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U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

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Trademark Trial and Appeal Board

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In re Patient Comfort, Inc.

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Serial No. 75/055,648

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Request for Reconsideration

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Bernhard Kreten for Patient Comfort, Inc.

Fred Mandir, Trademark Examining Attorney, Law Office 105  
(Thomas G. Howell, Managing Attorney).

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Before Cissel, Hanak and Bucher, Administrative Trademark  
Judges.

Opinion by Bucher, Administrative Trademark Judge:

Applicant, Patient Comfort, Inc., has requested  
reconsideration of the Board's December 18, 1998 decision  
affirming the Trademark Examining Attorney's refusal to  
register the term "FACE" because it is merely descriptive

of a characteristic or feature of its "anesthesia monitoring apparatus."<sup>1</sup>

Applicant points to four "facts" in its request for reconsideration. The Board alluded to each of these "facts" in its earlier opinion:

- (1) The instant goods measure the level and depth of anesthesia. (see cursory review of applicant's biomedical instrumentation on page 2 of December 1998 opinion);
- (2) Anesthesia depth and quality is measured by comparing relative tension in discrete muscle groups of the anesthetized patient (see discussion of sensors and physiological measurements on pages 2 and 3 of December 1998 opinion);
- (3) The electrical readings are introduced into a computational device (see brief discussion of data reduction on pages 2 and 3 of December 1998 opinion); and
- (4) Output is provided to inform the anesthesiologist as to the patient's depth of anesthesia (note relationship of facial measurements to issues of safety and comfort discussed on pages 2 and 3 of December 1998 opinion).

Applicant also attempts to dismiss the significance of the facial sensors to its patented anesthesia monitoring apparatus. Applicant minimizes this feature as nothing more than a statutorily-required "preferred embodiment of its invention" -- "...a preferred orientation of one component of the diagnostic equipment on a particular portion of person's anatomy..."

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<sup>1</sup> Serial No. 75/055,648, filed February 9, 1996, alleging

The Board's conclusions in our earlier opinion are supported by the abstract of Patent No. 5,195,531:

The anesthesia adequacy monitor measures the level of consciousness of a patient as distinguished from merely the physical paralysis of the patient. Sensors attached to the patient's **face** measure the micro-expression the patient is exhibiting which is normally undetectable by even a trained observer. This device amplifies the patient's expression and thereby provides both a quantitative and a qualitative measure of the patient's reactions to various stimuli during apparent unconsciousness..  
*[emphasis supplied]*

The '531 patent contains no fewer than 39 claims. The words "face" and "facial muscles" are used dozens of times in the patent, and can be found within most all of the individual claims. Given the length of the patent, only a few examples are extracted herein:

...1. A device for monitoring the consciousness of a patient under anesthesia comprising, in combination:

- an array of **facial** muscle sensors adapted to be strategically located on the patient to generate signals representing the activity of at least two **facial** muscles, said muscles being responsible for eliciting distinctive patterns of **facial** expressions,
- a processor for interpreting the patient's awareness from comparison of measurements made by said sensors and operatively coupled to said sensors, wherein said processor includes a means for determining the **facial** expression of the patient by interpreting a signal created by said sensors...

...17. The unconsciousness maintenance method of claim 16 wherein said configuring step includes:

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dates of use as early as June 1993.

- selecting appropriate **facial** muscle sensors,
- attaching the sensors to appropriate muscles on the patient's **face**, and
- sending the signal created by the sensors to a signal processor...

35. The monitor of claim 33 wherein at least one of said sensors from each said group is a **facial** muscle sensor, whereby muscle activity related to **facial** micro-expressions may be monitored...  
[emphasis supplied]

The following excerpts come after the claims, in later sections of the '531 patent, providing the background, summary and objectives of the invention:

#### BACKGROUND OF THE INVENTION

...a device using a surface electromyogram attached to the Frontalis muscle of a patient's **face** has had some success at measuring patient awareness. However, because this device only senses one **facial** muscle group, the information received is neither as accurate nor as reliable as the device of this application. ...The applicant's device provides a consciousness monitor which substantially advances the prior art in a new and useful way by analyzing the micro-expressions of the anesthetized patient...

... The Patent to Rantala teaches the use of a device for measuring the depth of anesthesia which combines a surface electromyogram attached to a **facial** muscle with an electroencephalogram and an electromyogram attached to a patient's hand. While this application does sense the **facial** muscle activity, it interprets the activity directly rather than using surface electromyogram readings to determine a **facial** expression corresponding to the consciousness of the patient, as does the applicant's device. Furthermore, the applicant's device uses an array of surface electromyograms providing a more accurate representation of a patient's **facial** expression, and hence a more accurate

representation of the patient's consciousness state...

...The article by Edmonds describes a device which attaches a surface electromyogram to a single **facial** muscle for the purpose of determining a patient's consciousness.

The device of this application more effectively achieves this purpose by sensing plural **facial** muscle groups simultaneously providing a more accurate and reliable indication of the patient's consciousness through sensing the **facial** expression of the patient...

#### SUMMARY OF THE INVENTION

The applicant's device senses patient awareness essentially by measuring the micro-expression which exists on the patient's **face** even when the patient appears to be unconscious. An array of surface electromyograms are used to quantify the magnitude of the **facial** micro-expression and qualify the nature of the expression (i.e. solitude, distress, pain, etc.). Each surface electromyogram has an electrode attached to the **face** of the patient where it can measure the activity of a single **facial** muscle group. Experiment has shown that four surface electromyograms attached to the Corrugator, Zygomatic, Frontalis and Masseter muscle groups provide the best indication of the patient's expression.

Once the four surface electromyograms have created electronic signals representing each **facial** muscle group, the signals are analyzed by a computer algorithm. The algorithm is tailored to determine the quantity and quality of the **facial** expression from the relative voltage levels among the separate signals sent from the different **facial** muscle groups. The algorithm outputs a signal which represents the composite **facial** expression which the patient is currently experiencing. This combined signal representing the patient's **facial** expression is then sent to a display device.

In one version of the invention, the display graphically represents the magnitude of the **facial** expression. An operator of the equipment can monitor the magnitude of the **facial**

expression and use it as an indicator of the tonus level of **facial** muscle activity, and thus the adequacy of the anesthesia. In another version, the display may be in the form of an illustrated **face** with the expression sensed by the surface electromyograms represented on the display. The display may be magnified to allow the user to determine the patient's expression and analyze it both qualitatively and quantitatively.

An artifact detector and signal filter may be interposed between the **facial** muscle sensors and the computer algorithm. During surgery, a surgeon often uses an electrical cauterizing device. This device causes stimulation of the patient's **facial** muscles regardless of the level of patient consciousness. Use of this cauterizing device contaminates the output of this invention by causing anomalies in the data measured by the surface electromyograms. These artifacts may be detected by a device attached to the electrical cauterizer itself and also connected to the surface electromyogram signal before it enters the computer algorithm. The artifact detector can then quantify the magnitude of the disturbance caused by the artifact and activate the filter to filter out the unwanted portion of the signal representing the artifact. In this way, the signal is purified, improving the accuracy of the output.

The applicant's device may be incorporated into a method of monitoring patient awareness during surgery. The anesthesiologist may monitor the **facial** expression display for indications of patient consciousness. When the anesthesiologist detects an undesirable consciousness level, the anesthesiologist may adjust the level of anesthesia dosage to adjust the patient's sensitivity to external stimulus. The anesthesiologist may monitor the **facial** expression display to determine the response the patient is having to this altered dose of anesthesia and make appropriate further adjustments. As a result, the patient is more likely to not only have no memory of the events taking place during surgery, but also a smoother less distressful recovery from surgery...

OBJECTS OF THE INVENTION

Accordingly, it is a primary object of the present invention to provide a device which accurately detects patient's consciousness during surgery...

...Another object of the present invention is to accurately measure the patient's **facial** expression through surface electromyography of **facial** muscles...

...Another object of the present invention is to provide a device which can measure the **facial** expression of a patient under anesthesia and amplify it for observation by physicians during surgery...

... Viewed from a first vantage point it is an object of the present invention to provide a device for monitoring the consciousness of a patient under anesthesia including a sensor of **facial** muscle activity in the patient, a micro computer for interpreting the patient's awareness from said sensor, and a display for accurately communicating to an anesthesiologist the level of patient awareness.

Viewed from a second vantage point it is an object of the present invention to provide a device for informing an anesthesiologist of the level of consciousness of a patient under anesthesia through detection of the patient's **facial** expression including an array of **facial** muscle sensors strategically located on the patient, a signal processing system capable of converting a first signal representing raw sensor output from the sensors into a second signal representing the patient's **facial** expression and an output device driven by said second signal.

Viewed from a third vantage point it is an object of the present invention to provide a method for maintaining an appropriate level of patient consciousness under anesthesia including the steps of configuring an array of sensors on a patient's **face**, creating a signal with the sensors, processing the signal created by the sensors, displaying the signal for viewing by an anesthesiologist, anesthetizing the patient with an initial dosage of anesthetic to create muscle relaxation and a desired level of consciousness, and controlling the patient's level of consciousness.

Viewed from a fourth vantage point it is an object of the present invention to provide a method for monitoring a patient's level of consciousness through detection of the patient's **facial** expression including the steps of attaching **facial** muscle sensors to the patient's **face**, forming an electronic signal from the **facial** muscle sensor's input, transforming the electric signal into a pictorial display of a **face** with the **facial** expression of the patient superimposed thereon, and magnifying said signal such that the **facial** expression experienced by the patient is easily noticeable by an operator...  
[emphasis supplied]

The newly filed declaration attached to the request for reconsideration is untimely in this proceeding and will be not be considered. See 37 CFR §2.142(d), TBMP §1207.01. Additionally, it is not clear what it is intended to demonstrate. Clearly, nowhere is there a claim of acquired distinctiveness under Section 2(f) of the Act.

Finally, applicant claims that the final substantive paragraph of the Board's December 18, 1998 opinion contains "a faulty premise."<sup>2</sup> Specifically, applicant claims that--

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<sup>2</sup> "Physicians and engineers within the field of biomedical engineering will continue to invent around applicant's anesthetic depth assessment device. In the search for innovative monitoring modalities for determining with greater accuracy the depth of anesthesia, EMG sensors on the face should continue to be key methods of monitoring the patient. *Competitors need to be able freely to use the word "face" as a significant feature of such goods. Even at present, an anesthesiologist might well refer to such a device as simply a "face monitor" when trying to distinguish this type of monitor from various other anesthesia monitoring devices (e.g., like a "heart monitor," a device for measuring electric activity of the brain, etc.).* [Emphasis supplied herein to highlight parts that seem most objectionable to applicant.] p. 5 of Board's December 18, 1998 opinion.

"...FACE in and of itself (or even FACE MONITOR) does not unequivocally link to an anesthesia monitoring apparatus. What is it about the face that is being monitored and why? These are questions that cannot be answered by merely referring to the word "Face."

The Board panel assumed it had anticipated this criticism when it said --

The question of whether a mark is merely descriptive is not determined in the abstract -- i.e., the Trademark Examining Attorney does not need to be able to guess, based solely upon the mark itself, what the goods might be. Rather, we ask in relation to specific goods for which registration is sought whether the mark immediately conveys information about the nature of the goods. See p. 4 of Board's December 18, 1998 opinion.

As Judge Rich noted in *In re Abcor Development Corp.*, 588 F.2d 811, 200 USPQ 215 (CCPA 1978), we all have a tendency to shorten a wordy term like "chemically treated badge to determine and to monitor the amount of personal exposure of an individual to gaseous pollutants" to simply "GASBADGE." While concurring with this very sentiment, applicant then argues that it is not analogous to worry that "an anesthesia monitoring device having multiple sensors attached to the patient's face" would ever be shortened to "face monitor." We disagree.

Furthermore, while arguably the facts in GASBADGE and "FACE" (or FACE monitor) are analogous, the section of the GASBADGE decision quoted by applicant was a discussion of

whether this was the generic name of the product. Herein, of course, the refusal is based on mere descriptiveness under Section 2(e)(1) of the Act. The burden on the Trademark Examining Attorney is to demonstrate that FACE is merely descriptive of a characteristic or feature of applicant's apparatus -- not that it is the generic name of the goods. We found this to have been sufficiently proven, and applicant has demonstrated no error in this regard.

Decision: Applicant's request for reconsideration is denied.

R. F. Cissel

E. W. Hanak

D. E. Bucher

Administrative Trademark  
Judges, Trademark Trial and  
Appeal Board