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Señor Director  
**DIRECCIÓN DE NUEVAS CREACIONES**  
Superintendencia de Industria y Comercio  
E. S. D.

Trámite : 011  
Evento : 378  
Actuación : 444

Referencia : Expediente No. **11.126.032**  
Asunto : Solicitud de patente para: **ESTIMACIÓN DE PARÁMETROS FÍSICOS USANDO REPRESENTACIONES TRIDIMENSIONALES**  
Solicitante : BODY SURFACE TRANSLATIONS, INC.  
Fecha de solicitud : 27 de septiembre de 2011

1. Yo, Luz Clemencia DE PÁEZ, en mi condición de apoderada de la sociedad solicitante de la patente de la referencia, me refiero al oficio No. **8340** notificado por fijación en lista el 14 de mayo de 2013.

2. Mediante oficio No. **8340** se puso en conocimiento del solicitante el informe que contiene las observaciones hechas por su Despacho sobre la presente solicitud de patente. Las observaciones realizadas en el oficio se refieren a la claridad del pliego reivindicatorio, la presente invención no es una invención, a la novedad de las reivindicaciones 1 a 6, 8, 10, 11, 43, 44, 45, 49 a 54, y 1 a 13, 15, 16, 20, 27, 30, 46 a 48 en vista de los documento s D1: EP0660079 y D2: US20040008259, respectivamente, y al nivel inventivo de las reivindicaciones 1 a 6, 8, 10, 11, 43, 44, 45, 49 a 54, y 1 a 13, 15, 16, 20, 27, 30, 46 a 48 en vista de los documento s D1: EP0660079 y D2: US20040008259, respectivamente.

### 3. Respuesta a las objeciones

De este modo y con el objeto de atender las objeciones arriba mencionadas, se desea presentar las siguientes modificaciones, aclaraciones y argumentos:

#### **"EXCELENCIA LEGAL EN UN MUNDO SIN FRONTERAS"**

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cavelier@cavelier.com

### **3.1 Modificación de una solicitud en trámite**

De acuerdo con el artículo 34 de la Decisión 486 de la Comisión de la Comunidad Andina, donde se establece que la modificación de una solicitud es posible en cualquier momento del trámite mientras no implique una ampliación de la solicitud inicial, me permito presentar un nuevo pliego reivindicatorio conformado por 23 reivindicaciones.

Se han introducido las siguientes modificaciones al capítulo reivindicatorio:

- Las reivindicaciones 4 a 6, 8, 14, 16 a 19, 21, 22, 27 a 45, 48 y 52 a 54 han sido eliminadas.
- La reivindicación 1 ha sido modificada de manera que ahora se encuentra dirigida a un aparato para calcular el peso de un animal de granja suelto, que comprende un único dispositivo calibrado, configurado para proyectar luz sobre y para detectar la luz desde el animal de granja suelto, mientras que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial, el único dispositivo calibrado que comprende tanto un proyector para proyectar uno o más patrones de luz predeterminados sobre al menos una parte del animal de granja suelto, y un detector para detectar uno o más patrones de luz que resultan de una interacción de uno o más de los patrones de luz proyectados y al menos una parte del animal de granja suelto, y un aparato de procesamiento de datos para procesar uno o más patrones de luz detectada para proporcionar una representación tridimensional de al menos una parte del animal de granja suelto basado en los patrones de luz detectado solamente por un único dispositivo y para calcular el peso del animal basado en la representación tridimensional.
- La reivindicación 12 (nueva 8) ha sido modificada, y ahora señala un método para la estimación de un parámetro físico no geométrico de un animal de granja suelto, que comprende proyectar uno o más patrones de luz predeterminada sobre al menos una parte del animal de granja suelto, con un único dispositivo calibrado que comprende un proyector de luz y un detector de luz, en el que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial; la detección de uno o más patrones de luz que resultan de una interacción de uno o más de los patrones de luz proyectados y al menos una porción del animal de granja suelto utilizando el único dispositivo; el procesamiento, mediante el aparato de procesamiento de datos, la

detección de uno o más patrones de luz para proporcionar una representación tridimensional de al menos una parte del animal de granja suelto sobre la base de patrones de luz detectados solamente por el único dispositivo; y usando, mediante el aparato de procesamiento de datos, la representación tridimensional de al menos una parte del animal de granja suelto para estimar el parámetro físico no geométrico del animal de granja suelto.

- La reivindicación 46 (nueva 16) ha sido modificada de manera que ahora se encuentra dirigida a un medio implementado por computador no transitorio que tiene instrucciones ejecutables almacenadas en el mismo, que cuando es ejecutado por un procesador o un dispositivo informático realiza un método para el cálculo de un parámetro físico de un animal de granja suelto, que comprende proyectar una pluralidad de patrones de luz predeterminadas sobre al menos una porción del animal de granja suelto, con un único dispositivo calibrado que comprende un proyector de luz y un detector de luz, en el que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial; la detección de uno o más patrones de luz que resultan de una interacción de los patrones de luz proyectados y al menos una parte del animal de granja suelto utilizando el único dispositivo; el procesamiento de uno o más patrones de luz detectados para proporcionar una representación tridimensional de al menos una porción del animal de granja suelto basado en los patrones de luz detectados solamente por un único dispositivo, y el uso de la representación tridimensional de al menos una parte del animal para calcular el parámetro físico no geométrico del animal.
- La reivindicación 49 (nueva 18) ha sido modificada, debido a que ahora se encuentra dirigida a un sistema para la estimación de un parámetro físico de un animal de granja suelto, que comprende un dispositivo calibrado que comprende un proyector de luz y un detector configurado para proyectar la luz sobre y detectar la luz desde el animal de granja suelto, mientras que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial, el proyector de luz que comprende una fuente de luz configurada para proyectar uno o más patrones de luz predeterminados que comprenden una pluralidad de elementos de luz sobre al menos una parte del animal de granja suelto; el detector configurado para detectar uno o más patrones de luz que comprenden una pluralidad de elementos ligeros y que resulta de una interacción de uno o más patrones de luz proyectada y al menos una parte del animal de granja suelto, y un aparato de procesamiento de datos configurado para proporcionar una representación tridimensional de al menos una parte del animal

de granja suelto mediante la determinación de la ubicación tridimensional de una pluralidad de elementos de luz a partir de un solo patrón de luz detectado a partir de una única ubicación del detector, y utilizar la representación tridimensional para estimar el parámetro físico no geométrico del ganado sin restricciones animales.

En consecuencia de lo anterior, las objeciones formuladas por el Examinador en cuanto a la claridad y concisión del pliego reivindicatorio se ven superadas. En consecuencia, se solicita atentamente tener en cuenta este nuevo pliego reivindicatorio y título para el nuevo análisis de patentabilidad.

### **3.2 La presente solicitud sí es una invención**

De otro lado, con respecto a la excepción de patentabilidad relacionada con software, respetuosamente solicitamos tener en cuenta que de acuerdo con la Doctrina, El Manual Para El Examen De Solicitudes De Patentes de la Comunidad Andina<sup>1</sup>, The Guidelines For Examination In The European Patent Office<sup>2</sup> y el Instructivo de examen de solicitudes de patentes de invención y modelo de utilidad de su Despacho, el alcance que tiene esta excepción de patentabilidad es el que la misma solamente excluye de este privilegio a los programas de computadores per se pero no a las invenciones en las cuales dichos programas simplemente sean un medio para obtener la finalidad de la invención, y como tal sean susceptibles de aplicación industrial.

Así entonces, a partir de la interpretación que a esta norma le ha dado tanto la Doctrina como el Manual Europeo de patentes y el instructivo de examen de solicitudes de patentes de invención y modelo de utilidad de su Despacho queda claro que la misma solamente excluye de patentabilidad "los programas de ordenador o el soporte lógico" pero no las invenciones que si bien se relacionan o hagan uso de programas de ordenador, no consistan exclusivamente en estos últimos.

A este respecto, me permito poner de presente, que tal y como esta mencionado en la memoria descriptiva de la presente solicitud, el problema planteado en la presente solicitud consiste en la necesidad de proporcionar métodos, dispositivos y sistemas para calcular un parámetro físico de un objeto y que pueda ser usado para producir una

<sup>1</sup> Ver: IEPI, BID. "MANUAL PARA EL EXAMEN DE SOLICITUDES DE PATENTES DE INVENCION EN LAS OFICINAS DE PROPIEDAD INDUSTRIAL DE LOS PAISES DE LA COMUNIDAD ANDINA". Quito, Ecuador 2004. Pág. 47, 53.

<sup>2</sup> Ver: European Patent Office. "GUIDELINES FOR EXAMINATION IN THE EUROPEAN PATENT OFFICE". Printed in Germany, Munich.

representación tridimensional de por lo menos una porción de un objeto, tal como un animal de granja. La representación tridimensional puede ser usada para calcular un parámetro físico, tal como el peso, de un animal de granja.

Por lo tanto, el objeto incluido en el pliego reivindicatorio de la presente solicitud corresponde a una invención por la referencia a un método, aparato y sistema para calcular un parámetro físico de un objeto.

Así pues, el problema que se pretende solucionar con la presente invención no es un problema de naturaleza no-técnica, ya que no se trata de un problema matemático, no es un problema meramente estético, artístico o literario, ni un problema de tipo intelectual, ni tampoco un problema intrínseco de la programación en una computadora, o un problema que simplemente pueda ser solucionado mediante "secuencias lógicas". De tal manera que, el problema planteado en la solicitud debe ser considerado por ese Despacho como un problema de naturaleza técnica.

Así entonces, una vez revisado la materia acá reivindicada frente a la interpretación dada a la excepción de patentabilidad relacionada con programas de ordenador en el artículo 15 de la Decisión 486, respetuosamente reiteramos que la solicitud de patente de mi representada no puede considerarse un "programa de ordenador como tal", puesto que en la misma no se está reivindicando un conjunto de instrucciones mediante códigos, algoritmo o palabras necesario para obtener un resultado sino un método que proporciona un claro efecto técnico y contribuye al estado de la técnica con respecto a la necesidad obtener una representación tridimensional de por lo menos una porción de un objeto, tal como un animal de granja, en donde la representación puede ser usada para calcular un parámetro físico (tal como peso) de un animal de granja.

Teniendo en cuenta lo anterior y que de acuerdo con el INSTRUCTIVO EXAMEN DE SOLICITUDES DE PATENTES DE INVENCION Y MODELO DE UTILIDAD: *"No obstante, cuando la solicitud no verse sobre un programa de ordenador en sí mismo o **como tal** el Examinador debe proceder a adelantar el estudio de patentabilidad, según los requisitos de novedad, nivel inventivo y aplicación de industrial en la forma prevista en este instructivo"* y *"si la materia reclamada, siendo dicha materia una excepción a la patentabilidad, es limitada en su aplicación a una determinada aplicación práctica, puede llegar a ser elegible a estudio"*. Por lo tanto, es claro que las solicitudes de patente para

invenciones que involucren el uso de un software dentro de un proceso industrial **SI** son patentables o por lo menos no se encuentran exceptuadas de patentabilidad.

Así entonces, de acuerdo con los anteriores argumentos es claro que la presente invención no cae en la excepción de patentabilidad del artículo 15 e) de la Decisión 486.

De otra parte, afirma ese Despacho que el método reivindicado no se refiere a una invención por cuanto la secuencia de etapas o sucesiones no inciden sobre una materia que se encamina a la obtención de una cosa o resultado.

A este respecto, respetuosamente solicitamos tener en cuenta los siguientes argumentos, cuya naturaleza jurídica amerita su revisión desde este punto de vista:

El artículo 14 de la Decisión 486 no establece que los únicos procesos patentables son aquellos que conducen a la fabricación de un producto tangible, veamos:

**“Artículo 14-** Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial”.

Por lo tanto, no resulta ajustado a partir de la legislación actual restringir por parte de una Oficina de Patentes la patentabilidad de procedimientos más allá de las condiciones establecidas en esta norma, es decir, a que tengan novedad, nivel inventivo y sean susceptibles de aplicación industrial.

En todo caso, se aclara a su Despacho que las etapas y condiciones especificadas en la reivindicación 1 de la presente invención permiten obtener el siguiente resultado: *la identificación de un artículo a partir de su imagen digital*. De modo que, teniendo en cuenta que la reivindicación 1 se refiere a un proceso que corresponde a materia patentable de acuerdo con el artículo 14 de la Decisión 486 y dicho proceso se encuentra caracterizado por una secuencia de etapas que se encamina a obtener dicho resultado, es claro que la materia reivindicada si se refiere a una invención y no corresponde a materia exceptuada de patentabilidad en el artículo 15 de la Decisión 486.

### 3.3 Argumentos a favor de la falta de Novedad y Nivel Inventivo

De acuerdo al artículo 16 de la Dec. 486, se determina:

**Artículo 16:** Una invención se considerará nueva cuando no esté comprendida en el estado de la técnica.

“El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente, o en su caso, de la prioridad reconocida.

La novedad de una invención se evalúa a través de la comparación uno a uno de sus características esenciales. De este modo, una invención puede ser objetada por novedad cuando sus características esenciales son exactamente iguales a las de un antecedente que represente el estado de la técnica conocido al momento de presentar la solicitud. Por lo tanto en caso que llegue a existir al menos una diferencia en dicha comparación, se afirma que la invención SI cumple con el requisito de novedad.

Adicionalmente, el artículo 18 de la Decisión 486 señala lo siguiente:

**Artículo 18.-** Se considerará que una invención tiene nivel inventivo, si para una persona del oficio normalmente versada en la materia técnica correspondiente, esa invención no hubiese resultado obvia ni se hubiese derivado de manera evidente del estado de la técnica.

Una invención se considerará inventiva si la misma no hubiese resultado obvia a partir del arte previo para una persona del oficio normalmente versada en la materia. Esto a su vez implica que el Examinador a cargo de esta evaluación debe colocarse en el momento exacto en el que el inventor buscaba resolver el problema técnico contemplado en la solicitud y para el cual poseía la literatura y el conocimiento disponibles en dicho momento.

Siguiendo entonces los lineamientos de la Jurisprudencia aplicable al análisis del nivel inventivo de una solicitud de patente, se considera que una anterioridad o una combinación de dos anterioridades puede afectar dicho requerimiento de patentabilidad, si

una persona medianamente versada en la materia encuentra enseñanzas o sugerencias claras que, a partir de un conocimiento medio en dicho campo, le permitan llegar de manera obvia a la invención reivindicada. Adicionalmente se considera que una mejora sustancial, un efecto inesperado o una ventaja con respecto al arte previo es un indicio de nivel inventivo, por cuanto aporta un salto tecnológico en la regla técnica.

A este respecto, respetuosamente manifestamos nuestro desacuerdo con el análisis llevado a cabo por el Examinador y con las conclusiones del mismo y solicitamos atentamente la reconsideración de las razones por las cuales se objeta la novedad y el nivel inventivo, con base en la siguiente información:

En primer lugar, amablemente señalamos que "[u]na invención se considerará nueva cuando no está comprendida en el estado de la técnica". Además, "[e]l estado de la técnica comprenderá todo lo que ha sido puesto a disposición del público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la patente o, en su caso, de la prioridad invocada". Adicionalmente, para que una invención pueda ser considerada como inventiva, "dicha invención no debe ser ni obvia ni debe derivarse obviamente del estado de la técnica... para una persona del oficio normalmente versada en la materia correspondiente". En base a la revisión realizada por la Solicitante del "estado de la técnica", es decir, de los documentos D1 y D2, atentamente indicamos que se considera que ni el documento D1 ni el documento D2, solos o en combinación, superan las reivindicaciones modificadas.

Basados en dicha revisión, el documento D1 describe un aparato de medición tridimensional para medir la distancia, en el que el proyector y el dispositivo que recoge la imagen son componentes separados del sistema (y no están proporcionados en un solo dispositivo). Por otro lado, D2 da a conocer un dispositivo que, mediante el uso de un sistema de cámara y fuentes de luz, puede medir longitudes o volúmenes de objetos. Por otra parte, D2 se limita a formas geométricas.

Más en particular, ni D1 ni D2, por sí solos, o en combinación, dan a conocer la proyección de uno o más patrones de luz predeterminada sobre al menos una parte de un animal de granja suelto, con un único dispositivo calibrado que comprende un proyector de luz y un detector de luz; la detección de uno o más patrones de luz que resultan de una interacción de uno o más de los patrones de luz proyectados y al menos una porción del animal de ganado sin restricciones utilizando el único dispositivo; el procesamiento, mediante el aparato de procesamiento de datos, en el que uno o más patrones de luz son

detectados para proporcionar una representación tridimensional de al menos una parte del animal de granja suelto basados en patrones de luz detectada solamente por un único dispositivo, y usando, por medio del aparato de procesamiento de datos, la representación tridimensional de al menos una parte del animal de ganado sin restricciones para estimar un parámetro físico no geométrico del animal de granja suelto. Por otra parte, D2 no da a conocer el uso de luz detectada por un solo dispositivo o un único dispositivo de exploración para procesamiento para proporcionar una representación tridimensional de al menos una parte de un animal de granja suelto y así, estimar el peso de los animales basado en la representación tridimensional. Por lo tanto, ya que ni el documento D1 ni el documento D2, solos o en combinación, describen todas las características de las presentes reivindicaciones, las invenciones descritas en las presentes reivindicaciones son nuevas. Por otra parte, y a la luz de lo anterior, las invenciones en las reivindicaciones modificadas contienen una actividad inventiva con respecto al estado de la técnica.

Como consecuencia de lo anterior, la reivindicación independiente 1 es nueva e inventiva sobre el estado del arte citado. Consecuentemente, las reivindicaciones dependientes son también nuevas e inventivas en virtud de su dependencia de la reivindicación 1.

#### **3.4 Concesión de Solicitudes equivalentes**

Si bien entendemos y aceptamos que cada país es autónomo en la concesión o negación de los privilegios de patente, queremos resaltar el hecho que el análisis de los requisitos para el otorgamiento de esos derechos es prácticamente universal. La Oficina de Patentes de Estados Unidos de América ha emitido el "Notice of allowance" de la presente solicitud equivalente, la cual se adjunta a este documento.

#### **3.5 Conclusión**

Por todo lo anterior, los documentos D1 y D2 no resultan anterioridades válidas capaces de afectar la novedad de la invención de la presente solicitud. De la misma manera, el documento D1, el documento D2, o su combinación, no resultan anterioridades válidas capaces de afectar el nivel inventivo de la invención de la presente solicitud.

Por lo tanto, consideramos que el Examinador está pasando por alto que una sola diferencia con respecto al estado de la técnica, permite concluir que el objeto reivindicado es nuevo. Además, está excluyendo el hecho de que el inventor en el

momento de solucionar el problema técnico de la solicitud tuvo que emplear habilidad inventiva, pues la presente invención no resulta de la mera extrapolación de las enseñanzas del arte previo, como se afirma. Se está desconociendo el mérito investigativo empleado y que está aportando una ventaja al arte previo.

4. Puesto que se ha dado respuesta a todas las objeciones formuladas por el Examinador, se solicita atentamente proceder al otorgamiento de la solicitud de patente. En este sentido, respetuosamente recordamos al Examinador que la patente no podrá ser negada con base en objeciones diferentes a las expuestas en la acción oficial No. 8340, toda vez que al no haber sido trasladadas a mi representada, dicha decisión violaría tanto el tenor literal del artículo 45 de la Decisión 486 como el derecho constitucional al debido proceso. En este evento, y con base en el inciso 2 del artículo 45, respetuosamente solicitamos al Examinador expedir una nueva acción oficial que permita a mi representada contra argumentar las mismas o modificar la solicitud con el fin de cumplir los requisitos de patentabilidad.

#### 5. Anexos

- Nuevo pliego reivindicatorio conformado por 23 reivindicaciones
- "Notice of Allowance" emitido por la Oficina de Patentes de Estados Unidos de América

Señor Director,

*LUZ CLEMENCIA DE PAEZ*  
**LUZ CLEMENCIA DE PAEZ**  
C.C. 35.456.344 de Usaquén  
T.P.A. No. 23.555

## **REIVINDICACIONES**

1. Un aparato para calcular el peso de un animal de granja suelto, que comprende:

un único dispositivo calibrado, configurado para proyectar luz sobre y para detectar la luz desde el animal de granja suelto, mientras que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial, el único dispositivo calibrado que comprende:

(a) un proyector para proyectar uno o más patrones de luz predeterminados sobre por lo menos una porción del animal de granja suelto;

(b) un detector para detectar uno o más patrones de luz resultantes de una interacción de uno o más de los patrones de luz proyectados y por lo menos una porción del animal de granja suelto;

un aparato de procesamiento de datos para procesar el uno o más patrones de luz detectados para proporcionar una representación tridimensional de por lo menos una porción del animal de granja suelto basado en los patrones de luz detectados sólo por un único dispositivo y calcular el peso del animal basado en la representación tridimensional.

2. El aparato de la reivindicación 1, en donde la representación tridimensional de por lo menos una porción del animal de granja suelto se basa en una proyección única de uno o más patrones de luz predeterminados.

3. El aparato de la reivindicación 1, en donde cada localización de detección única se desplaza de la localización de la cual se proyecta el patrón.

4. El aparato de la reivindicación 1, en donde el dispositivo es manual.
5. El aparato de la reivindicación 4, en donde el aparato de procesamiento de datos se localiza lejos del dispositivo manual.
6. El aparato de la reivindicación 1, en donde el aparato de procesamiento de datos calcula el peso del animal de granja suelto comparando la representación tridimensional con una representación de referencia.
7. El aparato de la reivindicación 6, en donde la representación de referencia se basa en un tipo de animal que es el mismo que el tipo del animal de granja suelto.
8. Un método para calcular un parámetro físico no geométrico de un animal de granja suelto, que comprende:
  - proyectar uno o más patrones de luz predeterminados sobre por lo menos una porción del animal de granja suelto con un único dispositivo calibrado que comprende un proyector de luz y un detector de luz, en donde el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial;
  - detectar uno o más patrones de luz resultantes de una interacción de uno o más de los patrones de luz proyectados y por lo menos una porción del animal de granja suelto usando el único dispositivo;
  - procesar, mediante el aparato de procesamiento de datos, el uno o más patrones de luz detectados para proporcionar una representación tridimensional

de por lo menos una porción del animal de granja suelto basado en el patrón de luz detectado solamente por el único dispositivo; y

usar, mediante el aparato de procesamiento de datos, la representación tridimensional de por lo menos una porción del animal de granja suelto para calcular el parámetro físico no geométrico del animal de granja suelto.

9. El método de la reivindicación 8, en donde la representación tridimensional de por lo menos una porción del animal de granja suelto se basa en una proyección única del uno o más patrones de luz predeterminados.

10. El método de la reivindicación 8, en donde el parámetro físico no geométrico es el peso.

11. El método de la reivindicación 8, en donde el dispositivo es manual.

12. El método de la reivindicación 11, en donde el aparato de procesamiento de datos que procesa el uno o más patrones de luz detectados se localiza lejos del dispositivo manual.

13. El método de la reivindicación 8, en donde el cálculo comprende comparar la representación tridimensional con una representación de referencia.

14. El método de la reivindicación 13, en donde la representación de referencia se basa en un tipo de animal que es el mismo que el tipo del animal de granja suelto.

15. El método de la reivindicación 8, en donde el animal de granja suelto es un cerdo y la detección se realiza en un ángulo seleccionado del grupo conformado por, desde arriba del cerdo, desde el costado del cerdo, desde atrás del cerdo, desde arriba y desde el costado del cerdo, desde arriba y desde atrás del cerdo.

16. Un medio implementado por computador no transitorio que tiene instrucciones ejecutable almacenadas en el mismo que cuando es ejecutado por un procesador o un dispositivo informático realiza un método para calcular un parámetro físico de un animal de granja suelto, que comprende:

proyectar una pluralidad de patrones de luz predeterminados sobre por lo menos una porción del animal de granja suelto con un único dispositivo calibrado que comprende un proyector de luz y un detector de luz, en donde el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial;

detectar uno o más patrones de luz resultantes de una interacción de los patrones de luz proyectados y por lo menos una porción del animal de granja suelto se basa en el único dispositivo calibrado;

procesar, por el aparato de procesamiento de datos, el uno o más patrones de luz detectados para proporcionar una representación tridimensional de por lo menos una porción del animal de granja suelto se basa en los patrones de luz detectados solamente por el único dispositivo calibrado; y

utilizar, por el aparato de procesamiento de datos, la representación tridimensional de por lo menos una porción del animal para calcular el parámetro físico no geométrico del animal de granja suelto.

17. El medio legible por computador de la reivindicación 16, que comprende además instrucciones para indicar visualmente el parámetro físico calculado.

**18.** Un sistema para calcular un parámetro físico de un animal de granja suelto, que comprende:

un dispositivo calibrado que comprende un proyector de luz y un detector configurado para proyectar luz sobre y para detectar la luz desde el animal de granja suelto, mientras que el animal de granja suelto es capaz de moverse con respecto al único dispositivo calibrado dentro del ambiente de granja comercial, el proyector de luz que comprende una fuente de luz configurada para proyectar uno o más patrones de luz predeterminados que comprenden una pluralidad de elementos de luz sobre por lo menos a porción del animal de granja suelto;

el detector configurado para detectar uno o más patrones de luz que comprenden una pluralidad de elementos de luz y resultantes de una interacción de uno o más patrones de luz proyectados y por lo menos una porción del animal de granja suelto; y

un aparato de procesamiento de datos configurado para:

proporcionar una representación tridimensional de por lo menos una porción del animal de granja suelto determinando la localización tridimensional de una pluralidad de elementos de luz a partir de un patrón de luz detectado único de una localización de detector única; y

usar la representación tridimensional para calcular el parámetro físico no geométrico del animal de granja suelto.

**19.** El sistema de la reivindicación 18, en donde el patrón de luz detectado procesado para proporcionar la representación tridimensional de por lo menos una porción del animal de granja suelto se basa en una proyección única de un patrón de luz predeterminado sobre por lo menos una porción del animal de granja suelto.

**20.** El sistema de la reivindicación 18, en donde el proyector de luz comprende además una apertura de la cual se proyectan uno o más patrones de luz predeterminados, en donde el detector comprende una apertura en la cual se reciben uno o más patrones de luz del animal de granja suelto y en donde la apertura del proyector se desplaza de la apertura del detector.

**21.** El método de la reivindicación 8, en donde el animal de granja suelto es una vaca.

**22.** El medio legible por computador de la reivindicación 16, en donde el animal de granja suelto es una vaca.

**23.** El sistema de la reivindicación 18, en donde el animal de granja libre es una vaca.



NOTICE OF ALLOWANCE AND FEE(S) DUE

96039 7590 06/13/2013  
Meunier Carlin & Curfman LLC  
817 W. Peachtree Street, Suite 500  
Atlanta, GA 30308

|                 |              |
|-----------------|--------------|
| EXAMINER        |              |
| PUNNOOSE, ROY M |              |
| ART UNIT        | PAPER NUMBER |
| 2886            |              |

DATE MAILED: 06/13/2013

| APPLICATION NO.                                                                            | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 12/699,629                                                                                 | 02/03/2010  | Karol Hatzilias      | 10043-003US1        | 6267             |
| TITLE OF INVENTION: ESTIMATING PHYSICAL PARAMETERS USING THREE DIMENSIONAL REPRESENTATIONS |             |                      |                     |                  |

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL         | \$890         | \$300               | \$0                  | \$1190           | 09/13/2013 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.  
If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.  
If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".  
For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

96039 7590 06/13/2013  
Meunier Carlin & Curfman LLC  
817 W. Peachtree Street, Suite 500  
Atlanta, GA 30308

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

|                    |
|--------------------|
| (Depositor's name) |
| (Signature)        |
| (Date)             |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 12/699,629      | 02/03/2010  | Karol Hatzilias      | 10043-003US1        | 6267             |

TITLE OF INVENTION: ESTIMATING PHYSICAL PARAMETERS USING THREE DIMENSIONAL REPRESENTATIONS

| APPLN. TYPE    | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|---------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | SMALL         | \$890         | \$300               | \$0                  | \$1190           | 09/13/2013 |

| EXAMINER        | ART UNIT | CLASS-SUBCLASS |
|-----------------|----------|----------------|
| PUNNOOSE, ROY M | 2886     | 356-601000     |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

|   |       |
|---|-------|
| 1 | _____ |
| 2 | _____ |
| 3 | _____ |

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see form PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

|                                                                                                                  |             |                      |                             |                  |
|------------------------------------------------------------------------------------------------------------------|-------------|----------------------|-----------------------------|------------------|
| APPLICATION NO.                                                                                                  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
| 12/699,629                                                                                                       | 02/03/2010  | Karol Hatzilias      | 10043-003US1                | 6267             |
| 96039 7590 06/13/2013<br>Meunier Carlin & Curfman LLC<br>817 W. Peachtree Street, Suite 500<br>Atlanta, GA 30308 |             |                      | EXAMINER<br>PUNNOOSE, ROY M |                  |
|                                                                                                                  |             |                      | ART UNIT<br>2886            | PAPER NUMBER     |

DATE MAILED: 06/13/2013

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 527 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 527 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

|                                       |                 |                  |  |
|---------------------------------------|-----------------|------------------|--|
| Applicant-Initiated Interview Summary | Application No. | Applicant(s)     |  |
|                                       | 12/699,629      | HATZILIAS ET AL. |  |
|                                       | Examiner        | Art Unit         |  |
|                                       | ROY M. PUNNOOSE | 2886             |  |

All participants (applicant, applicant's representative, PTO personnel):

(1) Examiner Roy M. Punnoose. (3) Marcello Copat.

(2) Attorney Miles E. Hall (Reg. No. 58,128). (4) \_\_\_\_\_.

Date of Interview: 21 May 2013.

Type: ☒ Telephonic ☐ Video Conference  
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.  
If Yes, brief description: \_\_\_\_\_.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others  
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1, 14 and 16.

Identification of prior art discussed: Kriesel et al (US 2005/0257748); Paterson et al (U. S. Patent 8,294,958)..

Substance of Interview  
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The Examiner proposed that the limitations "non-geometric" and "unrestrained livestock" be added to the body of all independent claims to better describe the Applicant's claimed invention and to overcome any prior art teachings of the claimed subject matter.

The Examiner further requested the Applicant to include the word "non-transitory" to the preamble to overcome any possible 35 USC 101 rejection.

The Examiner also stated that the patentability of the amended claims would be determined on after further prior art search is performed.

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☒ Attachment

|                                                     |  |  |
|-----------------------------------------------------|--|--|
| /ROY M PUNNOOSE/<br>Primary Examiner, Art Unit 2886 |  |  |
|-----------------------------------------------------|--|--|

## Summary of Record of Interview Requirements

### Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

### Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

#### 37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner.  
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

### Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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|                               |                                      |                                         |                                                  |
|-------------------------------|--------------------------------------|-----------------------------------------|--------------------------------------------------|
| <b>Notice of Allowability</b> | <b>Application No.</b><br>12/699,629 | <b>Applicant(s)</b><br>HATZILIAS ET AL. |                                                  |
|                               | <b>Examiner</b><br>ROY M. PUNNOOSE   | <b>Art Unit</b><br>2886                 | <b>AIA (First Inventor to File) Status</b><br>No |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment received on 05/24/2013.  
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on \_\_\_\_\_.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-2, 5, 14-18, 55, 58-64, 68, 70-72, 92-94. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see [http://www.uspto.gov/patents/init\\_events/pph/index.jsp](http://www.uspto.gov/patents/init_events/pph/index.jsp) or send an inquiry to [PPHfeedback@uspto.gov](mailto:PPHfeedback@uspto.gov).

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a) ☐ All    b) ☐ Some    \*c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

**Interim copies:**

a) ☐ All    b) ☐ Some    c) ☐ None of the: Interim copies of the priority documents have been received.

Applicant has **THREE MONTHS FROM THE "MAILING DATE"** of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in **ABANDONMENT** of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ **CORRECTED DRAWINGS** ( as "replacement sheets") must be submitted.  
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ **DEPOSIT OF and/or INFORMATION** about the deposit of **BIOLOGICAL MATERIAL** must be submitted. Note the attached Examiner's comment regarding **REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL**.

**Attachment(s)**

|                                                                                                                |                                                                                      |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)                                               | 5. <input type="checkbox"/> Examiner's Amendment/Comment                             |
| 2. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____        | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material     | 7. <input type="checkbox"/> Other _____                                              |
| 4. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>05/21/2013</u> . |                                                                                      |

|                                                     |  |
|-----------------------------------------------------|--|
| /ROY M PUNNOOSE/<br>Primary Examiner, Art Unit 2886 |  |
|-----------------------------------------------------|--|

25

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment filed on 05/24/2013 is acknowledged and has been accepted by the Examiner. In view of Applicant's amendment of the claims, the finality of the rejection of the last Office action has been withdrawn. Claims 1-2, 5, 14-18, 55, 58-64, 68, 70-72 and 92-94 are pending in the application and have been examined.

***Allowable Subject Matter***

2. Claims 1-2, 5, 14-18, 55, 58-64, 68, 70-72 and 92-94 are allowable because, prior art of record taken alone or in combination, fails to disclose or render obvious a method or apparatus for estimating a non-geometric physical parameter of an un-restrained livestock animal comprising: detecting one or more light patterns resulting from an interaction of one or more of projected light patterns and at least a portion of the unrestrained livestock animal; using, by the data processing apparatus, the three dimensional representation of at least a portion of the unrestrained livestock animal to estimate the non-geometric physical parameter of the unrestrained livestock animal, in combination with the rest of the limitations of the respective claims.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

*Contact/Status Information*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Roy M. Punnoose** whose telephone number is **(571)272-2427**.

The examiner can normally be reached on 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Tarifur R. Chowdhury** can be reached on **571-272-2287**. The **Fax** number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Roy M. Punnoose/**  
Primary Examiner  
Art Unit 2886

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

|            |                                                                          |           |                    |
|------------|--------------------------------------------------------------------------|-----------|--------------------|
| Applicant  | : Karol Hatzilias                                                        | Art Unit  | : 2886             |
| Serial No. | : 12/699,629                                                             | Examiner  | : Punnoose, Roy M. |
| Filed      | : February 3, 2010                                                       | Conf. No. | : 6267             |
| Title      | : ESTIMATING PHYSICAL PARAMETERS USING THREE DIMENSIONAL REPRESENTATIONS |           |                    |

**Mail Stop AF**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

AMENDMENT IN REPLY TO ACTION OF MARCH 6, 2013

Please amend the above-identified application as follows and consider the following remarks. Amendments to the claims begin on page 2. Remarks begin on page 8.

Please enter amendment  
received on 05/24/2013.  
/RMP/  
06/01/2013

EAST Search History

EAST Search History (Interference)

| Ref # | Hits | Search Query                                                                                                                                                                                                                                     | DBs                   | Default Operator | Plurals | Time Stamp       |
|-------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------|---------|------------------|
| L5    | 1048 | 356/601.ccls. and @ad<="20090227"                                                                                                                                                                                                                | US-PGPUB; USPAT; UPAD | OR               | ON      | 2013/06/01 21:45 |
| L7    | 3    | ((project\$3 with (light near pattern)) and ((non-geometric\$2 or weight or mass) with ("3D" or (three adj dimension\$2) or ("3" adj dimension\$2))))).clm.                                                                                      | US-PGPUB; USPAT; UPAD | OR               | ON      | 2013/06/01 21:48 |
| S54   | 1    | (HATZILIAS near2 KAROL).in. and (HATZILIAS near2 GIORGOS).in. and (EMSLEY near4 JAMES near4 ALAN near4 BURNS).in. and (BERGMAN near2 HARRIS).in. and (BUREN near3 CHRIS near3 VAN).in. and (DURBIN near2 JOHN).in. and (BERGLAND near2 NATE).in. | US-PGPUB; USPAT; UPAD | OR               | ON      | 2012/08/27 14:10 |
| S55   | 1    | (project\$3 and (light adj pattern\$1) and (animal\$1 or cow\$1 or hog\$1) and ((estimat\$3 adj3 (parameter\$1 or weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))))).clm.                                             | US-PGPUB; USPAT; UPAD | OR               | ON      | 2012/08/27 14:13 |
| S56   | 5    | (project\$3 and (light adj pattern\$1) and (animal\$1 or cow\$1 or hog\$1) and ((estimat\$3 adj3 (parameter\$1 or weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))))                                                   | US-PGPUB; USPAT; UPAD | OR               | ON      | 2012/08/27 14:14 |

6/ 1/ 2013 9:48:52 PM  
C:\Users\rpunnoose\Documents\EAST\Workspaces\12699629.wsp



UNITED STATES PATENT AND TRADEMARK OFFICE

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BIB DATA SHEET

CONFIRMATION NO. 6267

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          |                                                              |                                        |                       |                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------|----------------------------------------|-----------------------|----------------------------|
| SERIAL NUMBER<br>12/699,629                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | FILING or 371(c)<br>DATE<br>02/03/2010<br>RULE                                                                    | CLASS<br>356                                             | GROUP ART UNIT<br>2886                                       | ATTORNEY DOCKET<br>NO.<br>10043-003US1 |                       |                            |
| <b>APPLICANTS</b><br>Karol Hatzilias, Atlanta, GA;<br>Giorgos Hatzilias, Buford, GA;<br>James Alan Burns Emsley, Franklin, KY;<br>Harris Bergman, Marietta, GA;<br>Chris Van Buren, Snellville, GA;<br>John Durbin, Roswell, GA;<br>Nate Bergland, Norcross, GA;<br><br><b>** CONTINUING DATA *****</b><br>This appln claims benefit of 61/156,205 02/27/2009<br><br><b>** FOREIGN APPLICATIONS *****</b><br><br><b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b><br>02/18/2010 |                                                                                                                   |                                                          |                                                              |                                        |                       |                            |
| Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br>Verified and Acknowledged <u>/ROY M PUNNOOSE/</u><br>Examiner's Signature                                                                                                                                                                                                                            |                                                                                                                   | <input type="checkbox"/> Met after Allowance<br>Initials | STATE OR<br>COUNTRY<br>GA                                    | SHEETS<br>DRAWINGS<br>17               | TOTAL<br>CLAIMS<br>54 | INDEPENDENT<br>CLAIMS<br>8 |
| <b>ADDRESS</b><br>Meunier Carlin & Curfman LLC<br>817 W. Peachtree Street, Suite 500<br>Atlanta, GA 30308<br>UNITED STATES                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                   |                                                          |                                                              |                                        |                       |                            |
| <b>TITLE</b><br>Estimating Physical Parameters Using Three Dimensional Representations                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                   |                                                          |                                                              |                                        |                       |                            |
| <b>FILING FEE<br/>RECEIVED</b><br>1961                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | FEES: Authority has been given in Paper<br>No. _____ to charge/credit DEPOSIT ACCOUNT<br>No. _____ for following: |                                                          | <input type="checkbox"/> All Fees                            |                                        |                       |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          | <input type="checkbox"/> 1.16 Fees (Filing)                  |                                        |                       |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          | <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) |                                        |                       |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          | <input type="checkbox"/> 1.18 Fees (Issue)                   |                                        |                       |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          | <input type="checkbox"/> Other _____                         |                                        |                       |                            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                   |                                                          | <input type="checkbox"/> Credit                              |                                        |                       |                            |





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|                                                                                                                  |                                            |                                                                    |
|------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
| <b>Issue Classification</b><br> | <b>Application/Control No.</b><br>12699629 | <b>Applicant(s)/Patent Under Reexamination</b><br>HATZILIAS ET AL. |
|                                                                                                                  | <b>Examiner</b><br>ROY M PUNNOOSE          | <b>Art Unit</b><br>2886                                            |

|                                                                                        |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
|----------------------------------------------------------------------------------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| <input type="checkbox"/> Claims renumbered in the same order as presented by applicant |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| <input type="checkbox"/> CPA                                                           |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| <input type="checkbox"/> T.D.                                                          |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| <input type="checkbox"/> R.1.47                                                        |          |       |          |       |          |       |          |       |          |       |          |       |          |       |          |
| Final                                                                                  | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
| 1                                                                                      | 1        | 14    | 17       |       | 33       |       | 49       |       | 65       |       | 81       |       |          |       |          |
| 2                                                                                      | 2        | 15    | 18       |       | 34       |       | 50       |       | 66       |       | 82       |       |          |       |          |
|                                                                                        | 3        |       | 19       |       | 35       |       | 51       |       | 67       |       | 83       |       |          |       |          |
|                                                                                        | 4        |       | 20       |       | 36       |       | 52       | 20    | 68       |       | 84       |       |          |       |          |
| 3                                                                                      | 5        |       | 21       |       | 37       |       | 53       |       | 69       |       | 85       |       |          |       |          |
|                                                                                        | 6        |       | 22       |       | 38       |       | 54       | 21    | 70       |       | 86       |       |          |       |          |
|                                                                                        | 7        |       | 23       |       | 39       | 4     | 55       | 22    | 71       |       | 87       |       |          |       |          |
|                                                                                        | 8        |       | 24       |       | 40       |       | 56       | 23    | 72       |       | 88       |       |          |       |          |
|                                                                                        | 9        |       | 25       |       | 41       |       | 57       |       | 73       |       | 89       |       |          |       |          |
|                                                                                        | 10       |       | 26       |       | 42       | 5     | 58       |       | 74       |       | 90       |       |          |       |          |
|                                                                                        | 11       |       | 27       |       | 43       | 6     | 59       |       | 75       |       | 91       |       |          |       |          |
|                                                                                        | 12       |       | 28       |       | 44       | 7     | 60       |       | 76       | 9     | 92       |       |          |       |          |
|                                                                                        | 13       |       | 29       |       | 45       | 8     | 61       |       | 77       | 12    | 93       |       |          |       |          |
| 10                                                                                     | 14       |       | 30       |       | 46       | 17    | 62       |       | 78       | 16    | 94       |       |          |       |          |
| 11                                                                                     | 15       |       | 31       |       | 47       | 18    | 63       |       | 79       |       |          |       |          |       |          |
| 13                                                                                     | 16       |       | 32       |       | 48       | 19    | 64       |       | 80       |       |          |       |          |       |          |

|                                                     |                              |                     |
|-----------------------------------------------------|------------------------------|---------------------|
| NONE                                                | <b>Total Claims Allowed:</b> |                     |
| (Assistant Examiner)                                | (Date)                       | 23                  |
| /ROY M PUNNOOSE/<br>Primary Examiner. Art Unit 2886 | 06/01/2013                   | O.G. Print Claim(s) |
| (Primary Examiner)                                  | (Date)                       | 1                   |
|                                                     |                              | O.G. Print Figure   |
|                                                     |                              | 1                   |

|                                                                                                          |                                            |                                                                    |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------|
| <b>Search Notes</b><br> | <b>Application/Control No.</b><br>12699629 | <b>Applicant(s)/Patent Under Reexamination</b><br>HATZILIAS ET AL. |
|                                                                                                          | <b>Examiner</b><br>ROY M PUNNOOSE          | <b>Art Unit</b><br>2886                                            |

| CPC- SEARCHED |      |          |
|---------------|------|----------|
| Symbol        | Date | Examiner |
|               |      |          |

| CPC COMBINATION SETS - SEARCHED |      |          |
|---------------------------------|------|----------|
| Symbol                          | Date | Examiner |
|                                 |      |          |

| US CLASSIFICATION SEARCHED |                |           |          |
|----------------------------|----------------|-----------|----------|
| Class                      | Subclass       | Date      | Examiner |
| 356                        | 601            | 8/27/2012 | RMP      |
|                            | SEARCH UPDATED | 2/26/2013 | RMP      |
|                            | Search Updated | 6/1/2013  | RMP      |

| SEARCH NOTES                                     |           |          |
|--------------------------------------------------|-----------|----------|
| Search Notes                                     | Date      | Examiner |
| TEXT SEARCH: 356/601                             | 8/27/2012 | RMP      |
| EAST (USPAT, USPGPUB, EPO, JPO, DERWENT, IBMTDB) | 8/27/2012 | RMP      |
| INVENTOR SEARCH                                  | 8/27/2012 | RMP      |
| DOUBLE PATENTING SEARCH                          | 8/27/2012 | RMP      |
| SEARCH UPDATED                                   | 2/26/2013 | RMP      |
| Search Updated                                   | 6/1/2013  | RMP      |

| INTERFERENCE SEARCH     |                         |           |          |
|-------------------------|-------------------------|-----------|----------|
| US Class/<br>CPC Symbol | US Subclass / CPC Group | Date      | Examiner |
|                         | SEE SEARCH HISTORY      | 8/27/2012 | RMP      |
|                         | Search Updated          | 6/1/2013  | RMP      |

|  |                                            |
|--|--------------------------------------------|
|  | /R.M.P./<br>Primary Examiner.Art Unit 2886 |
|--|--------------------------------------------|

EAST Search History

EAST Search History (Prior Art)

| Ref # | Hits | Search Query                                                                                                                                                                                                                                                                                              | DBs                          | Default Operator | Plurals | Time Stamp          |
|-------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------|---------|---------------------|
| S1    | 1    | ("6377353").PN.                                                                                                                                                                                                                                                                                           | US-PGPUB;<br>USPAT           | OR               | OFF     | 2012/08/12<br>17:19 |
| S2    | 29   | ("4745472"   "4787739"   "5412420"   "5483441").PN. OR ("6377353").URPN.                                                                                                                                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:19 |
| S3    | 11   | S2 and weight                                                                                                                                                                                                                                                                                             | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:20 |
| S4    | 19   | ((("4745472") or ("5412420") or ("5483441") or ("5576949") or ("6229913") or ("6239711") or ("6314654") or ("6377353") or ("6549288") or ("6549289") or ("6805078") or ("6820033") or ("6974373") or ("7039220") or ("7128024") or ("7214128") or ("7310431") or ("20040008259") or ("20080237505"))).PN. | US-PGPUB;<br>USPAT           | OR               | OFF     | 2012/08/12<br>17:41 |
| S5    | 47   | ("3762818"   "3902811"   "4089608"   "4232334").PN. OR ("4745472").URPN.                                                                                                                                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:41 |
| S6    | 57   | S4 or S5                                                                                                                                                                                                                                                                                                  | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:43 |
| S7    | 45   | S6 and weight                                                                                                                                                                                                                                                                                             | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:43 |
| S8    | 1    | ("20100222684").PN.                                                                                                                                                                                                                                                                                       | US-PGPUB;<br>USPAT           | OR               | OFF     | 2012/08/12<br>17:45 |
| S9    | 1    | S8 and weight                                                                                                                                                                                                                                                                                             | US-PGPUB;<br>USPAT;<br>USOCR | OR               | ON      | 2012/08/12<br>17:45 |
| S10   | 19   | ((("4745472") or ("5412420") or ("5483441") or ("5576949") or ("6229913") or ("6239711") or ("6314654") or ("6377353") or ("6549288") or ("6549289") or ("6805078") or ("6820033") or ("6974373") or ("7039220") or ("7128024") or ("7214128") or ("7310431") or ("20040008259") or ("20080237505"))).PN. | US-PGPUB;<br>USPAT           | OR               | OFF     | 2012/08/12<br>19:11 |
| S11   | 12   | S10 and estimat\$3                                                                                                                                                                                                                                                                                        | US-PGPUB;<br>USPAT           | OR               | ON      | 2012/08/12<br>19:11 |
| S12   | 10   | S11 and weight                                                                                                                                                                                                                                                                                            | US-PGPUB;<br>USPAT           | OR               | ON      | 2012/08/12<br>19:12 |
| S14   | 8    | S12 and ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))                                                                                                                                                                                                                                      | US-PGPUB;<br>USPAT           | OR               | ON      | 2012/08/12<br>19:16 |

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|     |     |                                                                                                                                                                          |                                                          |    |     |                  |
|-----|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|----|-----|------------------|
| S15 | 0   | S10 and (estimat\$3 adj3 (parameter\$1 or weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))                                                     | US-PGPUB; USPAT                                          | OR | ON  | 2012/08/12 19:30 |
| S16 | 127 | ((animal\$1 or cow\$1 or hog\$1) and ((estimat\$3 adj3 (parameter\$1 or weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))))                     | US-PGPUB; USPAT                                          | OR | ON  | 2012/08/12 19:32 |
| S17 | 101 | S16 and imag\$3                                                                                                                                                          | US-PGPUB; USPAT                                          | OR | ON  | 2012/08/12 19:40 |
| S18 | 96  | ((animal\$1 or cow\$1 or hog\$1) and ((estimat\$3 adj3 (parameter\$1 or weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))) and @ad<="20090227" | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:06 |
| S19 | 5   | ((animal\$1 or cow\$1 or hog\$1) and ((estimat\$3 adj3 (weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))) and @ad<="20090227"                 | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:12 |
| S20 | 9   | ((("7214128") or ("7039220") or ("6974373") or ("5483441") or ("5412420") or ("4745472") or ("20100289879") or ("20050257748") or ("20090112089")).PN.                   | US-PGPUB; USPAT                                          | OR | OFF | 2012/08/12 20:24 |
| S21 | 8   | S20 and @ad<="20090227"                                                                                                                                                  | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:25 |
| S22 | 1   | S21 and ((estimat\$3 adj3 (weight)) with ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))                                                                   | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:26 |
| S23 | 1   | S21 and ((estimat\$3 adj3 (weight)) same ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))                                                                   | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:27 |
| S24 | 2   | S21 and ((estimat\$3 adj3 (weight)) and ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))                                                                    | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON  | 2012/08/12 20:27 |
| S25 | 324 | ((((estimat\$3 or calculat\$3 or determin\$3) near2 weight) with object)                                                                                                 | US-PGPUB; USPAT;                                         | OR | ON  | 2012/08/13 08:39 |

|     |      |                                                                                                                |                                                                            |    |     |                     |
|-----|------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----|-----|---------------------|
|     |      | and (pattern with (light or radiation))                                                                        | USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB                        |    |     |                     |
| S26 | 297  | S25 and @ad<="20090227"                                                                                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>08:40 |
| S27 | 128  | S26 and (pattern near (light or radiation))                                                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>08:41 |
| S28 | 46   | S27 not (breed).in.                                                                                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>08:42 |
| S29 | 3134 | ((((estimat\$3 or calculat\$3 or determin\$3) near2 weight) with (object or animal)) and (light or radiation)) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>23:19 |
| S30 | 1101 | ((((estimat\$3 or calculat\$3 or determin\$3) adj weight) with (object or animal)) and (light or radiation))   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>23:19 |
| S31 | 330  | S30 and ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))                                           | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/13<br>23:20 |
| S32 | 286  | S31 and @ad<="20090227"                                                                                        | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>23:20 |
| S33 | 152  | S32 not (breed).in.                                                                                            | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/13<br>23:21 |
| S34 | 1    | ("20050136819").PN.                                                                                            | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2012/08/13<br>23:28 |
| S35 | 1    | S34 and weight                                                                                                 | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/13<br>23:28 |

|     |      |                                                                                                                                                         |                                                                            |    |     |                     |
|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----|-----|---------------------|
| S36 | 3    | ("2005/0136819").URPN.                                                                                                                                  | USPAT                                                                      | OR | ON  | 2012/08/13<br>23:30 |
| S37 | 8841 | (((((estimat\$3 or calculat\$3 or determin\$3) near2 (weight or shape or physical)) with (object or animal)) and (light or radiation))                  | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:19 |
| S38 | 3587 | S37 and ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2))                                                                                    | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/14<br>06:20 |
| S39 | 3869 | (((((estimat\$3 or calculat\$3 or determin\$3) near2 (weight or shape or physical)) with ("3D" or ("3" adj dimension\$2) or (three adj dimension\$2)))) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:22 |
| S40 | 607  | S38 and S39                                                                                                                                             | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:22 |
| S41 | 506  | S40 and @ad<="20090227"                                                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:23 |
| S42 | 65   | S41 and (project adj2 (light or radiation))                                                                                                             | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:24 |
| S43 | 6    | S42 and (animal\$1 or cow\$1 or hog\$1)                                                                                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/14<br>06:26 |
| S44 | 1    | ("20050257748").PN.                                                                                                                                     | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2012/08/14<br>06:41 |
| S45 | 1    | S44 and (pattern\$1 or strip\$3)                                                                                                                        | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/14<br>06:42 |
| S46 | 1    | S44 and (shape or weight)                                                                                                                               | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/14<br>06:46 |
| S47 | 1    | ("20050257748").PN.                                                                                                                                     | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2012/08/27<br>13:29 |
| S48 | 1    | S47 and pattern                                                                                                                                         | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/27<br>13:30 |
| S49 | 1    | S47 and (volume\$5 or dimension\$2)                                                                                                                     | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/27<br>13:35 |
| S50 | 1    | S47 and estimat\$3                                                                                                                                      | US-PGPUB;                                                                  | OR | ON  | 2012/08/27          |

|     |      |                                                                                                                                                                                                                                                                                                                                      |                                                                            |    |     |                     |
|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----|-----|---------------------|
|     |      |                                                                                                                                                                                                                                                                                                                                      | USPAT                                                                      |    |     | 13:54               |
| S51 | 1    | S47 and weight                                                                                                                                                                                                                                                                                                                       | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2012/08/27<br>14:00 |
| S52 | 1    | (HATZILIAS near2 KAROL).in. and<br>(HATZILIAS near2 GIORGOS).in. and<br>(EMSLEY near4 JAMES near4 ALAN near4<br>BURNS).in. and (BERGMAN near2<br>HARRIS).in. and (BUREN near3 CHRIS<br>near3 VAN).in. and (DURBIN near2<br>JOHN).in. and (BERGLAND near2<br>NATE).in.                                                                | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/27<br>14:09 |
| S53 | 1    | (project\$3 and (light adj pattern\$1) and<br>(animal\$1 or cow\$1 or hog\$1) and<br>((estimat\$3 adj3 (parameter\$1 or<br>weight)) same ("3D" or ("3" adj<br>dimension\$2) or (three adj<br>dimension\$2))))).dm.                                                                                                                   | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/27<br>14:13 |
| S57 | 19   | ((("4745472") or ("5412420") or<br>("5483441") or ("5576949") or<br>("6229913") or ("6239711") or<br>("6314654") or ("6377353") or<br>("6549288") or ("6549289") or<br>("6805078") or ("6820033") or<br>("6974373") or ("7039220") or<br>("7128024") or ("7214128") or<br>("7310431") or ("20040008259") or<br>("20080237505"))).PN. | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2012/08/27<br>14:49 |
| S58 | 1030 | 356/601.ccls. and @ad<="20090227"                                                                                                                                                                                                                                                                                                    | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/27<br>14:57 |
| S59 | 4553 | ((grain adj size) with semiconductor)                                                                                                                                                                                                                                                                                                | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/28<br>16:51 |
| S60 | 554  | S59 and (light near reflected)                                                                                                                                                                                                                                                                                                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/28<br>16:52 |
| S61 | 20   | S60 and (peak adj3 wavelength)                                                                                                                                                                                                                                                                                                       | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/28<br>16:53 |
| S62 | 1585 | ((grain adj size) near3 semiconductor)                                                                                                                                                                                                                                                                                               | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;                        | OR | ON  | 2012/08/28<br>17:12 |

|     |      |                                                                                                                              |                                                                            |    |     |                     |
|-----|------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----|-----|---------------------|
|     |      |                                                                                                                              | DERWENT;<br>IBM_TDB                                                        |    |     |                     |
| S63 | 270  | S62 and (light near reflected)                                                                                               | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/28<br>17:12 |
| S64 | 5    | ((determin\$3 or calculat\$3) adj2 ((grain<br>adj size) near3 semiconductor)                                                 | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2012/08/28<br>17:13 |
| S65 | 1    | ("7399220").PN.                                                                                                              | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/02/26<br>19:26 |
| S66 | 13   | ("6330523"   "7039220"   "7190826"  <br>"7214128").PN. OR ("7399220").URPN.                                                  | US-PGPUB;<br>USPAT;<br>USOCR                                               | OR | ON  | 2013/02/26<br>19:26 |
| S67 | 1    | ("8294958").PN.                                                                                                              | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/02/26<br>20:08 |
| S68 | 0    | S67 and weight                                                                                                               | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2013/02/26<br>20:08 |
| S69 | 13   | ("6330523"   "7039220"   "7190826"  <br>"7214128").PN. OR ("7399220").URPN.                                                  | US-PGPUB;<br>USPAT;<br>USOCR                                               | OR | ON  | 2013/02/26<br>20:45 |
| S70 | 11   | S69 and ("3D" or (three adj<br>dimension\$2) or ("3" adj dimension\$2))                                                      | US-PGPUB;<br>USPAT;<br>USOCR                                               | OR | ON  | 2013/02/26<br>20:48 |
| S71 | 7    | S70 and weight                                                                                                               | US-PGPUB;<br>USPAT;<br>USOCR                                               | OR | ON  | 2013/02/26<br>20:49 |
| S72 | 1    | "8294958".pn. and pattern                                                                                                    | US-PGPUB;<br>USPAT;<br>USOCR                                               | OR | ON  | 2013/02/26<br>22:28 |
| S73 | 1    | ("20100222684").PN.                                                                                                          | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/03<br>09:37 |
| S74 | 1    | ("20100222684").PN.                                                                                                          | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/21<br>08:18 |
| S75 | 1    | S74 and non-geometric\$2                                                                                                     | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2013/05/21<br>08:18 |
| S76 | 2    | ((("20050257748") or ("8294958"))).PN.                                                                                       | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/21<br>08:34 |
| S78 | 3    | ((("20050257748") or ("8294958") or<br>("20090112089"))).PN.                                                                 | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/21<br>09:42 |
| S79 | 44   | ((project\$3 with light with pattern) and<br>("3D" or ("3" adj dimension\$2) or (three<br>adj dimension\$2)) and weight).dm. | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/05/21<br>09:51 |
| S80 | 2238 | ((project\$3 with light with pattern) and<br>("3D" or ("3" adj dimension\$2) or (three<br>adj dimension\$2)) and weight)     | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;                                | OR | ON  | 2013/05/21<br>09:54 |

|     |       |                                                                                                                  |                                                                            |    |     |                     |
|-----|-------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|----|-----|---------------------|
|     |       |                                                                                                                  | JPO;<br>DERWENT;<br>IBM_TDB                                                |    |     |                     |
| S81 | 25    | S80 and ((livestock or animal) with weight)                                                                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/05/21<br>09:55 |
| S82 | 1     | ("6,549,289").PN.                                                                                                | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/21<br>09:59 |
| S83 | 2     | ((("6,549,289") or ("5412420")).PN.                                                                              | US-PGPUB;<br>USPAT                                                         | OR | OFF | 2013/05/21<br>10:01 |
| S84 | 1     | S83 and weight                                                                                                   | US-PGPUB;<br>USPAT                                                         | OR | ON  | 2013/05/21<br>10:01 |
| S85 | 67359 | (non-geometric\$2 or weight or mass) same ("3D" or (three adj dimension\$2) or ("3" adj dimension\$2))           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/06/01<br>18:42 |
| S86 | 24917 | S85 and ((non-geometric\$2 or weight or mass) with ("3D" or (three adj dimension\$2) or ("3" adj dimension\$2))) | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/06/01<br>18:43 |
| S87 | 246   | S86 and "356"/\$.ccls.                                                                                           | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/06/01<br>18:43 |
| S88 | 39    | S87 and (light near pattern)                                                                                     | US-PGPUB;<br>USPAT;<br>USOCR;<br>FPRS; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON  | 2013/06/01<br>18:44 |

### AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application:

#### Listing of Claims:

1. (Currently Amended) A method for estimating a non-geometric physical parameter of an unrestrained livestock animal, comprising:

projecting one or more predetermined light patterns onto at least a portion of the unrestrained livestock animal with a single calibrated device comprising a light projector and a light detector, wherein the unrestrained livestock animal is able to move relative to the single calibrated device within a commercial livestock environment;

detecting one or more light patterns resulting from an interaction of one or more of the projected light patterns and at least a portion of the unrestrained livestock animal using the single device;

processing, by data processing apparatus, the one or more detected light patterns to provide a three dimensional representation of at least a portion of the unrestrained livestock animal based on light patterns detected only by the single device; and

using, by the data processing apparatus, the three dimensional representation of at least a portion of the unrestrained livestock animal to estimate the non-geometric physical parameter of the unrestrained livestock animal.

2. (Currently Amended) The method of claim 1, wherein the three dimensional representation of at least a portion of the unrestrained livestock animal is based on a single projection of the one or more predetermined light patterns.

3-4. (Cancelled)

5. (Currently Amended) The method of claim 1, wherein the non-geometric physical parameter is weight.

6-13. (Cancelled)

14. (Currently Amended) A non-transitory computer implemented medium having executable instructions stored thereon that when executed by a processor or a computing device performs a method for estimating a physical parameter of an unrestrained livestock animal, comprising:

projecting a plurality of predetermined light patterns onto at least a portion of the unrestrained livestock animal with a single calibrated device comprising a light projector and a light detector, wherein the unrestrained livestock animal is able to move relative to the single calibrated device within a commercial livestock environment;

detecting one or more light patterns resulting from an interaction of the projected light patterns and at least a portion of the unrestrained livestock animal using the single device;

processing the one or more detected light patterns to provide a three dimensional representation of at least a portion of the unrestrained livestock animal based on light patterns detected only by the single device; and

using the three dimensional representation of at least a portion of the animal to estimate the non-geometric physical parameter of the animal.

15. (Previously Presented) The computer readable medium of claim 14, further comprising instructions for displaying the estimated physical parameter.

16. (Currently Amended) A system for estimating a physical parameter of an unrestrained livestock animal, comprising:

a calibrated device comprising a light projector and a detector configured to project light onto and detect light from the unrestrained livestock animal while the unrestrained livestock animal is able to move relative to the single calibrated device within a commercial livestock environment, the [[a]] light projector comprising a light source configured to project one or more predetermined light patterns comprising a plurality of light elements onto at least a portion of the unrestrained livestock animal;

[[a]] the detector configured to detect one or more light patterns comprising a plurality of light elements and resulting from an interaction of one or more projected light pattern and at least a portion of the unrestrained livestock animal; and

a data processing apparatus configured to:

provide a three dimensional representation of at least a portion of the unrestrained livestock animal by determining the three dimensional location of a plurality of light elements from a single detected light pattern detected from a single detector location; and

use the three dimensional representation to estimate the non-geometric physical parameter of the unrestrained livestock animal.

17. (Currently Amended) The system of claim 16, wherein the detected light pattern processed to provide the three dimensional representation of at least a portion of the unrestrained livestock animal is based on a single projection of a predetermined light pattern onto at least a portion of the unrestrained livestock animal.

18. (Currently Amended) The system of claim 16, wherein the light projector further comprises an aperture from which one or more predetermined light pattern is projected, wherein the detector comprises an aperture into which one or more light patterns from the unrestrained

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livestock animal is received and wherein the projector aperture is offset from the detector aperture.

19-54. (Cancelled).

55. (Previously Presented) The method of claim 1, wherein the device is hand held.

56-57. (Cancelled)

58. (Currently Amended) The method of claim ~~[[57]]~~ 55, wherein the data processing apparatus processing the one or more detected light patterns is located remote from the hand held device.

59. (Currently Amended) The method of claim 1, wherein the estimating comprises comparing the three dimensional representation to a ~~standard~~ reference representation.

60. (Currently Amended) The method of claim 59, wherein the ~~standard~~ reference representation is based on an animal type which is the same as the type of the unrestrained livestock animal.

61. (Currently Amended) The method of claim 1, wherein the unrestrained livestock animal is a pig and the detecting is performed at an angle selected from the group consisting of, from above the pig, from the side of the pig, from the rear of the pig, from above and from the side of the pig, from above and from the rear of the pig.

62. (Currently Amended) An apparatus for estimating ~~a physical parameter~~ weight of an unrestrained livestock animal, comprising:

a single calibrated device configured to project light onto and to detect light from the unrestrained livestock animal while the unrestrained livestock animal is able to move relative to the single calibrated device within a commercial livestock environment, the single calibrated device comprising:

(a) a projector to project one or more predetermined light patterns onto at least a portion of the unrestrained livestock animal;

(b) a detector to detect one or more light patterns resulting from an interaction of one or more of the projected light patterns and at least a portion of the unrestrained livestock animal;

a data processing apparatus to process the one or more detected light patterns to provide a three dimensional representation of at least a portion of the unrestrained livestock animal based on light patterns detected only by the single device and to estimate ~~[[a]]~~ the weight of the animal based on the three dimensional representation.

63. (Currently Amended) The apparatus of claim 62, wherein the three dimensional representation of at least a portion of the unrestrained livestock animal is based on a single projection of the one or more predetermined light patterns.

64. (Previously Presented) The apparatus of claim 62, wherein each single detection location is offset from the location from which the pattern is projected.

65-67. (Cancelled)

68. (Previously Presented) The apparatus of claim 62, wherein the device is hand held.

69. (Cancelled)

70. (Currently Amended) The apparatus of claim ~~[[69]]~~ 68, wherein the data processing apparatus is located remote from the hand held device.

71. (Currently Amended) The apparatus of claim 62, wherein the data processing apparatus estimates the weight of the unrestrained livestock animal by comparing the three dimensional representation to a ~~standard~~ reference representation.

72. (Currently Amended) The apparatus of claim 71, wherein the ~~standard~~ reference representation is based on an animal type which is the same as the type of the unrestrained livestock animal.

73-91. (Cancelled)

92. (Currently Amended) The method of claim 1, wherein the unrestrained livestock animal is a cow.

93. (Currently Amended) The computer readable medium of claim 14, wherein the unrestrained livestock animal is a cow.

94. (Currently Amended) The system of claim 16, wherein the unrestrained livestock animal is a cow.