claims 1 and 17 for our consideration of the obviousness of the claims. Dependent claims 2 to 16 and 18 to 22 are dependent upon claim 1 and claim 17, respectively, and recite additional features.

(3) Identify what if any differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed

[24] In the FA and SOR the following documents were referenced:

D1:	CA 2,494,722 A1	Seelig et al.	March 25, 2004
D2:	US 5,388,829	Holmes	February 14, 1995

[25] D1 discloses a lighting system for reel type gaming devices, wherein a plurality of LEDs are positioned on a board to backlight reel strips of the gaming devices. D2 discloses a reel mechanism for gaming machines, wherein one or more conventional lamps are used to backlight reel strips of the gaming machines.

[26] In this review, we consider D1 to be the closest prior art. With respect to the claimed elements of claim 1, D1 discloses:

- A device comprising:
  - a rotatable reel for a gaming machine, the rotatable reel for supporting a reel strip around its periphery, the reel strip having symbols located along a central portion of the reel strip and having a border between the symbols and side edges of the reel strip (Fig.1, Fig. 2, Fig. 3);
  - a first array of LEDs in a fixed position for backlighting the reel strip, the LEDs being controllable to selectively backlight portions of the reel strip, the first array of LEDs being mounted on a first circuit board that substantially faces a back surface of the reel strip (Fig. 2, Fig. 3; paragraphs 46 to 48, and 57);

[27] For clarity, Fig. 3 and 4 of D1 are shown below. Fig. 3 illustrates that a reel light assembly 61 has a board 63, which is attached to a chassis of a reel device. LEDs 88, as shown in Fig. 4, are mounted on board 63 to backlight a reel strip 80, which is attached to a reel circumference 66. Fig. 4 also shows that LEDs are arranged in rows 92 and columns 94 in board 63 to define a matrix.

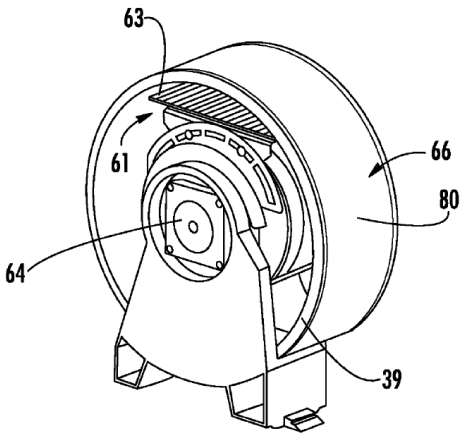

Figure 3 of D1

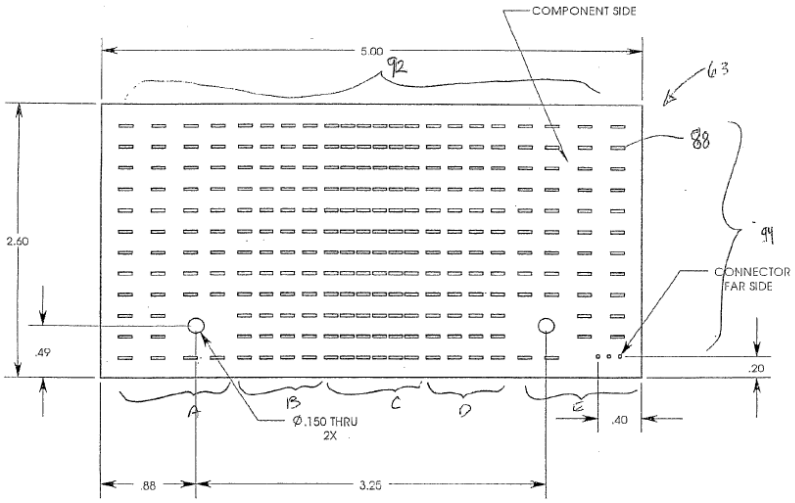

Figure 4 of D1

[28] In the instant application, as described in page 6 of the description and Fig. 2 (depicted above), two specifically designed side panels (elements 32 and 33) are attached to the first circuit board perpendicularly, each panel containing an array of LEDs to provide backlighting for each edge of a reel strip. These LEDs form two vertical strips of lights bordering the symbols on the reel strip, the symbols being backlighted by LEDs on the first circuit board. The LEDs on the two side panels are controlled separately from the first

circuit board, which makes it possible to selectively illuminate the borders to form different dynamic lighting patterns.

[29] As illustrated by Fig. 2 of the instant application and Fig. 3 and 4 of D1, although D1 discloses a panel with a LED matrix used to backlight a reel strip of a game device, which is similar to board 30 of the instant application, D1 does not disclose the two side boards 32 and 33 to specifically illuminate the edges of the reel strip. It is clear that the structure of the LED backlighting assembly 20 of the instant application is different from the structure of LED backlighting board 63 of D1.

[30] D2 was also cited in the FA. As shown in Fig. 1 of D2, one or more conventional lamps 26 are installed inside a common lamp housing 36, whose position can be adjusted to backlight gaming symbols on a reel strip of a gaming device. D2 discloses neither controllable arrays of LEDs for backlighting purposes, nor side boards similar to boards 32 and 33 of the instant application, to specifically illuminate edges of the reel strip.

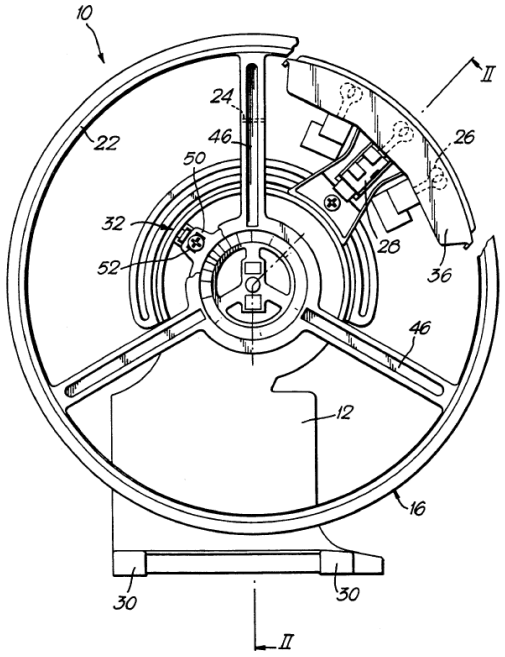

Figure 1 of D2

[31] Therefore, the differences between the inventive concept of the instant application, represented by claim 1, and the state of the art, represented by D1, are threefold:

- a second array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a second circuit board substantially perpendicular to the first circuit board and along a first side edge of the first circuit board for illuminating a first side edge of the reel strip, the LEDs in the second array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the second array not being behind any symbols on the reel strip;
- a third array of LEDs forming a l x N array of LEDs arranged vertically and mounted on a third circuit board substantially perpendicular to the first circuit board and along a second side edge of the first circuit board for illuminating a second side edge of the reel strip, the LEDs in the third array of LEDs being closer to the reel strip than the LEDs in the first array of LEDs, the LEDs in the third array not being behind any symbols on the reel strip; and
- control circuitry coupled to the LEDs in the first array, second array, and third array to control brightness levels of the LEDs, the control circuitry configured to control the first array of LEDs separately from the LEDs in the second array and third array, such that the LEDs in the second array and third array are controllable to highlight borders of the reel strip, and the LEDs in the first array are controllable to backlight one or more symbols on the reel strip.

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[32] Regarding the differences, the FA states (page 4):

> While D1 does not specifically indicate the illumination of the borders of a reel, a person skilled in the art would have understood that the D1 LEDs' array arrangement, implicitly illuminates the borders of the reels. In fig. 2 and 3, D1 presents the reels <u>not being surrounded by walls</u> that would prevent the light from illuminating other areas than the ones directly in front of the LEDs. The skilled person would have seen that the light emitted by the LEDs on the board 63 (fig. 3) would have been reflected by the surrounding surfaces and would illuminate the

> borders of the reel (as indicated by the line of item 39 in fig. 3). Additionally, it would have been obvious to understand that the LEDs of D1 (see fig. 2 and 3) would directly illuminate the border of the adjacent reel.
> ...
>
> It should also be considered that a person skilled in the art would design an illumination system to illuminate an object to a required or desired level. Adding or removing a light source to reduce or increase the illumination of such an object represents an obvious design option.
>
> As described above, D1 implicitly describes a certain level of illumination of the border of the reels. D2 also implicitly describes the illumination of the borders of the reels by the ambient light (see fig. 4) [Emphasis in the original].

[33] In our view, neither D1 nor D2 discloses or teaches using specific backlights to form two vertical border lines and control the border illumination patterns separately from the backlights that illuminate the symbols within the border lines. In D1 or D2, while the edges of the reel strip may be indirectly or accidently illuminated by the LEDs or the conventional lamps, there is no disclosure regarding controlling the directed backlighting of borders of the reel strip and the backlighting of the symbols separately.

[34] The FA (page 3) also stated that each array of the LEDs as claimed performs its function independently, and that the three arrays of LEDs do not cooperate with each other to produce a result that is other than the sum of the results of the parts. However, after considering the specification as a whole, it is our view that the combination of these separately-controlled backlighting arrays form related and cooperative lighting patterns visible to game players, rather than unrelated lighting patterns from separate light sources. The specification of the instant application indicates that the combination of the LED arrays provides different lighting patterns in different game playing scenarios (pages 6, lines 23 to 30; page 8, lines 12 to 15). In each of these patterns, both backlighting of the borders and backlighting of the symbols are parts of an integrated illumination effect.

[35] Furthermore, although the skilled person may be aware that LEDs can be used to replace conventional lamps for energy efficiency and more versatile display patterns for game machine backlighting, as shown in D1, it is our view that the skilled person would not have thought of designing specific panels with LED arrays using the three-panel structure as claimed, and controlling the illumination of borders and gaming symbols separately. In

our view, the differences between the inventive concept of claim 1 and the state of the art is not merely a straightforward design option. Instead, the inventive concept is directed to an illumination device and method of using the combination of separately-controllable LED arrays to achieve backlighting for both gaming symbols and its borders to form various lighting patterns. None of the prior art on record teaches the above differences alone or in combination. Therefore, the claimed subject matter of claim 1 of the instant application would not have been obvious to the skilled person.

[36] Since claim 1 has been found to define subject-matter that would not have been obvious, claim 17, which include similar elements of claim 1, is also considered to be non-obvious. Dependent claims 2 to 16 and 18 to 22 would not have been obvious because of their dependence on claim 1 and claim17, respectively.

Conclusion on obviousness

[37] We have determined that the subject-matter defined by claims 1 to 22 on file would not have been obvious to the person skilled in the art. Thus, in our view, these claims comply with section 28.3 of the *Patent Act*.

RECOMMENDATION OF THE BOARD

[38] For the reasons set out above, we are of the view that the rejection is not justified on the basis of the defect indicated in the Final Action notice and we have reasonable grounds to believe that the instant application complies with the *Patent Act* and the *Patent Rules*. We recommend that the Applicant be notified in accordance with subsection 86(10) of the *Patent Rules* that the rejection of the instant application is withdrawn and that the instant application has been found allowable.

[39] As we consider the application in its present form to be allowable, we have neither reviewed the proposed claims nor the proposed amendments to the description. In accordance with paragraph 199(3)(*b*) of the *Patent Rules*, these proposed amendments are considered not to have been made.

Liang Ji Member	Andrew Strong Member	Ed MacLaurin Member

DECISION OF THE COMMISSIONER

[40] I concur with the findings and the recommendation of the Board. In accordance with subsection 86(10) of the *Patent Rules*, I hereby notify the Applicant that the rejection of the instant application is withdrawn, the instant application has been found allowable and I will direct my officials to issue a Notice of Allowance in due course.

Johanne Bélisle
Commissioner of Patents

Dated at Gatineau, Quebec,

this 10th day of February, 2020.