

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* MICHAEL GAUSELMANN

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Appeal 2007-1436  
Application 10/390,318  
Technology Center 3700

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Decided: September 7, 2007

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Before LINDA E. HORNER, ANTON W. FETTING and DAVID B. WALKER,  
*Administrative Patent Judges.*

HORNER, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-9, 12-23, and 25, all the claims currently pending in the present application. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We REVERSE and REMAND.

### THE INVENTION

Appellant's claimed invention is directed to gaming machines and, in particular, player control devices in gaming machines (Specification 1:10-11).

Claim 1, reproduced below, is representative of the subject matter on appeal.

1 A gaming device comprising:  
at least one processor, the at least one processor comprising a processor programmed to carry out a game on a main display;  
a main display for displaying the game;  
a display screen, separate from the main display, for electronically displaying one or more player input icons for controlling the game, one or more of the icons being electronically changeable pursuant to commands from the at least one processor; and  
an actuator having displayed within the boundaries of the actuator by the display screen a player input icon to control the game,  
the actuator being associated with only a single selection option presented to a player, represented by the icon,  
the actuator having a top surface displaying the icon that is moved in a direction normal to the top surface, by the player's own power, when the actuator is pressed by the player when actuating the actuator,  
wherein the actuator is resiliently urged upward and provides tactile feedback to a player's finger when pressed by the player, the physical movement of the actuator when pressed by the player providing the only tactile feedback to the player from pressing the actuator,  
the actuator, when pressed by a player, causing control signals to be generated for carrying out a function associated with the player input icon displayed within the boundaries of the actuator.

### THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Mattice	US 6,454,649 B1	Sep. 24, 2002
Beaulieu	US 2004/0166930 A1	Aug. 26, 2004
Diederiks	US 2005/0030292 A1	Feb. 10, 2005

The following rejections are before us for review:

1. Claims 1-9, 12-15, 17, 20-23, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Beaulieu and Diederiks.
2. Claims 16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Beaulieu, Diederiks, and Mattice.<sup>1</sup>

### ISSUE

Appellant contends that (1) “the ‘buttons’ of Diederiks’ relief generator 2002, 302 are not resiliently urged upward” and (2) “when a player presses down on a Diederiks button, there is no detectable movement by the player and no tactile feedback” (Appeal Br. 5). The Examiner found the combination of Beaulieu and Diederiks teaches “actuators [that] physical[ly] move when pressed downwards by the player and [are] resiliently urged upwards to provide a tactile feel to the player”

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<sup>1</sup> The Examiner’s listing of this rejection in the Answer states, “[c]laim [sic] 16, 18 and 19 is [sic, are] rejected under 35 U.S.C. 103(a) as being unpatentable over Beaulieu as applied to claims 1-4, 7-15, 17, 20-25 above, and further in view of Mattice (US Pat. 6,454,649)” (Answer 9). Although imprecisely stated by the Examiner, since Diederiks was part of the rejection of independent claim 1, we understand the rejection of claims 16, 18, and 19, which depend from claim 1, to also include Diederiks as part of the rejection.

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(Answer 10). The issue before us is whether Appellant has shown that the Examiner erred in rejecting claims 1-9, 12-15, 17, 20-23, and 25 as unpatentable over Beaulieu and Diederiks and claims 16, 18, and 19 as unpatentable over Beaulieu, Diederiks, and Mattice.

### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427, 7 USPQ2d 1152, 1156 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Beaulieu discloses a wagering gaming device which provides increased interaction between the player and wagering gaming device by physically stimulating various components of the wagering gaming device and thus the player (Beaulieu ¶ 3).
2. The wagering gaming device 10 includes one or more display devices, e.g., a central display device 30 and an upper display device 32 (Beaulieu ¶ 25 and Figs 1B).
3. The player input device, for example, a button 74, includes a component stimulator and an actuation member. Upon pressing the button 74, the processor acknowledges the input and sends a signal to the component stimulator. The component stimulator physically stimulates the actuation member of the input device, for example, by vibrating it (Beaulieu ¶ 45).

4. Beaulieu does not disclose an actuator having a player icon displayed on a top surface within in the boundaries of the actuator by the display screen, wherein when the actuator is moved in a direction normal to the top surface by a player's own power, the actuator is resiliently urged upward and provides tactile feedback to a player's finger.

5. Diederiks teaches a relief generator for dynamically generating a relief on a display screen (Diederiks ¶ 4).

6. The relief generator consists of layer 202 of transparent piezo electrical material comprising a plurality of piezo electric elements which may be individually addressed to form a relief at locations which coincide with the graphical representations of, for example, a button (Diederiks ¶ 21-22).

7. Diederiks further teaches that the relief generator is capable of dynamically generating changes in the relief in response to user actuations, so as to provide tactile feedback. For example, when a user presses a graphical button with sufficient force, the relief generator removes or even converts an initial protrusion into a depression, giving a clear indication to the user that the button is pressed (Diederiks ¶ 12).

8. Diederiks explains that the initial touching of the user's finger 401 causes a depression of the button 104 which in turn causes a small voltage generated by the piezo electrical material. This voltage is opposite to the voltage applied to the button for generating the protrusion. This latter voltage may be maintained or even increased temporarily for generating a resistance, and suddenly lowered, removed or even inverted when the exerted force exceeds the

predetermined threshold. This causes a snap action which resembles the feeling of operating a hardware push-button (Diederiks ¶ 24).

9. Diederiks does not disclose that the relief/actuator is moved in a direction normal to the top surface by a player's own power. Rather, in the system of Diederiks, the piezo electric material of the relief generator moves the top surface of the relief in response to the player's pressing of the button.

10. Mattice discloses a gaming device that includes one or more mechanical switches having switch activation surfaces with changeable, controllable or programmable indicia, such as characters, icons, logos and the like (Mattice, col. 3, ll. 34-38).

11. The gaming terminal 112 includes a programmable display switch module 114, one or more other push-button type or other mechanical switches 116 (which may be either fixed legend or programmable display switches), coin wager input 118, a bill acceptor 119, a CRT or other computer monitor-type display 122, and regions 124, 126 for providing various components (Mattice, col. 4, ll. 36-46).

12. In order to coordinate operation of the programmable display switch module 114 with operation of the game, the programmable display switch is coupled to a controller board 212 which, in turn, is coupled to a microprocessor which controls game operation (Mattice, col. 4, ll. 51-55).

13. The connection or interface between the programmable display switches and the gaming terminal microprocessor is such that the response of the gaming terminal to activation of a particular switch (i.e., when a player pushes the

switch with his finger) corresponds to the functionality of the displayed legend (Mattice, col. 5, ll. 38-44).

14. The programmable display switch includes an activation surface 414 having a transparent or translucent covering 416 over a controllable pixel array 418. Preferably, the pixel array contains sufficient pixels to permit display of a wide range of characters, images, logos, symbols, and the like (Mattice, col. 8, ll. 49-57).

15. The entire activation surface 416 is pressable or movable against the urging of springs 422 or other force devices (Mattice, col. 8, ll. 59-61).

16. Mattice discloses that the tactile feedback achieved with a fully-moveable activation surface 416 assists in providing users with a level of comfort and familiarity and avoids customer confusion (Mattice, col. 8, ll. 63-66).

#### PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459,

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467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 18, 148 USPQ at 467.

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395 (citing *Graham*, 383 U.S. at 12 (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

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*Id.* at 1740, 82 USPQ2d at 1396. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court stated that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

*Id.* at 1740-41, 82 USPQ2d at 1396. The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”)). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

## ANALYSIS

Appellant argues claims 1-9, 12-23, and 25 as a group (Appeal Br. 4)<sup>2</sup>. We select claim 1 as a representative claim and the remaining claims 2-9, 12-23, and 25 stand or fall together with claim 1.

In order to determine the patentability of claim 1 over the cited prior art, the claim must be interpreted to ascertain its proper scope and/or meaning. Claim 1 recites, *inter alia*, an “actuator having a top surface displaying the icon that is moved in a direction normal to the top surface, by a player’s own power, when the actuator is pressed by the player when actuating the actuator...wherein the actuator...provides tactile feedback to a player’s finger when pressed by the player, the physical movement of the actuator when pressed by the player providing the only tactile feedback to the player from pressing the actuator.” We find this language requires that the actuator be physically moved under the player’s power, and the physical movement of the actuator provides tactile feedback to the player.

The Examiner found that the relief generator buttons of Diederiks are moved in a direction normal to the top surface by a player’s own power in as much as Diederiks discloses that a protrusion is canceled or converted into a depression only when the force exerted by the user’s finger exceeds a certain threshold (Answer 12). We disagree. Although it is the player pushing down on the relief with a certain force that causes the gaming device to initiate physical movement of

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<sup>2</sup> Dependent claims 16, 18, and 19 are rejected in view of an additional reference but, as noted by Appellant, have not been separately argued.

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the relief in Diederiks, it is not the player's own force which provides tactile feedback to the player but rather it's the physical movement of the relief generated in response to the applied voltage which provides the feedback. (Findings of Fact 8-9). It is clear from the record that Appellant's claimed invention is directed only to actuators whose physical movements are provided by some external force exerted by a player (Appeal Br. 6-7 and Reply Br. 2-3). Although we agree with the Examiner's finding that the actuator of Diederiks provides tactile feedback to a player's finger when pressed by the player, we do not agree with the Examiner's finding that the actuator is moved in a direction normal to the top surface, by the player's own power, and that the physical movement of the actuator when the actuator is pressed by the player provides the only tactile feedback to the player from pressing the actuator. As such, we reverse the Examiner's rejection of claims 1-9, 12-23, and 25.

#### REMAND

We remand this application to the Examiner for reconsideration, in view of our interpretation of claim 1, of whether Mattice anticipates and/or renders obvious the subject matter of claims 1-9, 12-23, and 25. Mattice discloses a gaming device that includes one or more mechanical switches having switch activation surfaces with changeable, controllable, or programmable indicia, such as characters, icons, logos and the like (Finding of Fact 10). The gaming terminal 112 includes a programmable display switch module 114, one or more other push-button type or other mechanical switches 116 (which may be either fixed legend or programmable

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display switches), coin wager input 118, a bill acceptor 119, a CRT or other computer monitor-type display 122, and regions 124, 126 for providing various components (Finding of Fact 11). In order to coordinate operation of the programmable display switch module 114 with operation of the game, the programmable display switch is coupled to a controller board 212 which, in turn, is coupled to a microprocessor which controls game operation (Finding of Fact 12). The connection or interface between the programmable display switches and the gaming terminal microprocessor is such that the response of the gaming terminal to activation of a particular switch (i.e., when a player pushes the switch with his finger) corresponds to the functionality of the displayed legend (Finding of Fact 13). The programmable display switch includes an activation surface 414 having a transparent or translucent covering 416 over a controllable pixel array 418. Preferably, the pixel array contains sufficient pixels to permit display of a wide range of characters, images, logos, symbols, and the like (Finding of Fact 14). The entire activation surface 416 is pressable or movable against the urging of springs 422 or other force devices (Finding of Fact 15). Mattice discloses that the tactile feedback achieved with a fully-moveable activation surface 416 assists in providing users with a level of comfort and familiarity and avoids customer confusion (Finding of Fact 16). As such, we remand this application to the Examiner to consider whether the mechanical programmable display switches of Mattice anticipate or render obvious the subject matter of claims 1-9, 12-23, and 25.

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### CONCLUSIONS OF LAW

We conclude that Appellants have shown that the Examiner erred in rejecting claims 1-9, 12-15, 17, 20-23, and 25 as unpatentable over Beaulieu and Diederiks, and claims 16, 18, and 19 as unpatentable over Beaulieu, Diederiks, and Mattice.

### DECISION

The Examiner's decision under 35 U.S.C. § 103(a) to reject claims 1-9, 12-15, 17, 20-23, and 25 as unpatentable over Beaulieu and Diederiks, and claims 16, 18, and 19 as unpatentable over Beaulieu, Diederiks, and Mattice is reversed. The application is remanded to the Examiner pursuant to 37 C.F.R. § 41.50(a)(1) (2006) for consideration of prior art.

### REVERSED AND REMANDED

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