

CAVELIER

ABOGADOS

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cavelier@cavelier.com

EDIFICIO SISKI
CARRERA 4 No. 72 - 35
BOGOTÁ 8, C

Teléfono: (57-1) 347 3611
Telefax: (57-1) 211 8650
(57-1) 700 4814
Fax in U.S.A.: (1-305) 675 7743

Señor Director

DIRECCION DE NUEVAS CREACIONES

Superintendencia de Industria y Comercio

E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 11-094669-00002-0000

Fecha: 2011-10-27 17:06:54 Dep. 2020 DIR.NUEVASCR
Tra. 2 PATENTES Eve: 1 REGDEPOSITO
Act. 444 RESPUESTAREQUE Folios: 115

Trámite : 002

Evento : 001

Actuación : 444

Referencia : Expediente No. **11.094.669**
Asunto : Solicitud de patente para: **APARATO Y MÉTODO DE ILUMINACIÓN PARA CASA DE AVES**
Solicitante : **WILLIAM J. ODOM, JR.**
Fecha solicitud : 28 de julio de 2011

1. Yo, Luz Clemencia de PÁEZ, obrando como apoderada del solicitante en el asunto de la referencia, doy respuesta al Oficio No. **14177**, notificado por fijación en lista de fecha 8 de septiembre de 2011.

2. Mediante el Oficio No. **14177** se puso en conocimiento del solicitante el resultado del examen de forma realizado por ese Despacho, requiriéndole para completar el siguiente requisito:

2.1. **Poder conferido por el solicitante:** Acompaño con este escrito el poder conferido por el señor **WILLIAM J. ODOM, JR.**, debidamente notarizado, legalizado por Apostilla y traducido oficialmente al español.

3. Así mismo acompaño con este escrito copia certificada de las solicitudes de patente estadounidenses Nos. 61/507,230 del 13 de julio de 2011, 61/508,869 del 18 de julio de 2011 y 61/506,455 del 4 de agosto de 2011, de las cuales se reclama prioridad en esta solicitud de patente, junto con las correspondientes traducciones al español.

Las copias certificadas de los documentos de prioridad están siendo presentadas dentro del término legal correspondiente, esto es 13 de noviembre de 2012, de conformidad con lo establecido en los artículos 10 y 11 de la Decisión 486 de la Comisión de la Comunidad Andina.

CAVELIER

ABOGADOS

Solicito a ese Despacho tener en cuenta que la fecha correcta de la solicitud estadounidense No. 61/506.455 es 4 de agosto de 2011 y no 11 de julio de 2011, como erróneamente se mencionó en el Formulario Único de Solicitud de Patente. Por lo tanto, solicito a ese Despacho tener en cuenta esta información al momento de efectuar el correspondiente examen de patentabilidad de la presente solicitud. Para el efecto acompaño con este escrito el Formulario Único de Correcciones y Modificaciones.

4. Puesto que se han atendido a cabalidad las observaciones hechas por ese Despacho sobre la presente solicitud de patente, atentamente solicito que se continúe su tramitación.

Señor Director,

Luiz Clemencia de Páez
LUZ CLEMENCIA DE PÁEZ

C.C. No. 35.456.344 de Usaquén

T.P.A. No. 23.555

COLO-18587-801-001-5

cto JGG\JGG\ID-203568\WPC18587

No. M-2011-203568\JGG

Espacio reservado para el adhesivo de radicación

FORMULARIO UNICO DE CORRECCIONES Y MODIFICACIONES 2000-10

1

SOLICITUD DE:



Corrección de Error Material



Modificación a una solicitud

2

SOLICITANTE

Nombre: **WILLIAM J. ODOM, JR.**
Ciudadano EstadounidenseDirección: 654 Cedar Knoll Road,
Fairfax,
South Carolina 29827,
Estados Unidos de AméricaTeléfono: 546 09 70
E-mail: clientes@cavelier.com
Fax: 249 40 70Domicilio: Fairfax,
South Carolina,
Estados Unidos de América

IDENTIFICACION

C.C.



NIT



C.E.



Otro



Número: _____

3

REPRESENTANTE
O APODERADO

Nombre: Luz Clemencia de Páez

Dirección: Carrera 4ª No. 72-35

Teléfono: 347 36 11

E-mail: cavelier@cavelier.com

Fax: 217 92 11

Domicilio: Bogotá, Colombia

IDENTIFICACION

C.C.



NIT



C.E.



Otro

Número: 35.456.344 TP 23.555

4

Número de expediente: 11.094.669Clase: F21V 013/000

Título: APARATO Y MÉTODO DE ILUMINACIÓN PARA CASA DE AVES

5

Descripción de la corrección o modificación solicitada

Informo a ese Despacho que por un error involuntario, se indicó la fecha de la prioridad US 61/506,455, como 11 de julio de 2011, siendo correcto 4 de agosto de 2011.

Solicito a ese Despacho tener en cuenta la presente información al momento de realizar el estudio de patentabilidad de la invención que se tramita en este expediente.

6

Comprobante de pago No. _____

Fecha: _____

7

Anexos:



Comprobante de pago de la tasa por concepto de modificación de solicitud en trámite.



Poderes, si fuere el caso



Certificado de existencia y representación legal, cuando el solicitante sea persona jurídica

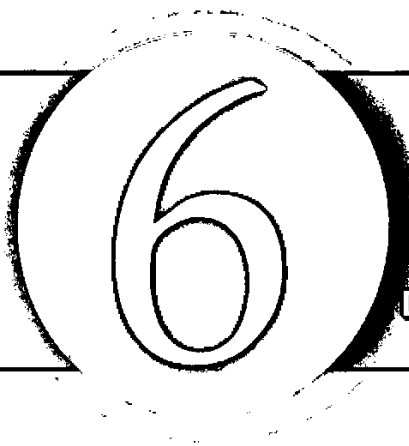
8

NOMBRE: LUZ CLEMENCIA DE PÁEZ

FIRMA:


C.C. 35.456.344 de Usaquén T.P. 23.555

**Notaría
Sexta**



DEL CIRCULO DE BOGOTA, D.C.

COPIA NUMERO 2

DE LA ESCRITURA NUMERO: 4694
FECHA: 09/Septiembre/2011

ACTO O CONTRATO:
PODER ESPECIAL
OTORGANTES:
CAVELIER ABOGADOS



CERTIFICADO SC 3980-1
PRESTACION DEL
SERVICIO PUBLICO
NOTARIAL
ISO 9001:2000
NTC-ISO 9001:2000



AMPARO QUINTERO ARTURO

NOTARIA SEXTA

CARRERA 9 No. 69-31 - PBX: 317 01 00 - FAX: 314 56 41
Correo Electrónico: notariasexta@etb.net.co



ESCRITURA PUBLICA NUMERO: - - - - 4694 - - -

No. CUATRO MIL SEISCIENTOS NOVENTA Y CUATRO - - -

FECHA: NUEVE (9) DE SEPTIEMBRE - - - - -

DEL AÑO DOS MIL ONCE (2011) - - - - -

NOTARIA SEXTA (6ª) DEL CIRCULO NOTARIAL DE

BOGOTA D.C. - - - - -

CLASE DE ACTO: PODER /

RAZON SOCIAL : CAVELIER ABOGADOS NIT : 860.041.367-3 /

En la ciudad de Bogotá, Distrito Capital, ante mí - MABEL ANDREA RODRIGUEZ DIAZ

- - - - - Notario Sexto (6ª) - ENCARGADA - - - de éste Círculo
Notarial, se otorgó la escritura pública que se consigna en los siguientes
términos: - - - - -

**CONSTANCIA SOBRE COMPARECENCIA Y DECLARACIONES ANTE EL
NOTARIO :** - - - - -

COMPARECIO : Con minuta (e-mail) la señora **ADRIANA ZAPATA GIRALDO**,
mayor de edad, vecina de esta ciudad, casada, identificada con la cédula de
ciudadanía No. 51.680.061 de Bogotá, y dijo : - - - - -

ESTIPULACIONES:

PRIMERA.- Que obra en su calidad de representante legal de la sociedad
denominada **CAVELIER ABOGADOS** domiciliada en la **Carrera 4 No. 72-35,**
Bogotá, Colombia. **SEGUNDA:** Que **WILLIAM J. ODOM, JR.,** domiciliado en
654 Cedar Knoll Road, Fairfax, SC 29827, Estados Unidos de América, designó
a **CAVELIER ABOGADOS** como su representante para la Propiedad Industrial
en Colombia con facultades de nombrar apoderados tal como consta en la copia
auténtica del documento de representación que se protocoliza. **TERCERA.-** Que
en su carácter de representante legal de **CAVELIER ABOGADOS,** y en
desarrollo de la facultad otorgada por **WILLIAM J. ODOM, JR.,** confiere poder a
los abogados **LUZ CLEMENCIA DE PAEZ,** T.P.A. No. 23.555, identificada con
cédula de ciudadanía número 35.456.344 de Usaquen, **NIDIA OSORIO LOPEZ,**
T.P.A. No. 73.366, identificada con cédula de ciudadanía número 39.787.682 de
Bogotá, **OSCAR FERNANDO CORREA BARBOSA,** T.P.A. No. 71.027
identificado con cédula de ciudadanía número 79.524.634 de Bogotá, **EDNA**
DARMELY SARMIENTO CHARRY, T.P.A. 65.794 identificada con cédula de
ciudadanía número 52.006.265 de Bogotá y **JORGE CHAVARRO**
ARISTIZABAL, T.P.A. No. 40.119, identificado con cédula de ciudadanía número



16.209.380 de Cartago (Valle), mayores de edad, vecinos de Bogotá, para que representen a la sociedad a cuyo nombre actúa, ante cualesquiera entidades o personas, ejerzan o no jurisdicción, incluyendo las del orden administrativo, contencioso administrativo y judicial, así como los tribunales de arbitramento, en todo lo concerniente a los siguientes asuntos: **a)** Obtención de patentes de invención, modelos de utilidad, diseños industriales, trazado de circuitos integrados, secretos industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, variedades vegetales, denominaciones de origen e indicaciones de procedencia, su renovación, traspaso, cambio de nombre o domicilio, cancelación voluntaria; y el registro de licencias de uso de esos derechos; **b)** Las acciones de competencia desleal, protección del consumidor, oposiciones, cancelación administrativa o judicial, nulidad, medidas cautelares, acción por infracción, concesión de licencias, la protección de secretos industriales y de nombres de dominio junto con su administración y pago; acciones populares, de tutela y de cumplimiento; y en general los procesos civiles, penales, administrativos o contencioso-administrativos, de conciliación, arbitramento, tutela relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan.

CUARTO.- Que los apoderados designados están facultados en todos los asuntos arriba determinados para sustituir este mandato, transigir, conciliar, arbitrar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar y ratificar los actos de agentes oficiosos. **QUINTO-** Que protocoliza con la presente escritura, un certificado expedido por la Cámara de Comercio de Bogotá, que acredita la constitución y personería de la sociedad **CAVELIER ABOGADOS**, igualmente protocoliza copia autenticada del documento de representación otorgado el día 9 de agosto de 2011 por **WILLIAM J. ODOM, JR.**, documento que está debidamente legalizado por Apostilla. -----

Presente la señora **ADRIANA ZAPATA GIRALDO**, domiciliada en Bogotá, identificada como aparece al pie de su firma y manifestó que está conforme con el contenido de esta escritura pública. -----

hasta aquí la minuta presentada (e-mail)

CONSTANCIA NOTARIAL: (Artículo 9 Decreto Ley 960 de 1970). El Notario responde de la regularidad formal del instrumento que autoriza, pero no de la veracidad de las declaraciones de los interesados. Tampoco responde de la capacidad o aptitud legal de estos para celebrar el acto o contrato respectivo. ----

OTORGAMIENTO Y AUTORIZACION : Leída la presente escritura pública por la Compareciente y habiéndosele hecho las advertencias sobre los trámites y



01



* 1 0 9 6 9 6 8 9 0 *

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

19 DE AGOSTO DE 2011

HORA 11:19:44

R032340892

PAGINA: 1 de 3

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O INSCRIPCION DE DOCUMENTOS

CERTIFICA:

NOMBRE : CAVELIER ABOGADOS

N.I.T. : 860041367-3

DOMICILIO : BOGOTA D.C.

CERTIFICA:

NO: 00820237

CERTIFICA:

CONSTITUCION : QUE POR ESCRITURA PUBLICA NO. 0006233 DE NOTARIA SEXTA DE BOGOTA D.C. DEL 10 DE SEPTIEMBRE DE 1974 , INSCRITA EL 26 DE SEPTIEMBRE DE 1974 BAJO EL NUMERO 00021234 DEL LIBRO IX, SE CONSTITUYO LA SOCIEDAD CIVIL DENOMINADA: CAVELIER PERDOMO Y CAVELIER.

CERTIFICA :

QUE POR ESCRITURA PUBLICA NO. 0001000 DE NOTARIA SEXTA DE BOGOTA D.C. DEL 10 DE MARZO DE 1983 , INSCRITA EL 5 DE ABRIL DE 1983 BAJO EL NUMERO 00130769 DEL LIBRO IX, LA SOCIEDAD CAMBIO SU NOMBRE DE : CAVELIER PERDOMO Y CAVELIER. POR EL DE : CAVELIER ABOGADOS

CERTIFICA:

QUE POR ESCRITURA PUBLICA NUMERO 1.000 OTORGADA EN LA NOTARIA 6A. DE BOGOTA EL 10 DE MARZO DE 1.983, INSCRITA EN ESTA CAMARA DE COMERCIO EL 5 DE ABRIL DE 1.983 BAJO EL NUMERO 130769 DEL LIBRO IX, LA SOCIEDAD CAMBIO SU NOMBRE DE: CAVELIER PERDOMO Y CAVELIER, POR EL DE: CAVELIER ABOGADOS, E INTRODUJO OTRAS REFORMAS.

CERTIFICA:

CERTIFICA

QUE POR E.P.NO. 2.034 DE LA NOTARIA 6 DE SANTAFE DE BOGOTA DEL 18 DE ABRIL DE 1.995, INSCRITA EL 27 DE ABRIL DE 1.995 BAJO EL NO. 5.937 DEL LIBRO XIII, LA SOCIEDAD TRASLADO SU DOMICILIO DE LA CIUDAD DE SANTAFE DE BOGOTA D.C. AL MUNICIPIO DE TABIO (CUNDINAMARCA)...

CERTIFICA:

QUE POR ESCRITURA PUBLICA NO. 7710 DE LA NOTARIA SEXTA DE BOGOTA DEL 10 DE OCTUBRE DE 1984, INSCRITA EL 15 DE NOVIEMBRE DE 1984 BAJO EL NO. 1559 DEL LIBRO XIII, LA SOCIEDAD CAMBIO SU NATURALEZA JURIDICA DE SOCIEDAD COMERCIAL A SOCIEDAD CIVIL.

CERTIFICA:

REFORMAS:

ESCRITURAS NO.	FECHA	NOTARIA	INSCRIPCION
842	10-V-1.977	18. BTA.	27-V-1.977-NO. 46.204
3.430	1-VII-1.980	6A. BTA.	3-IX-1.980-NO. 89.582
4.844	10-IX-1.980	6A. BTA.	8-X-1.980-NO. 91.261
432	10-II-1.983	6A. BTA.	1-III-1.983-NO.129.337

COMO NOTARIO SEXTA DE BOGOTA DEL CIRCULO DE BOGOTA
SE HA MADEADO CONSTANCIA DE LA FOTOCOPIA
CONCORDA CON EL ORIGINAL QUE ME TIENDO A LA VISTA
BOGOTA D.C. 19 DE AGOSTO DE 2011

- 9 SEP 2011

NOTARIO ENCARGADO



7.710	10-X-1.984	6A. BTA.	15-XI-1.984-NO.	1.559
7.305	21-X-1.985	6A. BTA.	18-XI-1.985-NO.	1.906
2.567	29-IV-1.987	6A. BTA.	7-V- 1.987-NO.	2.386
4.278	3-VII-1.987	6A. BTA.	23-VII-1987 NO.	215.652
2.657	25- IV-1.988	6A. BTA.	19- V -1988-NO.	2,740
9.033	21-XII-1.990	6A. BTA.	10- I - 1991-NO.	3.786
25	3- I -1.991	6A. BTA.	10- I - 1991-NO.	3.787
1.608	8-III-1.991	6A. BTA.	14-III- 1991-NO.	3.841
2.155	2-IV- 1.991	6A. BTA.	8-IV - 1991-NO.	3.862
797	7-II -1.991	6A. BTA.	7- V -1991-NO.	3.882
1.739	14-III-1.991	6A. BTA.	7- V -1991-NO.	3.881
5.886	21-VIII-1.991	6A. BTA.	27-VIII-1991 NO.	4.019
8.596	4-XII -1.991	6A. BTA.	16-III -1992 NO.	4.430
1.494	10-III -1.992	6A. BTA.	19-III -1992 NO.	4.436
4.205	8 -VII -1.992	6A. BTA.	15-VII -1992 NO.	4.554
8.829	16-XII -1.992	6A. BTA.	24-XII -1992 NO.	4.819
12	5-I -1.993	6 STAFE BTA	13-I -1993 NO.	4.850
4.877	29-VI -1.993	6 STAFE BTA	7-VII -1993 NO.	5.065
5.216	12-VII -1.993	6 STAFE BTA	16-VII -1993 NO.	5.077
ACTA NO.71	2-IX- 1.993	JUNTA DE SOCIOS	29-IX- 1993 NO.	5.174
2.034	18-IV- 1.995	6 STAFE BTA	27- IV -1995 NO.	5.937
2.227	25-IV-1.995	6 STAFE BTA	18-VIII-1.995 NO.	6.092
7.594	12-XII-1.995	6 STAFE BTA	19- XII-1.995 NO.	6.294
676	11- II-1.997	6 STAFE BTA	14- II -1.997 NO.	6.873

CERTIFICA:

REFORMAS:

E.P. NO.	FECHA	NOTARIA	CIUDAD	FECHA	NO. INSC.
0004506	1997/07/28	0006	BOGOTA D.C.	1997/09/02	00007115
0002103	1998/04/08	0006	BOGOTA D.C.	1998/04/21	00007426
0005326	1998/08/06	0006	BOGOTA D.C.	1998/08/13	00007544
0005538	1998/08/14	0006	BOGOTA D.C.	1998/08/27	00007564
0007760	1998/11/10	0006	BOGOTA D.C.	1998/11/12	00007644
0006709	1997/11/04	0006	BOGOTA D.C.	2000/12/04	00008481
0003034	2003/05/30	0006	BOGOTA D.C.	2003/06/04	00882729
0003786	2004/07/16	0006	BOGOTA D.C.	2004/07/28	00009703
0001432	2005/03/18	0006	BOGOTA D.C.	2005/04/07	00009917
0004818	2005/08/22	0006	BOGOTA D.C.	2005/08/26	00010008
0005506	2007/07/17	0006	BOGOTA D.C.	2007/07/24	00010841
5453	2009/10/19	0006	BOGOTA D.C.	2009/10/21	00012243
1336	2010/03/16	0006	BOGOTA D.C.	2010/03/24	00012506
915	2011/02/28	0006	BOGOTA D.C.	2011/03/03	00013022

CERTIFICA:

VIGENCIA: QUE LA SOCIEDAD NO SE HALLA DISUELTA. DURACION HASTA EL 10 DE SEPTIEMBRE DE 2024 .

CERTIFICA:

OBJETO SOCIAL: LA SOCIEDAD TENDRA POR OBJETO : EL EJERCICIO DE LA ACTIVIDAD PROFESIONAL DE ABOGADOS. EN DESARROLLO DE ESTE OBJETO LA SOCIEDAD PODRA ADQUIRIR, CONTRAER OBLIGACIONES Y CELEBRAR TODA CLASE DE CONTRATOS DIRECTAMENTE RELACIONADOS Y SUBORDINADOS AL MISMO, INCLUSIVE LOS DE ARRENDAMIENTO, HIPOTECA, MUTUO CON O SIN INTERES, MANDATO CIVIL Y COMERCIAL, Y SOCIEDAD, ASI COMO PARTICIPAR EN ASOCIACIONES CIENTIFICAS, GREMIALES O PROFESIONALES SIN ANIMO DE LUCRO.

CERTIFICA:

CAPITAL Y SOCIOS: \$10,000.00 DIVIDIDO EN 10,000.00 CUOTAS CON VALOR NOMINAL DE \$1.00 CADA UNA, DISTRIBUIDO ASI :

COMO NOTARIO SEXTO (6) DEL CIRCULO DE BOGOTA
D.C. SE HAGO CONSTAR QUE LA FOTOCOPIA
CONCORDA CON EL ORIGINAL QUE SE TIENE EN LA NOTARIA
BOGOTA D.C. REPUBLICA DE COLOMBIA

- 9 SEP 2011

NOTARIO ENCARGADO





01



* 1 8 9 4 9 6 8 9 1 *

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

19 DE AGOSTO DE 2011

HORA 11:19:44

R032340892

PAGINA: 2 de 3

- SOCIO CAPITALISTA (S)

GAUDEBERT DE CAVELIER AGNES JEANNE C.E. 000000000131100
NO. CUOTAS: 1,200.00 VALOR: \$1,200.00

ASOCIACIÓN CAVELIER DEL DERECHO N.I.T. 000008001722568
NO. CUOTAS: 8,800.00 VALOR: \$8,800.00

- SOCIO INDUSTRIAL (S)

ZAPATA GIRALDO ADRIANA C.C. 000000051680061
NO. CUOTAS: 0.00 VALOR: \$0.00

SUAREZ DE PAEZ LUZ CLEMENCIA C.C. 000000035456344
NO. CUOTAS: 0.00 VALOR: \$0.00

SARMIENTO CHARRY EDNA DARMELY C.C. 000000052006265
NO. CUOTAS: 0.00 VALOR: \$0.00

TOBON FRANCO NATALIA C.C. 000000051725514
NO. CUOTAS: 0.00 VALOR: \$0.00

OSORIO LOPEZ NIDIA C.C. 000000039787682
NO. CUOTAS: 0.00 VALOR: \$0.00

CHAVARRO JORGE C.C. 000000016209380
NO. CUOTAS: 0.00 VALOR: \$0.00

CORREA BARBOSA OSCAR FERNANDO C.C. 000000079524634
NO. CUOTAS: 0.00 VALOR: \$0.00

TOTALES

NO. CUOTAS: 10,000.00 VALOR: \$10,000.00

CERTIFICA:

QUE POR ESCRITURAS PUBLICAS NO. 001431 Y 001432 DEL 18 DE MARZO DE 2005 DE LA NOTARIA 06 DE BOGOTA D.C., INSCRITA EL 07 DE ABRIL DE 2005 BAJO EL NO. 0009918 Y 0009917, RESPECTIVAMENTE DEL LIBRO XIII, DE LAS MIL DOSCIENTAS (1200) PARTES DE INTERES SOCIAL RADICADAS EN CABEZA DE AGNES GAUDEBERT DE CAVELIER, SEISCIENTAS (600) PARTES ESTAN GRAVADAS O AFECTADAS EN PROPIEDAD FIDUCIARIA A FAVOR DE LAS SIGUIENTES PERSONAS : GERMAN CAVELIER FRANCO, ERNESTO CAVELIER FRANCO, JORGE CAVELIER FRANCO, INES CAVELIER FRANCO, GUILLERMO CAVELIER FRANCO, ELENA CAVELIER FRANCO, ALEJANDRO CAVELIER FRANCO, BEATRIZ CAVELIER FRANCO, Y LUCIA CAVELIER FRANCO.

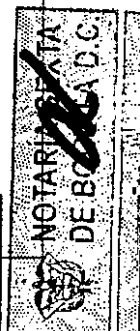
CERTIFICA:

REPRESENTACION LEGAL: EL REPRESENTANTE LEGAL ES EL DIRECTOR. EL SOCIO FUNDADOR GERMAN CAVELIER GAVIRIA TENDRA EL CARACTER DE PRESIDENTE DIRECTOR VITALICIO, PARTICIPARA POR DERECHO PROPIO EN EL CONSEJO SUPERIOR Y EN EL CONSEJO DIRECTIVO Y LLEVARA LA REPRESENTACION LEGAL DE LA SOCIEDAD CUANDO LO ESTIME PERTINENTE SIN LIMITACION ALGUNA. IGUAL PARTICIPACION Y ATRIBUCIONES TENDRA SU SUPLENTE AGNES GAUDEBERT DE CAVELIER CUANDO OCUPE EL CARGO, EN CASO DE FALTA ABSOLUTA DE GERMAN CAVELIER GAVIRIA. LOS SOCIOS COLECTIVOS ESTÁN AUTORIZADOS PARA EJERCER LA REPRESENTACIÓN DE LA SOCIEDAD EN CUALQUIER TIEMPO, SIN PERJUICIO DE LAS DELEGACIONES CONFERIDAS A LOS ORGANOS CREADOS POR LOS PRESENTES

COMO NOTARIO SEXTO (E) DEL CÍRCULO DE BOGOTÁ
D.C. HAGO CONSTAR QUE LA FOTOCOPIA
CONFORME CON EL ORIGINAL QUE HE TENIDO A LA VISTA
EDICIÓN D.C. 27/11/2011 CAVALIER COLONIA

- 9 SEP 2011

NOTARIO ENCARGADO



7

ESTATUTOS

CERTIFICA:

** NOMBRAMIENTOS **

QUE POR ESCRITURA PUBLICA NO. 0004818 DE NOTARIA 6 DE BOGOTA D.C. DEL 22 DE AGOSTO DE 2005, INSCRITA EL 26 DE AGOSTO DE 2005 BAJO EL NUMERO 00010008 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

NOMBRE	IDENTIFICACION
PRESIDENTE DIRECTOR VITALICIO CAVELIER GAVIRIA GERMAN	C.C. 000000002877924

QUE POR ACTA NO. 26 DE ASAMBLEA GENERAL DEL 13 DE MAYO DE 2010, INSCRITA EL 24 DE MAYO DE 2010 BAJO EL NUMERO 00012618 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

NOMBRE	IDENTIFICACION
DIRECTORA ZAPATA GIRALDO ADRIANA	C.C. 000000051680061
REPRESENTANTE LEGAL ASOCIACION CAVELIER DEL DERECHO	N.I.T. 000008001722568
REPRESENTANTE LEGAL GALLON GIRALDO CARLOS	C.C. 000000019066425
REPRESENTANTE LEGAL GAUDEBERT DE CAVELIER AGNES JEANNE	C.E. 000000000131100
SOCIO COLECTIVO GAUDEBERT DE CAVELIER AGNES JEANNE	C.E. 000000000131100
SOCIO COLECTIVO ASOCIACION CAVELIER DEL DERECHO	N.I.T. 000008001722568

QUE POR ESCRITURA PUBLICA NO. 0004818 DE NOTARIA 6 DE BOGOTA D.C. DEL 22 DE AGOSTO DE 2005, INSCRITA EL 26 DE AGOSTO DE 2005 BAJO EL NUMERO 00010008 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

NOMBRE	IDENTIFICACION
SUPLENTE DEL PRESIDENTE DIRECTOR VITALICIO GAUDEBERT DE CAVELIER AGNES JEANNE	C.E. 000000000131100

CERTIFICA:

QUE EL NOMBRAMIENTO DE GALLÓN GIRALDO CARLOS INSCRITO BAJO EL REGISTRO 00012618 DEL LIBRO XIII, SE DA EN SU CONDICIÓN DE REPRESENTANTE LEGAL DE LA ASOCIACIÓN CAVELIER DEL DERECHO.

CERTIFICA:

FACULTADES DEL REPRESENTANTE LEGAL: APARTE DE LAS FACULTADES Y DEBERES QUE DE TIEMPO EN TIEMPO SE LE ASIGNEN POR EL CONSEJO SUPERIOR, EL DIRECTOR TENDRA LAS SIGUIENTES FUNCIONES : A) LA DE REPRESENTAR LEGALMENTE A LA SOCIEDAD ANTE LAS AUTORIDADES DE CUALQUIER ORDEN O NATURALEZA Y ANTE OTRAS PERSONAS NATURALES O JURIDICAS, CON FACULTADES PARA NOVAR, TRANSIGIR, COMPROMETER Y DESISTIR Y PARA COMPARECER EN JUICIOS INCLUSIVE EN AQUELLOS EN DONDE SE DISPUTE LA PROPIEDAD DE BIENES INMUEBLES; B) CUMPLIR Y HACER CUMPLIR LOS ESTATUTOS Y REGLAMENTOS DE LA SOCIEDAD; Y C) CREAR O SUPRIMIR TODOS LOS EMPLEOS QUE SEAN NECESARIOS DE ACUERDO CON EL CONSEJO SUPERIOR PARA EL BUEN FUNCIONAMIENTO DE LA SOCIEDAD, ASIGNARLES FUNCIONES, FIJAR SUS SALARIOS Y NOMBRAR LAS PERSONAS QUE DEBAN DESEMPEÑARLOS, ASI COMO RETIRARLOS Y REEMPLAZARLOS CUANDO HAYA LUGAR. CUANDO CUALQUIERA DE LOS ACTOS INDICADOS EN LA CLAUSULA ANTERIOR SE REFIERA A OPERACIONES CUYO MONTO EXCEDA DE LA SUMA EQUIVALENTE A CIENTO OCHENTA (180) SALARIOS MINIMOS MENSUALES, SU CELEBRACION REQUERIRA LA APROBACION PREVIA DEL CONSEJO SUPERIOR.

CERTIFICA:

** REVISOR FISCAL **

COMO NOTARIO SEXTO (S) DEL CIRCULO DE BOGOTA
S.C. SE HA GO A CONSTAR QUE LA FOTOCOPIA
COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA
BOGOTA D.C. 9 DE SEPTIEMBRE DE 2011

- 9 SEP 2011

NOTARIO ENGARGADO





01

★ 1 0 9 6 9 6 8 9 2 ★

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

19 DE AGOSTO DE 2011

HORA 11:19:44

R032340892

PAGINA: 3 de 3

* * * * *

QUE POR ACTA NO. 0000071 DEL 2 DE SEPTIEMBRE DE 1993, INSCRITA EL 29 DE SEPTIEMBRE DE 1993 BAJO EL NUMERO 00005175 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

NOMBRE

IDENTIFICACION

REVISOR FISCAL

RINCON FANDIÑO MIGUEL ALFONSO

C.C. 000000002877024

QUE POR ACTA NO. 33 DE CONCEJO DEL 25 DE MARZO DE 2011, INSCRITA EL 10 DE MAYO DE 2011 BAJO EL NUMERO 00013098 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

NOMBRE

IDENTIFICACION

REVISOR FISCAL SUPLENTE

PAEZ SANABRIA ALVARO

C.C. 000000019323543

CERTIFICA:

DE CONFORMIDAD CON LO ESTABLECIDO POR LA LEY 962 DE 2005, LOS ACTOS DE REGISTRO AQUI CERTIFICADOS QUEDAN EN FIRME CINCO (5) DIAS HABILES DESPUES DE LA FECHA DE INSCRIPCION, SIEMPRE QUE NO SEAN OBJETO DE RECURSOS EN LA VIA GUBERNATIVA.

* * * EL PRESENTE CERTIFICADO NO CONSTITUYE PERMISO DE
* * * FUNCIONAMIENTO EN NINGUN CASO

★ ★ ★
★ ★ ★

SEÑOR EMPRESARIO, SI SU EMPRESA TIENE ACTIVOS INFERIORES A 30.000 SMLMV Y UNA PLANTA DE PERSONAL DE MENOS DE 200 TRABAJADORES, USTED TIENE DERECHO A RECIBIR UN DESCUENTO EN EL PAGO DE LOS PARAFISCALES DE 75% EN EL PRIMER AÑO DE CONSTITUCION DE SU EMPRESA, DE 50% EN EL SEGUNDO AÑO Y DE 25% EN EL TERCER AÑO. LEY 590 DE 2000 Y DECRETO 525 DE 2009.

RECUERDE INGRESAR A www.supersociedades.gov.co PARA VERIFICAR SI SU EMPRESA ESTA OBLIGADA A REMITIR ESTADOS FINANCIEROS. EVITE SANCIONES.

EL SECRETARIO DE LA CAMARA DE COMERCIO.

[illegible]

9 SEP 2011

ENCARGADO

NOTARIA DE
DE BOGOTÁ D.C.

8
VALOR : \$ 3,700

DE CONFORMIDAD CON EL DECRETO 2150 DE 1995 Y LA AUTORIZACION IMPARTIDA POR LA SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO, MEDIANTE EL OFICIO DEL 18 DE NOVIEMBRE DE 1996, LA FIRMA MECANICA QUE APARECE A CONTINUACION TIENE PLENA VALIDEZ PARA TODOS LOS EFECTOS LEGALES

Stephany Esteban R

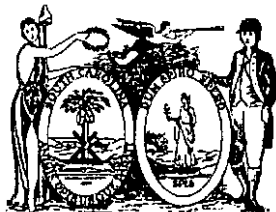
COMO NOTARIO SEXTO (S) DEL CÍRCULO DE BOGOTÁ
D.C. SE HA GOZADO CON EL ORIGINAL QUE SE HA FOTOCOPIADO
CONFIANDO EN EL ORIGINAL QUE ME TENGO A LA VISTA
BOGOTÁ D.C. 9 DE SEPTIEMBRE DE 2011

- 9 SEP 2011

NOTARIO ENCARGADO



State of South Carolina
Office of the Secretary of State
The Honorable Mark Hammond



Apostille

(Convention de La Haye du 5 octobre 1961)

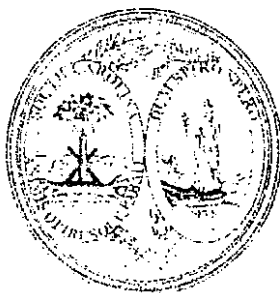
1. Country : United States of America

This public document

2. has been signed by Elizabeth m. Benson
3. acting in the capacity of Notary Public for the State of South Carolina,
4. bears the seal / stamp of Elizabeth m. Benson, Notary Public for the State of South Carolina

Certified

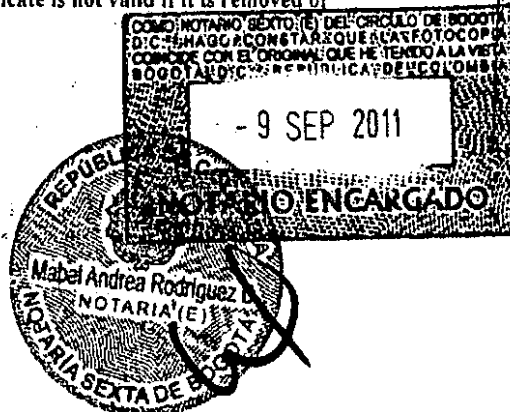
5. At Columbia, South Carolina
6. Thursday, August 18, 2011
7. by the South Carolina Secretary of State
8. N°. 104531
9. Seal/Stamp
10. Signature



Mark Hammond
Mark Hammond, Secretary of State

(This Apostille only certifies the signature, the capacity of the signer and the seal or stamp it bears. It does not certify the content of the document for which it was issued. This certificate is not valid if it is removed or altered in anyway whatsoever.)

Receipt No. 359017



CAVELIER

ABOGADOS

EDIFICIO SISKI
CARRERA 4a N° 72-35
BOGOTA, 8 - COLOMBIA

REPRESENTACION

REPRESENTATION

Yo (nosotros), abajo firmado (s)/I/we, the undersigned

WILLIAM J. ODOM, JR. (U.S. Citizen)

domiciliado (s)
en/of

654 Cedar Knoll Road, Fairfax, SC
29827, United States of America

Por el presente nombramos a CAVELIER ABOGADOS, sociedad colectiva constituida de conformidad con las leyes de la República de Colombia, mediante Escritura Pública No. 6233 del 10 de septiembre de 1974, otorgada en la Notaría Sexta del Círculo de Bogotá, domiciliada en Bogotá D.C., con matrícula mercantil No. 00820237 y NIT 860041367-3, domiciliada en la Carrera 4a N° 72-35, Bogotá, Colombia, como nuestra representante en todos los asuntos de Propiedad Industrial, con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales.

CAVELIER ABOGADOS también podrá representarnos, con las mismas facultades arriba indicadas, ante cualesquiera entidades o personas, ejerzan o no jurisdicción, autoridades administrativas o jurisdiccionales, tribunales de arbitramento, en asuntos de naturaleza civil, comercial, penal, constitucional, competencia, competencia desleal, administrativa, contencioso administrativa, protección del consumidor, variedades vegetales, nombres de dominio, oposiciones u observaciones, cancelación administrativa y judicial, nulidad, medidas cautelares, concesión de licencias, acciones de tutela, la protección de secretos industriales, derecho regulatorio y en general para que nos represente en cualesquiera acciones y procesos que promovamos o se nos promuevan.

La representante podrá, en nuestro nombre, designar apoderados para actuar ante autoridades administrativas y judiciales, por vía extrajudicial y también procesalmente en nuestro nombre, como demandantes, como demandados, como litisconsortes, como agentes oficiosos, como terceros, por llamamiento en garantía o como intervinientes ad excludendum. Dentro de esta autorización, la representante podrá facultar a los apoderados que ella designe para transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar y sustituir el poder que se le otorgue. Así mismo, la representante tendrá la facultad para revocar el poder así otorgado en el momento que considere pertinente. La representante en todo caso podrá ratificar los actos de agentes oficiosos.

Do hereby appoint CAVELIER ABOGADOS, a general partnership organized under the laws of the Republic of Colombia by means of Public Deed No. 6233 of September 10, 1974, granted at Notary Sixth of the Bogota Circuit, domiciled in Bogota D.C., with Mercantile Registration No. 00820237 and Taxpayer Identification Number 860041367-3, domiciled at Carrera 4a N° 72-35, Bogota, Colombia, as our representative for all Industrial Property matters with faculty to receive notifications and appoint attorneys in and out of Court.

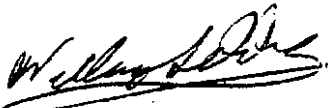
CAVELIER ABOGADOS may also represent us, with the same faculties stated above, before any entities or persons, with or without jurisdiction, administrative or jurisdictional authorities, courts of arbitration, in civil, commercial, criminal, constitutional, competition, unfair competition, administrative, administrative contentious, consumer protection, plant varieties, domain names, opposition or observation matters, administrative and Court cancellation, nullity, precautionary measures, licensing, action for writ mandamus, protection of trade secrets, regulatory law and in general represent us in any actions and suits instituted by us or against us.

The representative may, in our name, designate attorneys to act before administrative and judicial authorities, through out-of-court channels, and also procedurally in our name as plaintiff, defendant, joint litigant, representative, witness, or as a third party, when summoned to appear in court, as intervener ad excludendum. Under this authorization, the representative may empower the attorneys appointed thereby to transact, conciliate, admit the facts of the case, desist, cancel, receive, renounce, and substitute the power thereto. Likewise, the representative shall have the faculty of revoking the power of attorney granted at any time it may deem convenient. The representative may in any case ratify the acts of representatives without a power of attorney.

Dado y firmado hoy/Given and signed this 9th

En/in August 2011

Por/by WILLIAM J ODOM, JR

Firma/Signature 

ELIZABETH M. BENSON
Notary Public
State of South Carolina
Commission Expires Nov. 13, 2017



10

CERTIFICACIÓN NOTARIAL (INDIVIDUO)

A los _____ días del mes de _____
de 200 ____ ante mí, Notario Público o Funcionario Autorizado de _____
compareció(eron) personalmente _____

a quien(es) doy fe de conocer y me consta que es(son) la(s)
persona(s) firmante(s) del documento que precede, y quien(es)
tiene(n) capacidad legal para otorgarlo

NOTARIAL CERTIFICATION (INDIVIDUAL)

On this 9th day of AUGUST
2008 11 before me, a Notary Public or Attesting Official of
SOUTH CAROLINA
personally appeared WILLIAM J. ODOM, JR.

to me known, and known to me to be the person(s) who executed
that foregoing document, and who has(have) legal capacity to
execute it.

ELIZABETH M. BENSON
Notary Public
State of South Carolina
Commission Expires Nov. 13, 2017

Elizabeth M. Benson
El Notario Público The Notary Public
(Firma-sello) (Signature-seal)

APOSTILLE

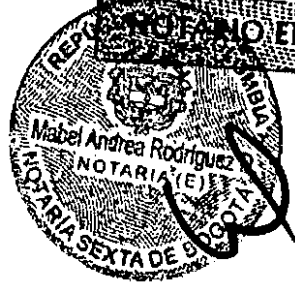
(Convention de La Haye du 5 octobre 1961)

- Country:
This public document
- has been signed by
- acting in the capacity of
- bears the seal/stamp of

Certified

- at 6. the
- by
- No.
- Seal/stamp 10. Signature

COMO NOTARIO DESIGNADO DEL CIRCULO DE BOGOTÁ
D.C. HA AGG. CONSTAR QUE LA FOTOCOPIA
CONCORDA CON EL ORIGINAL QUE HE TENIDO A LA VISTA
BOGOTÁ D.C. REPUBLICA DE COLOMBIA
- 9 SEP 2011
NOTARIO ENCARGADO



Nota:

PARA SOCIEDADES

El documento de Representación deberá ser firmado por el representante legal de la compañía. Deberá ser presentado ante Notario Público para que certifique que la persona que firma es quien dice ser. La firma del señor Notario deberá ser legalizada*.

Adicionalmente deberá anexarse copia legalizada* del documento que pruebe la existencia y representación legal de la sociedad.

*La legalización podrá ser por Apostilla si el país del otorgante hace parte de la Convención de La Haya del 5 de octubre de 1961 o ante el Cónsul de Colombia en caso contrario. Una sola legalización que incluya ambos documentos sería suficiente.

PARA PERSONAS NATURALES

El documento de Representación deberá ser firmado por el otorgante. El Notario Público deberá certificar que la persona que firma es quien dice ser.

Posteriormente el documento de Representación deberá ser legalizado por Apostilla si el país del otorgante hace parte de la Convención de La Haya del 5 de octubre de 1961 o ante el Cónsul de Colombia en caso contrario.

Note:

FOR CORPORATIONS

The Representation document should be signed by the Legal Representative of the company. It should be produced before a Notary Public, who should certify that the person signing the same is in fact who he/she purports to be. The Notary's signature should then be legalized*.

In addition a legalized copy* of the document proving the existence and legal representation of the company should also be attached.

*Legalization may be made by Apostille if the issuing country is a member of the The Hague Convention of October 5, 1961, or before the Colombian Consulate if otherwise. A single legalization that would include both documents would be sufficient.

FOR INDIVIDUALS

The Representation should be signed by the grantor. The Notary Public should certify that the person signing is who he/she purports to be.

Subsequently, the Representation document should be legalized by Apostille if the issuing country is a member of the The Hague Convention of October 5, 1961 or before the Colombian Consulate if otherwise.



Estado de Carolina del Sur
Oficina de la Secretaría de Estado
El honorable Mark Hammond
(Aparece Sello)
Apostilla
(Convención de La Haya de Octubre 5 de 1961)

1.	Pais:	Estados Unidos de América
2.	Este documento público	
3.	ha sido firmado por	Elizabeth m. Benson
4.	actuando en calidad de	Notario Público para el Estado De Carolina del Sur
5.	lleva el sello/timbre de	Elizabeth m. Benson, Notario Público para el Estado De Carolina del Sur
Certifica		
6.	en Columbia, Carolina del Sur	Jueves, 18 de Agosto, 2011
7.	por el Secretario de Estado de Carolina del Sur	
8.	No. 104531	
9.	Sello/Timbre	10. Firma
	(Aparece sello de Carolina del Sur)	(Aparece firma)
		Mark Hammond, Secretario de Estado

(Esta Apostilla solo certifica la firma, la calidad del firmante y el sello o timbre que lleva. Esta no certifica el contenido del documento para el que se emite. Este certificado no es válido si se remueve o altera en cualquier forma).

Recibo No 559017

Aparece documento de Representación de **WILLIAM J. ODOM, JR.** (Ciudadano de Estados Unidos) con domicilio en 654 Cedar Knoll Road, Fairfax, SC 29827, Estados Unidos de América; Dado y firmado el 9 de agosto, 2011 por **WILLIAM J ODOM, JR;** (Aparece firma)

ELIZABETH M. BENSON
Notario Público
Estado De Carolina del Sur
Comisión Expira 13 de Nov., 2017

Aparece Documento de Certificado Notarial (Individual) del 9 de agosto, 2011, (Aparece firma)

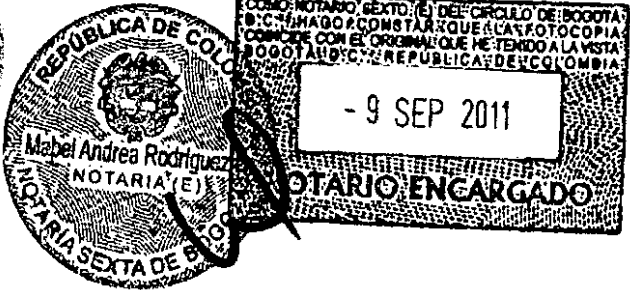
ELIZABETH M. BENSON
Notario Público
Estado De Carolina del Sur
Comisión Expira 13 de Nov., 2017

APOSTILLA
(Convención de La Haya de Octubre 5 de 1961)

1.	Pais:	
2.	Este documento público	
3.	ha sido firmado por	
4.	actuando en calidad de	
5.	lleva el sello/timbre de	
CERTIFICA		
6.	en	6. el
7.	por	
8.	No.	
9.	Sello/timbre	10. Firma

(Aparece Nota para Sociedades y Personas Naturales)

Sergio Clemente Latorre Mendez
Traductor e Interpreté Oficial
Resol. No. 2839 Minjusticia 1991



MINISTERIO DE
RELACIONES EXTERIORES
BOGOTÁ D.C.
2011 SET - 9 A 11:42

BOGOTÁ D.C.
REGISTRADURIA
DEL TEXTO
092872
Sergio / Laine

COMO NOTARIO, TEXTO (E) DEL CIRCULO DE BOGOTÁ
D.C. SE HAGO CONSTAR QUE LA FOTOCOPIA
CONCEDE CON EL ORIGINAL QUE ME TRINDO A LA VISTA
BOGOTÁ D.C. REPUBLICA DE COLOMBIA
- 9 SEP 2011
NOTARIO ENCARGADO



7 700142 262382

3



formalidades de rigor le impartió su aprobación y en constancia la firma por ante mí el Notario que AUTORIZA. -----

DERECHOS NOTARIALES : RESOLUCION 11621 del 22 de diciembre año 2010, MODIFICADA POR LA RESOLUCION 11903 del 30 de diciembre de 2010 \$

44,000 ----- IVA : \$ 16,752 -----

PAPEL NOTARIAL : Esta escritura se extendió en las hojas de papel sellado números : 7-700142-262399, 7-700142-262382 -----

EN BLANCO... EN BLANCO

Adriana Zapata Giraldo
ADRIANA ZAPATA GIRALDO

CC.# 61680061

Representante Legal CAVELIER ABOGADOS



MABEL ANDREA RODRIGUEZ DIAZ
NOTARIO SEXTO (6°) DE BOGOTA D.C.
(E)

Digitó	Mile Atuesta/ año 2011/ PODER /
Revisó	<i>al</i>
Identificó	
Cerro	<i>JR</i>



13
ES FIEL Y SEGUNDA COPIA (FOTOCOPIA) TOMADA DE LA ESCRITURA PUBLICA NUMERO 4694 DE FECHA SEPTIEMBRE 09 DE 2011.

COPIA QUE EXPIDO CON DESTINO AL INTERESADO EN 09 HOJAS RUBRICADAS EN SUS MARGENES, LA CUAL CARECE DE NOTAS DE REVOCATORIA, MODIFICACION, O SUSTITUCION, POR TANTO SE PRESUME VIGENTE EL PODER EN ELLA CONTENIDO.

BOGOTÀ, D.C. SEPTIEMBRE 13 DE 2011

RESOLUCION 01 DE 2008

LA NOTARIA SEXTA DE BOGOTA D.C.



AMPARO QUINTERO ARTURO
NOTARIA SEXTA DE BOGOTA D.C.



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

August 15, 2011

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 61/507,230

FILING DATE: July 13, 2011

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US61/507,230

**By Authority of the
Under Secretary of Commerce for Intellectual Property
and Director of the United States Patent and Trademark Office**



T. Wallace
T. WALLACE

Certifying Officer

Electronic Acknowledgement Receipt	
EFS ID:	10508638
Application Number:	61507230
International Application Number:	
Confirmation Number:	4997
Title of Invention:	AVIAN HOUSE LIGHTING APPARATUS AND METHOD
First Named Inventor/Applicant Name:	William J. Odom, Jr.
Customer Number:	27530
Filer:	Nichole Teresa Andrighetti/Mim Voet
Filer Authorized By:	Nichole Teresa Andrighetti
Attorney Docket Number:	38124/09000
Receipt Date:	13-JUL-2011
Filing Date:	
Time Stamp:	13:27:00
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$110
RAM confirmation Number	9328
Deposit Account	502548
Authorized User	ANDRIGHETTI,NICHOLE
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Provisional Cover Sheet (SB16)	provisionalcoversheet.pdf	1060216	no	3
			a8e2e75a58b3651fc8897e3b321243e47d56e80d		
Warnings:					
Information:					
2	Specification	specification.pdf	495009	no	11
			0b0c3acd6794d3429d6c02b97a0a2c9602eafb814		
Warnings:					
Information:					
3	Claims	claims.pdf	70033	no	2
			ad15bd32561aaa21f463280158402990bfcc2cca		
Warnings:					
Information:					
4	Abstract	abstract.pdf	13904	no	1
			3347f832076c56e20dc8603e8dab7a4d70f5e443		
Warnings:					
Information:					
5	Drawings-only black and white line drawings	drawings.pdf	54544	no	4
			f23e51cd56f9c5d24b5dd6b304fbc36602e8b028		
Warnings:					
Information:					
6	Application Data Sheet	applicationdatasheetpads.pdf	1031418	no	4
			d61b06abd1aa7929190f76b33942f57c9a74cac		
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	29694	no	2
			2ccafcac5781bb1af6b27fd62ec8e83d9c2cd56		
Warnings:					
Information:					
Total Files Size (in bytes):			2754818		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Entity Status
Applicant claims small entity status under 37 CFR 1.27

☒ Yes, applicant qualifies for small entity status under 37 CFR 1.27
☐ No

Warning

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

Signature

Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Nichole T. Andrighetti/			Date (YYYY-MM-DD)	2011-07-13
First Name	Nichole T.	Last Name	Andrighetti	Registration Number (If appropriate)	56508

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UNITED STATES PATENT APPLICATION

OF

William J. Odom, Jr.

FOR

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

BACKGROUND OF THE INVENTION

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the priority benefit of U.S. Provisional Patent Application Serial No. 61/506,455, filed July 11, 2011, which is incorporated herein by reference in its entirety.

(1) Field of the Invention

[0002] The invention relates generally to a lighting apparatus and method for attracting avian species to a food or water source.

SUMMARY OF THE INVENTION

[0003] In an embodiment, the invention is directed to a lighting system for an avian house comprising a feeding or watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered.

[0004] In another embodiment, the invention is directed to a method for attracting avian species to a feeding or watering system, the method comprising providing a feeding or watering system, providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered, and maintaining the LED light source in a lit configuration to attract the avian species to the feeding or watering system.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] A full and enabling disclosure of the present invention is set forth in the specification, which refers to the appended figures, in which:

[0006] Figure 1 illustrates an embodiment of the lighting system of the invention, shown in operation.

[0007] Figure 2 illustrates an embodiment of the lighting system of the invention, shown in separate pieces.

[0008] Figure 3 illustrates an embodiment of the lighting system of the invention.

[0009] Figure 4 illustrates an alternative attachment mechanism for the lighting system of the invention.

[00010] Figure 5 illustrates a cross-sectional view of the lighting system of the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[00011] Reference now will be made in detail to the embodiments of the invention, one or more examples of which are set forth below. Each example is provided by way of explanation of the invention, not a limitation of the invention. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope or spirit of the invention. For instance, features illustrated or described as part of one embodiment, can be used on another embodiment to yield a still further embodiment.

[00012] Thus, it is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents. Other objects, features and aspects of the present invention are disclosed in or are obvious from the following detailed description. It is to be understood by one of ordinary skill in the art that the present discussion is a description of exemplary embodiments only, and is not intended as limiting the broader aspects of the present invention.

[00013] Avian species, including poultry, are very sensitive to light. Light not only allows them to be active and find their food and water, but it also stimulates their brains for seasonal reproduction. It is believed that light is perceived not just through their eyes, but also through receptors in their brain, after penetrating the feathers, skin, and skull. Studies have shown that even blind birds respond to light.

[00014] Light is particularly important to poultry in the first four days of life. Some growers recommend 24 hours of light during the first three days of life to ensure that chicks, for example, learn to find food and water.

[00015] The inventors have discovered that during the first four days of life, poultry are attracted to particular light sources which, when associated with a water source, attract the poultry to the water source. The inventive apparatus and method lead the

poultry to the water source unexpectedly quickly, thus preventing dehydration. The hydrated poultry are then able to find food sources more easily and gain weight more quickly than is possible with standard poultry operations, resulting in increased survival rates, weight, and feed conversion.

[00016] In an embodiment, the lighting source utilized in the invention may be a light emitting diode (LED). LEDs are solid-state semiconductor devices that convert electrical energy directly into light. LEDs are comprised of a semiconductor chip, or die, of which one side is bonded to the top of reflector cup, often called the anvil, which carries the negative current. The other side of the semiconductor is connected with a micro wire, often referred to as the whisker, which supplies the positive current. The semiconductor chip consists of two parts, a P-type semiconductor where holes dominate the region and an N-type semiconductor which is dominated by electrons. When they are sandwiched together, a PN junction is formed. When an electric current is applied to the chip through the lead, electrons are pushed across the junction into the P-region. There, electrons and holes meet and recombine and then release energy in the form of photons of light. The wavelength (color) of the light depends on the materials forming the PN junction. In an embodiment, the LED light source may be an organic LED, or an OLED.

[00017] Generally speaking, the emitted LED light utilized in the present invention may be in the visible, ultraviolet, and/or infrared wavelength spectrum. In an embodiment of the invention, the emitted light is in the visible light spectrum. By proper selection of semiconductor materials, LEDs can be constructed to emit white light or light of certain colors, such as red, blue, or green. LEDs offer advantages over incandescent light sources including lower energy consumption, longer lifetime, improved robustness, smaller size, faster switching, and greater durability and reliability.

[00018] The LED light source used in the invention may be any color known in the art. In an embodiment, the LED light source of the invention is a white light. In a particular embodiment, the LED light source comprises bright white or cool white light. In another embodiment, the LED light source comprises blue or green light. In any embodiment, the LED light may be coated with a phosphor. In an embodiment, the white light may be emitted by combining red, green, and blue light emitting layers. The color of the emitted light may depend on the materials used to make each LED light. In

an example, a blue LED may include gallium nitride (GaN) or indium gallium nitride (InGaN). In another example, a green LED may include aluminum gallium phosphide (AlGaP).

[00019] In an embodiment, the wavelength associated with the blue LED may be between about 420 nm and about 520 nm. In a particular embodiment, the wavelength associated with the blue LED may be between about 440 nm and about 500 nm. In another embodiment, the wavelength associated with the green LED may be between about 480 nm and about 600 nm. In yet another embodiment, the wavelength associated with the green LED may be between about 500 nm and about 550 nm.

[00020] There are several approaches using LEDs to achieve white light, any of which are contemplated by the current invention. In an embodiment, the white light LEDs may include one phosphor material that absorbs a portion of the radiation emitted by the LED and re-emits radiation of a different color (wavelength). In this embodiment, the LED die or chip may generate blue light in the visible part of the spectrum and the phosphor may re-emit yellow light or a combination of green light and red light. The portion of the visible blue light generated by the LED that is not absorbed by the phosphor may mix with the yellow light or the combination of emitted green light and red light to provide light that appears to the eye as being white in color. In another embodiment, red, green, and blue LEDs can be combined to produce white light. In an embodiment, any method of generating white, blue, or green LED light may be utilized. In an embodiment, the LED light source may be monochromatic or multichromatic.

[00021] The correlated color temperature (CCT) provides a relative color appearance of a white light source, determined by comparing its hue with a theoretical, heated black-body radiator. CCT is specified in Kelvin (K) and corresponds to the absolute temperature of the blackbody whose chromaticity most nearly resembles that of the light source. The CCT of a white LED is determined by the light wavelength and power emitted by the LED die or chip used therein. The CCT range for white LED light, for example, is generally from about 2,500K to about 7,000K, with the lower color temperatures being referred to as "warmer" colors and the higher color temperatures being referred to as "cooler" colors. The particular naming of white light colors, based upon CCT, may vary based upon manufacturer.

[00022] In an embodiment, the LED light source has a CCT of from about 2,500K to about 7,000K. In another embodiment, the LED light source has a CCT of from about 2,700K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,000K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,500K to about 6,000K. In yet another embodiment, the LED light source has a CCT of from about 4,500K to about 6,500K. In a particular embodiment, the LED light source has a CCT of about 3,500K. The ranges provided herein are examples only and any individual color temperature or range of color temperatures between those set forth is contemplated by the invention.

[00023] In an embodiment, the intensity of the LED light source may be from about 10 to about 30 lux. In another embodiment, the intensity of the LED light source may be from about 20 to about 30 lux.

[00024] In an embodiment, the amount of light provided in lumens (lm) by the light source may be from about 0.10 lm to about 1.0 lm. In a particular embodiment, the amount of light provided may be about 0.75 lm.

[00025] In an embodiment, a power source may be configured to provide an AC input of from about 12 V to about 220 V. In another embodiment, a power source may be configured to provide an AC input of from about 24 V to about 110 V. In a particular embodiment, a power source may be configured to provide an AC input of about 120 V. In an embodiment, the DC output of the power source may be from about 12 V to about 220 V. In another embodiment, the power source may be configured to provide DC output of from about 24 V to about 110 V.

[00026] In an embodiment, the LED light source may be a strip light or a rope light. A strip light can be configured as a flat strip, with optional adhesive on one side. The LED lights are contained within the flat strip at intervals, behind a plastic or PVC layer. The lights on the strip can be cut and customized according to the desired length of the strip. A rope light is typically configured as a plastic or PVC rope with LED lights at intervals within the rope. In an embodiment, the LED light source is waterproof, water repellant, water resistant, moisture repellant, and/or moisture resistant. The plastic lens, rope, or cover over the LED light source may be clear or colored, depending on the effect or lighting color desired.

embodiment, the LED light source may be an LED array. In an embodiment, the LED lights may be wired in series or in parallel.

[00032] In a typical poultry house, watering systems are used to provide water to the birds. With reference to the drawings, and as particularly shown in Fig. 1, the present poultry watering system 10 utilizes an LED light source 30, as discussed herein, in combination with a watering system 20. Any watering system known in the art, or suitable for use, may be utilized in the invention. In an embodiment, the watering system may be a gravity watering system. In another embodiment, the watering system may be a low psi (0 to 10 psi) watering system. The water delivery device 40 of the watering system can be round, square, rectangular, or any configuration known in the art or suitable for using in such a watering system. In an embodiment, water delivery device 40 may be a nipple. The watering system may be configured with or without a drip pan and/or with cups, pans, or trays. In an embodiment, the lighting system could be used in conjunction with feeding systems for any avian species. In an embodiment, the watering system may be a Ziggity® watering system, available from Ziggity Systems, Inc., a Lubing watering system, available from Gillis Agricultural Systems, Inc., or a Val-Co™ watering system, available from Valco Companies, Inc.

[00033] In an embodiment, LED light source 30 of the invention is positioned on, near, or just above the water delivery device (such as a nipple) of the water source. In another embodiment, cups (not shown) may be utilized to contain the source water for the poultry. In this embodiment, LED light source 30 may be positioned on the ground, near the cups or may be attached to the base or lip of the cups. For turkeys, for example, the water could be placed in a 5-gallon bucket having a trough around the bucket's edge. In this embodiment, the LED light source of the invention could be configured just below the lip of the trough.

[00034] In an embodiment, the individual LED lights 70 may run along the entire length of the strip or rope light. In another embodiment, the individual LED lights 70 may be positioned at particular locations within the strip or rope light, for example, corresponding to the locations of the water delivery devices 40.

[00035] Any fastening mechanism known in the art may be utilized in the invention to attach the LED light source 30 to the watering system 20. In an embodiment, the fastening mechanism may be a series of plastic ties 50. In another embodiment, the

fastening mechanism may be a clip 60, or any other fastener known in the art or useful in the invention. In an embodiment, the fastening mechanism may permanently affix the LED light source 30 to the watering system 20. In another embodiment, the fastening mechanism may removably affix the LED light source 30 to the watering system 20.

[00036] In an embodiment, the LED light source 30 may comprise bright white light and is configured in an LED rope light. In another embodiment, the LED light source 30 may comprise cool white light and may be configured in an LED rope light.

[00037] In an embodiment, the lighting system of the invention may be utilized during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 1 day during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 2 days during the first four days of life for the poultry. In an embodiment, the lighting system of the invention may be utilized during the entire life of the poultry. In an embodiment, the lighting system may be maintained in a lit configuration for 24 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 20 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 15 hours per day. As is known the art, the amount of light provided to the birds per day may vary according to the age of the birds and the purpose for which they are being raised.

[00038] In an embodiment, the invention may be useful in connection with the provision of water to any avian birds, such as chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds. In an embodiment, the invention may be useful in connection with broiler chickens, breeder chickens, or pullet chickens. In an embodiment, the invention may be useful in connection with poults, hens, or poms.

[00039] In an embodiment, the invention may be useful in connection with the provision of food to avian birds. In this embodiment, the lighting system can be positioned near or attached to the feeding system, feed pans, or food source. The lighting system of the invention may attract the avian species to the food source in the same manner it attracts the birds to a water source. In a particular embodiment, the lighting system of the invention may be used to attract the birds to any location desired.

[00040] In an embodiment, the lighting system of the invention may be used in addition to natural lighting and/or standard lighting, overhead or otherwise that may be

present in the avian house. In another embodiment, the lighting system of the invention may be used as a substitute for natural lighting and/or standard lighting, overhead or otherwise.

[00041] In an embodiment, the lighting system of the invention contains an adjusting mechanism capable of continuous or stepwise adjustment of illuminance and/or CCT. In an embodiment, the CCT of the light source may be tunable. In another embodiment, the poultry may be exposed to light in a stepwise or continuous manner, from the lowest level of illuminance to the highest level of illuminance. Additionally, in an embodiment, the lighting system may be adjustable in height, such that the light can be maintained at eye level with the birds, regardless of their size.

Example 1

[00042] The average livability for quail, from birth until full grown (approximately 35-45 days), under standard lighting conditions known in the art, is approximately 72%. As will be shown in this example, the average livability for quail, from birth until full grown (approximately 35-45 days), under the inventive lighting conditions, was approximately 95%. This illustrates an improvement of as much as 18% in average livability when the present invention is utilized.

Example 2

[00043] The average chick, under standard lighting conditions, eats approximately $\frac{2}{10}$ ounces per day during the first 4 days of life. As will be shown in this example, chicks ate approximately $\frac{1}{2}$ ounce per day during the first 4 days of life under the inventive lighting conditions. Due to the increased food intake, the tested chicks quadrupled their body weight. For broiler chickens, this early improved growth cuts approximately 1-7 days off of the life cycle of the chicken. The farmer may save considerable costs on feed and may bring chickens to market sooner with heavier weights when the present invention is utilized.

Example 3

[00044] In this embodiment, a variety of colors of LED light sources were tested in a quail house to determine the colors most attractive to the birds. The tested colors/types of LED light sources were: cool white (LED rope), bright white (LED rope), warm white (LED strip), blue (LED strip), red (LED strip), yellow (LED strip), and green (LED strip). Each of the light sources tested was approximately 4 feet in length. In a quail house,

each rope or strip was attached to a portion of a Ziggity® watering system, at eye level, and was separated from the next light source by about 3 feet. After attaching the rope or strip to the watering pipe, just above the nipples, they were turned on.

[00045] Approximately 80,000 birds that were 1 day old were placed in the quail house. The birds immediately moved toward the cool white, bright white, blue, and green light sources. The birds were able to find water, due to the use of the present invention, within approximately 90 minutes. The birds were not attracted to, and did not move toward, the red, yellow, or warm white lights.

[00046] In these examples, the inventors were able to decrease the mortality rate from 27.4% to about 5%. That is, rather than approximately 72.6% of birds surviving to market, the percentage of birds surviving to market was approximately 95%. In these examples, the poultry increased in size from about the 30 percentile to about the 60 percentile. Similarly, in these examples, the size of the poultry was noticeably increased within 2 to 3 days of exposure to the lighting system.

[00047] Although particular embodiments of the invention have been described using specific terms, devices, and methods, such description is for illustrative purposes only. The words used are words of description rather than of limitation. It is to be understood that changes and variations may be made by those of ordinary skill in the art without departing from the spirit or the scope of the present invention, which is set forth in the following claims. In addition, it should be understood that aspects of the various embodiments may be interchanged both in whole or in part. Therefore, the spirit and scope of the appended claims should not be limited to the description of the preferred versions contained therein.

What is claimed is:

1. A lighting system for an avian house comprising:
 - a. a feeding or watering system; and
 - b. a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the source of LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered.
2. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,500K to about 7,000K.
3. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,700K to about 6,500K.
4. The lighting system of claim 1, wherein the LED light source is white and has a correlated color temperature of from about 3,000K to about 6,500K.
5. The lighting system of claim 1 wherein the LED light source is white and is classified as cool white.
6. The lighting system of claim 1 wherein the LED light source is white and is classified as bright white.
7. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 420 nm to about 520 nm.
8. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 440 nm to about 500 nm.
9. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 480 nm to about 600 nm.
10. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 500 nm to about 550 nm.
11. The lighting system of claim 1, wherein the LED light source has an intensity of from about 10 to about 30 lux.
12. The lighting system of claim 1, wherein the LED light source has an intensity of from about 20 to about 30 lux.
13. The lighting system of claim 1, wherein the LED light source is a strip light or rope light.

14. The lighting system of claim 13, wherein the emitting diode of the LED light source is positioned perpendicular to the length of the strip or rope light.
15. The lighting system of claim 1, wherein the LED lighting is positioned adjacent to a food or water delivery device of the feeding or watering system.
16. A method for attracting avian species to a feeding or watering system, the method comprising:
 - a. providing a feeding or watering system;
 - b. providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered; and
 - c. maintaining the LED light source in a lit configuration to attract the avian species to the feeding or watering system.
17. The method according to claim 16, wherein the avian species is selected from the group consisting of poultry, chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds.
18. The method according to claim 16, wherein the light is maintained in a lit configuration for 24 hours per day.
19. The method according to claim 16, wherein the avian species is between birth and about four days of age.
20. The method according to claim 16, wherein the method is utilized for at least the first four days of life for the avian species.

ABSTRACT

In an embodiment, the invention is directed to a lighting system for an avian house comprising a feeding or watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which corresponds to eye level to of the avian species to be fed or watered. The invention is also directed to a method for attract an avian species to a feeding or watering system using an LED lighting system.

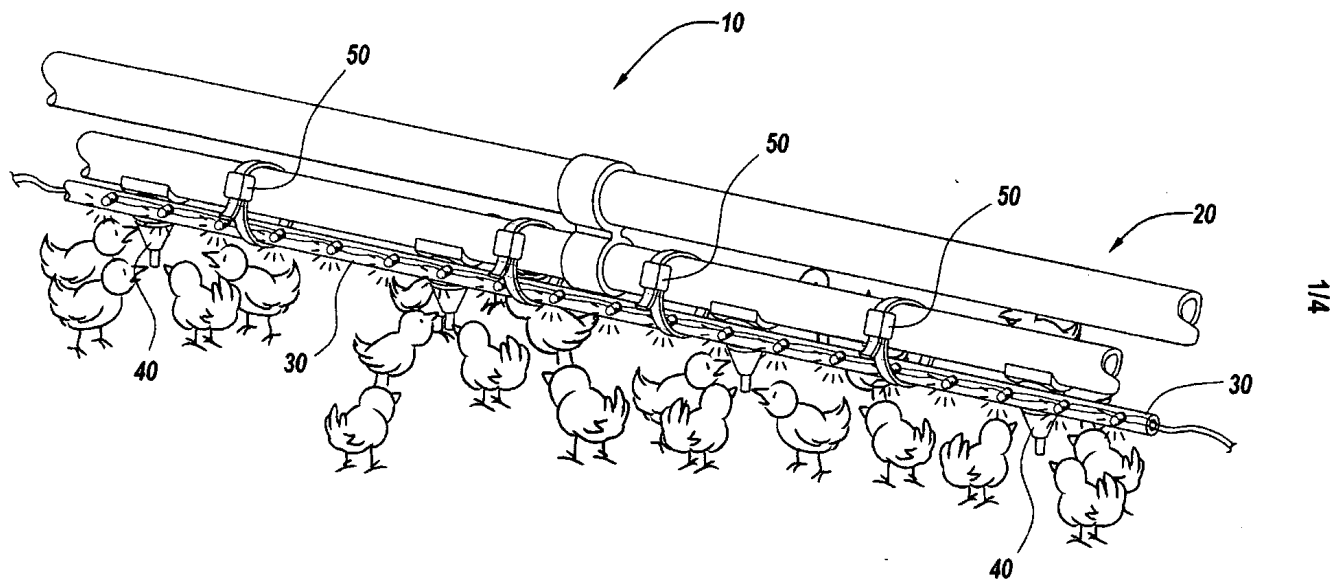


Fig. 1

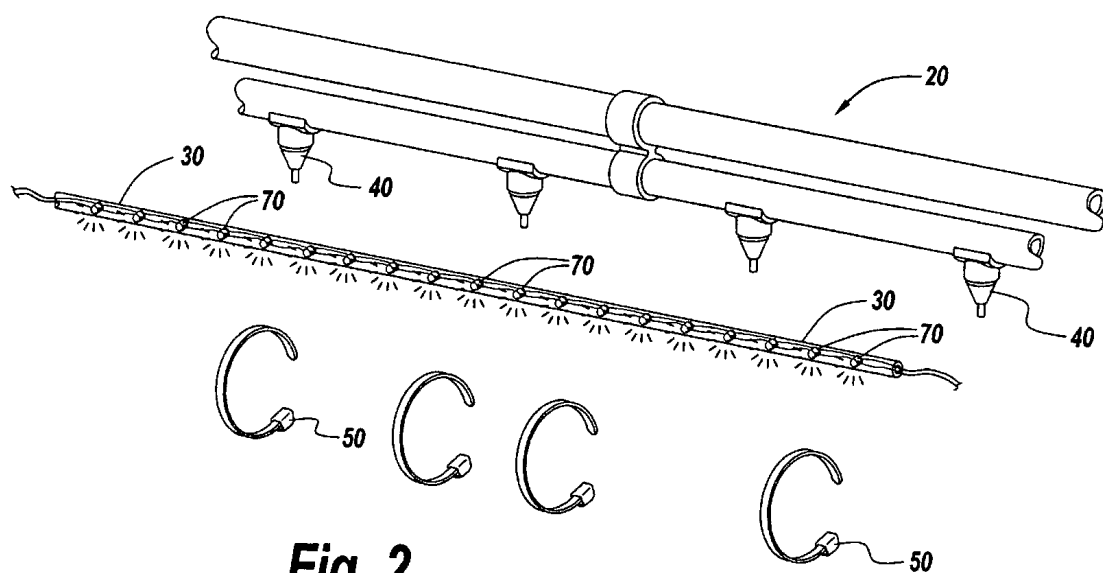


Fig. 2

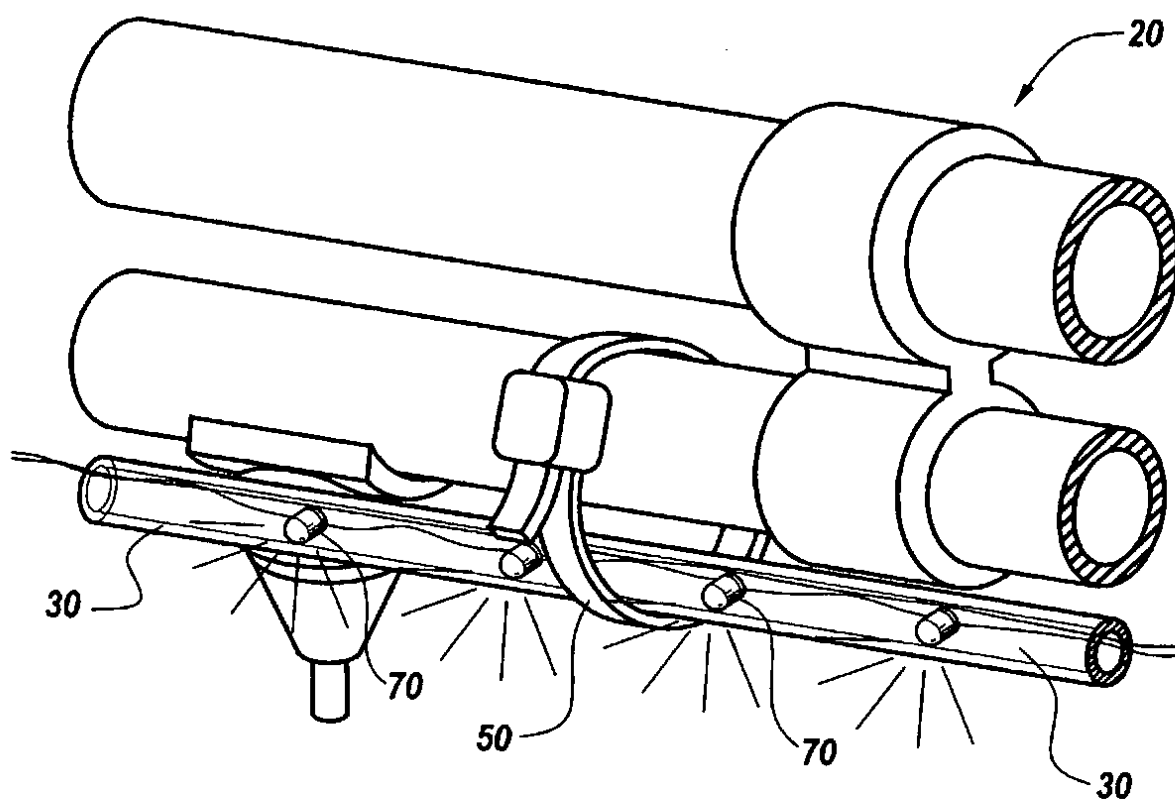


Fig. 3

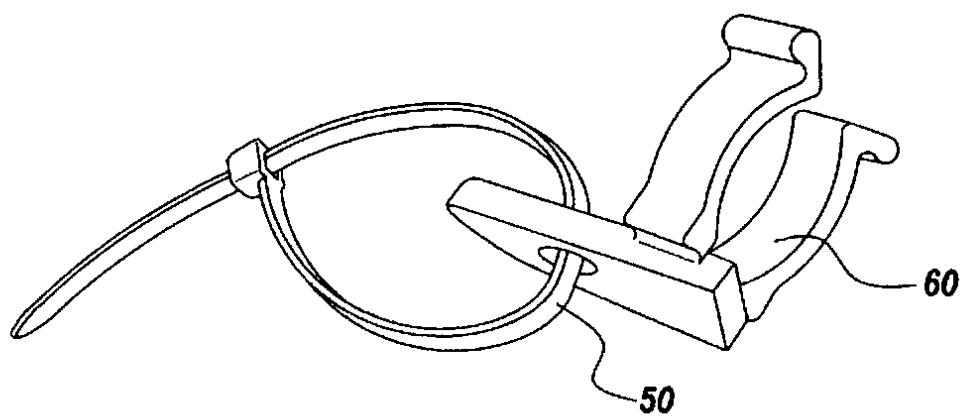
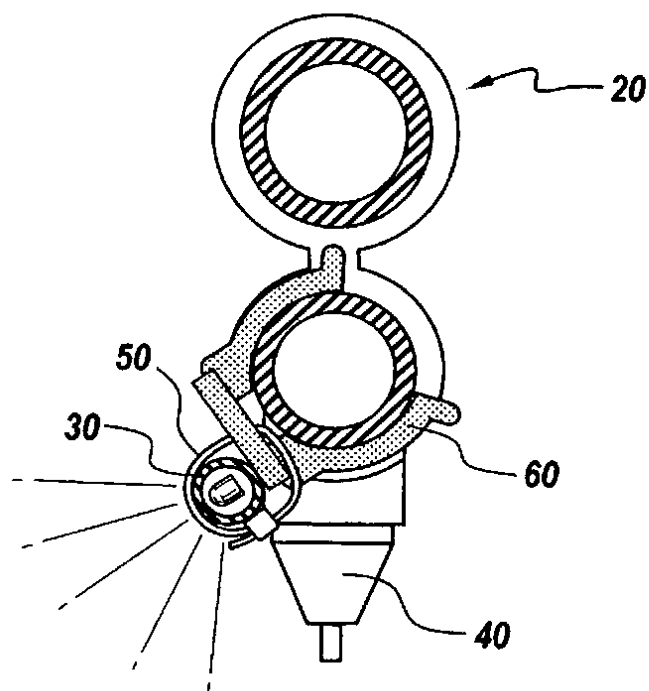


Fig. 4

**Fig. 5**

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		

Application Information:

Title of the Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		
Attorney Docket Number	38124/09000	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	1

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
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This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
		6150645	2011-07-11
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		

			Remove
Application Number	Country i	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.				
Assignee 1				Remove
If the Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
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Phone Number		Fax Number		
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Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Nichole T. Andrighetti/			Date (YYYY-MM-DD)	2011-07-13
First Name	Nichole T.	Last Name	Andrighetti	Registration Number	56508

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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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.
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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.
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TRADUCCIÓN OFICIAL AL ESPAÑOL 161/2011 DE UN DOCUMENTO EN IDIOMA INGLÉS REALIZADA POR EDUARDO CALADO NOGUERA, TRADUCTOR OFICIAL AUTORIZADO POR RESOLUCIÓN 541 DEL 27 DE FEBRERO DE 1976 DEL MINISTERIO DE JUSTICIA Y DEBIDAMENTE INSCRITO ANTE EL MINISTERIO DE RELACIONES EXTERIORES DE COLOMBIA

ESTADOS UNIDOS DE AMÉRICA

A quien corresponda:

DEPARTAMENTO DE COMERCIO DE ESTADOS UNIDOS

OFICINA DE MARCAS Y PATENTES DE ESTADOS UNIDOS

15 de agosto de 2011

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NÚMERO DE SOLICITUD: 61/507,230

FECHA DE RADICACIÓN: 13 DE julio DE 2011.

EL CÓDIGO DEL PAIS Y EL NÚMERO DE SU SOLICITUD DE PRIORIDAD, PARA USARSE EN EL EXTRANJERO DE ACUERDO CON LA CONVENCIÓN DE PARIS ES US61/507,230

POR AUTORIZACIÓN DEL SUBSECRETARIO DE COMERCIO PARA PROPIEDAD INTELECTUAL Y DIRECTOR DE LA OFICINA DE MARCAS Y PATENTES DE LOS ESTADOS UNIDOS.

FIRMA ILEGIBLE, T. WALLACE, FUNCIONARIO CERTIFICADOR.

SELLO: OFICINA DE MARCAS Y PATENTES DE ESTADOS UNIDOS, DEPARTAMENTO DE COMERCIO.

Eduardo Calado N

COLO 18587 801 001 5

221 PALABRAS. 30 MINUTOS

ECN\ECN\ID-200936\WPCL002G

Bogota, 16 de septiembre de 2011.

Eduardo Calado H.

REIVINDICACIONES

1.- Un sistema de iluminación para una casa de aves que comprende: a. un sistema de comedero o abrevadero; y b. una fuente de iluminación LED que emite
5 luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la fuente de iluminación LED está fija al sistema de comedero o abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará
10 alimento o agua.

2.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,500K a aproximadamente
15 7,000K.

3.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,700K a aproximadamente
20 6,500K.

4.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 3,000K a aproximadamente
25 6,500K.

5.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca fría.

6.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca brillante.
30

7.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente

de luz LED es azul y tiene una longitud de onda de aproximadamente 420 nm a aproximadamente 520 nm.

5 8.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es azul y tiene una longitud de onda de aproximadamente 440 nm a aproximadamente 500 nm.

10 9.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 480 nm a aproximadamente 600 nm.

10.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 500 nm a aproximadamente 550 nm.

15 11.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 10 a aproximadamente 30 lux.

20 12.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 20 a aproximadamente 30 lux.

25 13.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es una cinta de luz o cordón de luz.

14.- El sistema de iluminación de conformidad con la reivindicación 13, caracterizado además porque el diodo emisor de la fuente de luz LED está colocado perpendicular a la longitud de la cinta o cordón de luz.

30 15.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la iluminación LED está colocada adyacente a un dispositivo de suministro de alimento o de agua del sistema de comedero o abrevadero.

16.- Un método para atraer especies de aves a un sistema de comedero o abrevadero, el método comprende: a. proveer un sistema de comedero o abrevadero; b. proveer una fuente de iluminación LED que emite luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la iluminación LED está fija al sistema de comedero o abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará alimento o agua; y c. mantener la fuente de luz LED en una configuración iluminada para atraer a la especie de ave al sistema de comedero o abrevadero.

17.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de aves se selecciona del grupo que consiste de aves de engorda, pollos, codornices, patos, pichones, faisanes, pavorreales, y cualesquiera otras aves de caza.

18.- El método de conformidad con la reivindicación 16, caracterizado además porque la luz es mantenida en una configuración iluminada por 24 horas por día.

19.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de ave está entre el nacimiento y aproximadamente cuatro días de edad.

20.- El método de conformidad con la reivindicación 16, caracterizado además porque el método se utiliza por lo menos por los primeros cuatro días de vida de la especie de ave.



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TO ALL TO WHOM THESE PRESENTS SHALL COME:

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August 15, 2011

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APPLICATION NUMBER: 61/508,869

FILING DATE: July 18, 2011

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US61/508,869

**By Authority of the
Under Secretary of Commerce for Intellectual Property
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T. Wallace
T. WALLACE

Certifying Officer

Electronic Acknowledgement Receipt

EFS ID:	10542032
Application Number:	61508869
International Application Number:	
Confirmation Number:	1486
Title of Invention:	AVIAN HOUSE LIGHTING APPARATUS AND METHOD
First Named Inventor/Applicant Name:	William J. Odom, Jr.
Customer Number:	27530
Filer:	Nichole Teresa Andrighetti/Mim Voet
Filer Authorized By:	Nichole Teresa Andrighetti
Attorney Docket Number:	38124/09000
Receipt Date:	18-JUL-2011
Filing Date:	
Time Stamp:	16:04:51
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$110
RAM confirmation Number	2767
Deposit Account	502548
Authorized User	ANDRIGHETTI,NICHOLE
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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Provisional Cover Sheet (SB16)	provisionalcoversheet.pdf	1060217	no	3
			b291f90d721858a414523d983e61f4ffa749e91		
Warnings:					
Information:					
2	Specification	specification.pdf	503039	no	11
			e9afe98b9c93da43d65d67b56694f6140cd68a9		
Warnings:					
Information:					
3	Claims	claims.pdf	83339	no	3
			1745ab4124f0bcfa6d9740b8f161e842abe7aa0a		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	drawings.pdf	54307	no	4
			e88041414203965d28421b5a979cdf8ffc6bea207		
Warnings:					
Information:					
5	Application Data Sheet	applicationdatasheetpads.pdf	1031483	no	5
			934083178cf58adcc6ea3115e68220fb6874690d		
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	29694	no	2
			ccbf26b5f2e2769796d5e1cadecfa2edcb5875aa		
Warnings:					
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Total Files Size (in bytes):			2762079		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

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Provisional Application for Patent Cover Sheet This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)					
Inventor(s)					
Inventor 1					Remove
Given Name	Middle Name	Family Name	City	State	Country
William	J.	Odom, Jr.	Fairfax	SC	US
All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add
Title of Invention		AVIAN HOUSE LIGHTING APPARATUS AND METHOD			
Attorney Docket Number (if applicable)		38124/09000			
Correspondence Address Direct all correspondence to (select one):					
☒ The address corresponding to Customer Number			☐ Firm or Individual Name		
Customer Number			27530		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.	
☒ No.	
☐ Yes, the name of the U.S. Government agency and the Government contract number are:	

Entity Status Applicant claims small entity status under 37 CFR 1.27					
☒ Yes, applicant qualifies for small entity status under 37 CFR 1.27 ☐ No					
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Signature Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Nichole T. Andrighetti/			Date (YYYY-MM-DD)	2011-07-18
First Name	Nichole T.	Last Name	Andrighetti	Registration Number (If appropriate)	56508
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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.
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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).
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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.
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UNITED STATES PATENT APPLICATION

OF

William J. Odom, Jr.

FOR

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

BACKGROUND OF THE INVENTION

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] The present application claims the priority benefit of U.S. Provisional Patent Application Serial No. 61/506,455, filed July 11, 2011, and 61/507,230, filed July 13, 2011, which are incorporated herein by reference in their entirety.

(1) Field of the Invention

[0002] The invention relates generally to a lighting apparatus and method for attracting avian species to a food or water source.

SUMMARY OF THE INVENTION

[0003] In an embodiment, the invention is directed to a lighting system for an avian house comprising a feeding or watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered.

[0004] In another embodiment, the invention is directed to a method for attracting avian species to a feeding or watering system, the method comprising providing a feeding or watering system, providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered, and maintaining the LED light source in a lit configuration to attract the avian species to the feeding or watering system.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] A full and enabling disclosure of the present invention is set forth in the specification, which refers to the appended figures, in which:

[0006] Figure 1 illustrates an embodiment of the lighting system of the invention, shown in operation.

[0007] Figure 2 illustrates an embodiment of the lighting system of the invention, shown in separate pieces.

[0008] Figure 3 illustrates an embodiment of the lighting system of the invention.

[0009] Figure 4 illustrates an alternative attachment mechanism for the lighting system of the invention.

[00010] Figure 5 illustrates a cross-sectional view of the lighting system of the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[00011] Reference now will be made in detail to the embodiments of the invention, one or more examples of which are set forth below. Each example is provided by way of explanation of the invention, not a limitation of the invention. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope or spirit of the invention. For instance, features illustrated or described as part of one embodiment, can be used on another embodiment to yield a still further embodiment.

[00012] Thus, it is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents. Other objects, features and aspects of the present invention are disclosed in or are obvious from the following detailed description. It is to be understood by one of ordinary skill in the art that the present discussion is a description of exemplary embodiments only, and is not intended as limiting the broader aspects of the present invention.

[00013] Avian species, including poultry, are very sensitive to light. Light not only allows them to be active and find their food and water, but it also stimulates their brains for seasonal reproduction. It is believed that light is perceived not just through their eyes, but also through receptors in their brain, after penetrating the feathers, skin, and skull. Studies have shown that even blind birds respond to light.

[00014] Light is particularly important to poultry in the first four days of life. Some growers recommend 24 hours of light during the first three days of life to ensure that chicks, for example, learn to find food and water.

[00015] The inventors have discovered that during the first four days of life, poultry are attracted to particular light sources which, when associated with a water source, attract the poultry to the water source. The inventive apparatus and method lead the

poultry to the water source unexpectedly quickly, thus preventing dehydration. The hydrated poultry are then able to find food sources more easily and gain weight more quickly than is possible with standard poultry operations, resulting in increased survival rates, weight, and feed conversion.

[00016] In an embodiment, the lighting source utilized in the invention may be a light emitting diode (LED). LEDs are solid-state semiconductor devices that convert electrical energy directly into light. LEDs are comprised of a semiconductor chip, or die, of which one side is bonded to the top of reflector cup, often called the anvil, which carries the negative current. The other side of the semiconductor is connected with a micro wire, often referred to as the whisker, which supplies the positive current. The semiconductor chip consists of two parts, a P-type semiconductor where holes dominate the region and an N-type semiconductor which is dominated by electrons. When they are sandwiched together, a PN junction is formed. When an electric current is applied to the chip through the lead, electrons are pushed across the junction into the P-region. There, electrons and holes meet and recombine and then release energy in the form of photons of light. The wavelength (color) of the light depends on the materials forming the PN junction. In an embodiment, the LED light source may be an organic LED, or an OLED.

[00017] Generally speaking, the emitted LED light utilized in the present invention may be in the visible, ultraviolet, and/or infrared wavelength spectrum. In an embodiment of the invention, the emitted light is in the visible light spectrum. By proper selection of semiconductor materials, LEDs can be constructed to emit white light or light of certain colors, such as red, blue, or green. LEDs offer advantages over incandescent light sources including lower energy consumption, longer lifetime, improved robustness, smaller size, faster switching, and greater durability and reliability.

[00018] The LED light source used in the invention may be any color known in the art. In an embodiment, the LED light source of the invention is a white light. In a particular embodiment, the LED light source comprises bright white or cool white light. In another embodiment, the LED light source comprises blue or green light. In any embodiment, the LED light may be coated with a phosphor. In an embodiment, the white light may be emitted by combining red, green, and blue light emitting layers. The color of the emitted light may depend on the materials used to make each LED light. In

an example, a blue LED may include gallium nitride (GaN) or indium gallium nitride (InGaN). In another example, a green LED may include aluminum gallium phosphide (AlGaP).

[00019] In an embodiment, the wavelength associated with the blue LED may be between about 420 nm and about 520 nm. In a particular embodiment, the wavelength associated with the blue LED may be between about 440 nm and about 500 nm. In another embodiment, the wavelength associated with the green LED may be between about 480 nm and about 600 nm. In yet another embodiment, the wavelength associated with the green LED may be between about 500 nm and about 550 nm.

[00020] There are several approaches using LEDs to achieve white light, any of which are contemplated by the current invention. In an embodiment, the white light LEDs may include one phosphor material that absorbs a portion of the radiation emitted by the LED and re-emits radiation of a different color (wavelength). In this embodiment, the LED die or chip may generate blue light in the visible part of the spectrum and the phosphor may re-emit yellow light or a combination of green light and red light. The portion of the visible blue light generated by the LED that is not absorbed by the phosphor may mix with the yellow light or the combination of emitted green light and red light to provide light that appears to the eye as being white in color. In another embodiment, red, green, and blue LEDs can be combined to produce white light. In an embodiment, any method of generating white, blue, or green LED light may be utilized. In an embodiment, the LED light source may be monochromatic or multichromatic.

[00021] The correlated color temperature (CCT) provides a relative color appearance of a white light source, determined by comparing its hue with a theoretical, heated black-body radiator. CCT is specified in Kelvin (K) and corresponds to the absolute temperature of the blackbody whose chromaticity most nearly resembles that of the light source. The CCT of a white LED is determined by the light wavelength and power emitted by the LED die or chip used therein. The CCT range for white LED light, for example, is generally from about 2,500K to about 7,000K, with the lower color temperatures being referred to as "warmer" colors and the higher color temperatures being referred to as "cooler" colors. The particular naming of white light colors, based upon CCT, may vary based upon manufacturer.

[00022] In an embodiment, the LED light source has a CCT of from about 2,500K to about 7,000K. In another embodiment, the LED light source has a CCT of from about 2,700K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,000K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,500K to about 6,000K. In yet another embodiment, the LED light source has a CCT of from about 4,500K to about 6,500K. In a particular embodiment, the LED light source has a CCT of about 3,500K. The ranges provided herein are examples only and any individual color temperature or range of color temperatures between those set forth is contemplated by the invention.

[00023] In an embodiment, the intensity of the LED light source may be from about 10 to about 30 lux. In another embodiment, the intensity of the LED light source may be from about 20 to about 30 lux.

[00024] In an embodiment, the amount of light provided in lumens (lm) by the light source may be from about 0.10 lm to about 1.0 lm. In a particular embodiment, the amount of light provided may be about 0.75 lm.

[00025] In an embodiment, a power source may be configured to provide an AC input of from about 12 V to about 220 V. In another embodiment, a power source may be configured to provide an AC input of from about 24 V to about 110 V. In a particular embodiment, a power source may be configured to provide an AC input of about 120 V. In an embodiment, the DC output of the power source may be from about 12 V to about 220 V. In another embodiment, the power source may be configured to provide DC output of from about 24 V to about 110 V.

[00026] In an embodiment, the LED light source may be a strip light or a rope light. A strip light can be configured as a flat strip, with optional adhesive on one side. The LED lights are contained within the flat strip at intervals, behind a plastic or PVC layer. The lights on the strip can be cut and customized according to the desired length of the strip. A rope light is typically configured as a plastic or PVC rope with LED lights at intervals within the rope. In an embodiment, the LED light source is waterproof, water repellant, water resistant, moisture repellant, and/or moisture resistant. The plastic lens, rope, or cover over the LED light source may be clear or colored, depending on the effect or lighting color desired.

[00027] In an embodiment, the LED lights within the strip light or rope light may be from about $\frac{1}{16}$ inch to about 6 inches apart. In another embodiment, the lights may be from about $\frac{1}{4}$ inch to about 3 inches apart. In yet another embodiment, the lights may be from about $\frac{1}{2}$ inch to about 2 inches apart.

[00028] In an embodiment, the length of the strip or rope lighting may be from about 1 inch to about 1000 feet. In another embodiment, the length of the strip or rope lighting may be from about 1 foot to about 100 feet. In an embodiment, the length of the strip or rope lighting may correspond with the length of the watering system or water source.

[00029] In an embodiment, the diameter of the individual LED lights is from about 0.5 mm to about 8 mm. In another embodiment, the diameter of the individual LED lights is from about 1 mm to about 5 mm. In another embodiment, the diameter of the individual LED lights is less than about 8 mm. In a particular embodiment, the diameter of the individual LED lights is about 2 mm. In another embodiment, the size of the individual LED lights is about 2 mm in diameter by about 20 mm in length.

[00030] In an embodiment, the emitting diode of the LED light may be mounted at eye-level with the poultry. Thus, the light may be emitted in a direction parallel with the eyes of the poultry. Said another way, in this embodiment, the diode of the LED light is configured such that it is perpendicular to the length of the strip or rope in which it is contained. The strip or rope light is then configured such that the emitted light is directed toward the eyes of the poultry. In an embodiment, the diode, and thus emitted light, is parallel to the floor of the poultry house and is positioned at or just above the eye level of the poultry. In an embodiment, the LEDs emit light from the top and sides of the diode in a hemispherical pattern. In an embodiment, the diode of the LED light is configured such that it is parallel to the length of the strip or rope in which it is contained. In a particular embodiment, the light source may be configured such that the strip or rope lights emit light in two or more directions, the emitting directions being parallel to the floor of the poultry house and at eye level to the poultry. In still another embodiment, the light source may be configured to emit light in all directions. In yet another embodiment, the light source may be configured to emit light in 360 degrees.

[00031] The LED light source of the invention may have any configuration known in the art. In an embodiment, the LED source may be concave and/or round. In another

embodiment, the LED light source may be an LED array. In an embodiment, the LED lights may be wired in series or in parallel.

[00032] In a typical poultry house, watering systems are used to provide water to the birds. With reference to the drawings, and as particularly shown in Fig. 1, the present poultry watering system 10 utilizes an LED light source 30, as discussed herein, in combination with a watering system 20. Any watering system known in the art, or suitable for use, may be utilized in the invention. In an embodiment, the watering system may be a gravity watering system. In another embodiment, the watering system may be a low psi (0 to 10 psi) watering system. The water delivery device 40 of the watering system can be round, square, rectangular, or any configuration known in the art or suitable for using in such a watering system. In an embodiment, water delivery device 40 may be a nipple. The watering system may be configured with or without a drip pan and/or with cups, pans, or trays. In an embodiment, the lighting system could be used in conjunction with feeding systems for any avian species. In an embodiment, the watering system may be a Ziggity® watering system, available from Ziggity Systems, Inc., a Lubing watering system, available from Gillis Agricultural Systems, Inc., or a Val-Co™ watering system, available from Valco Companies, Inc.

[00033] In an embodiment, LED light source 30 of the invention is positioned on, near, or just above the water delivery device (such as a nipple) of the water source. In another embodiment, cups (not shown) may be utilized to contain the source water for the poultry. In this embodiment, LED light source 30 may be positioned on the ground, near the cups or may be attached to the base or lip of the cups. For turkeys, for example, the water could be placed in a 5-gallon bucket having a trough around the bucket's edge. In this embodiment, the LED light source of the invention could be configured just below the lip of the trough.

[00034] In an embodiment, the individual LED lights 70 may run along the entire length of the strip or rope light. In another embodiment, the individual LED lights 70 may be positioned at particular locations within the strip or rope light, for example, corresponding to the locations of the water delivery devices 40.

[00035] Any fastening mechanism known in the art may be utilized in the invention to attach the LED light source 30 to the watering system 20. In an embodiment, the fastening mechanism may be a series of plastic ties 50. In another embodiment, the

fastening mechanism may be a clip 60, or any other fastener known in the art or useful in the invention. In an embodiment, the fastening mechanism may permanently affix the LED light source 30 to the watering system 20. In another embodiment, the fastening mechanism may removably affix the LED light source 30 to the watering system 20.

[00036] In an embodiment, the LED light source 30 may comprise bright white light and is configured in an LED rope light. In another embodiment, the LED light source 30 may comprise cool white light and may be configured in an LED rope light.

[00037] In an embodiment, the lighting system of the invention may be utilized during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 1 day during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 2 days during the first four days of life for the poultry. In an embodiment, the lighting system of the invention may be utilized during the entire life of the poultry. In an embodiment, the lighting system may be maintained in a lit configuration for 24 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 20 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 15 hours per day. As is known the art, the amount of light provided to the birds per day may vary according to the age of the birds and the purpose for which they are being raised.

[00038] In an embodiment, the invention may be useful in connection with the provision of water to any avian birds, such as chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds. In an embodiment, the invention may be useful in connection with broiler chickens, breeder chickens, or pullet chickens. In an embodiment, the invention may be useful in connection with poults, hens, or poms.

[00039] In an embodiment, the invention may be useful in connection with the provision of food to avian birds. In this embodiment, the lighting system can be positioned near or attached to the feeding system, feed pans, or food source. The lighting system of the invention may attract the avian species to the food source in the same manner it attracts the birds to a water source. In a particular embodiment, the lighting system of the invention may be used to attract the birds to any location desired.

[00040] In an embodiment, the lighting system of the invention may be used in addition to natural lighting and/or standard lighting, overhead or otherwise that may be

present in the avian house. In another embodiment, the lighting system of the invention may be used as a substitute for natural lighting and/or standard lighting, overhead or otherwise.

[00041] In an embodiment, the lighting system of the invention contains an adjusting mechanism capable of continuous or stepwise adjustment of illuminance and/or CCT. In an embodiment, the CCT of the light source may be tunable. In another embodiment, the poultry may be exposed to light in a stepwise or continuous manner, from the lowest level of illuminance to the highest level of illuminance and/or from the highest level of illuminance to the lowest level of illuminance. In an embodiment, the lighting system can be on a timer which may switch the lighting system on and off at timed intervals. In another embodiment, the lighting system of the invention may use LED lights that blink. In certain embodiments, some of the LED lights may blink while others remain in a continuous on or off configuration. In a particular embodiment, the lights that are nearest the nipple of the lighting system may blink.

[00042] Additionally, in an embodiment, the lighting system may be adjustable in height, such that the light can be maintained at eye level with the birds, regardless of their size.

Example 1

[00043] The average livability for quail, from birth until full grown (approximately 35-45 days), under standard lighting conditions known in the art, is approximately 72%. As will be shown in this example, the average livability for quail, from birth until full grown (approximately 35-45 days), under the inventive lighting conditions, was approximately 95%. This illustrates an improvement of as much as 18% in average livability when the present invention is utilized.

Example 2

[00044] The average chick, under standard lighting conditions, eats approximately $\frac{2}{10}$ ounces per day during the first 4 days of life. As will be shown in this example, chicks ate approximately $\frac{1}{2}$ ounce per day during the first 4 days of life under the inventive lighting conditions. Due to the increased food intake, the tested chicks quadrupled their body weight. For broiler chickens, this early improved growth cuts approximately 1-7 days off of the life cycle of the chicken. The farmer may save

considerable costs on feed and may bring chickens to market sooner with heavier weights when the present invention is utilized.

Example 3

[00045] In this embodiment, a variety of colors of LED light sources were tested in a quail house to determine the colors most attractive to the birds. The tested colors/types of LED light sources were: cool white (LED rope), bright white (LED rope), warm white (LED strip), blue (LED strip), red (LED strip), yellow (LED strip), and green (LED strip). Each of the light sources tested was approximately 4 feet in length. In a quail house, each rope or strip was attached to a portion of a Ziggity® watering system, at eye level, and was separated from the next light source by about 3 feet. After attaching the rope or strip to the watering pipe, just above the nipples, they were turned on.

[00046] Approximately 80,000 birds that were 1 day old were placed in the quail house. The birds immediately moved toward the cool white, bright white, blue, and green light sources. The birds were able to find water, due to the use of the present invention, within approximately 90 minutes. The birds were not attracted to, and did not move toward, the red, yellow, or warm white lights.

[00047] In these examples, the inventors were able to decrease the mortality rate from 27.4% to about 5%. That is, rather than approximately 72.6% of birds surviving to market, the percentage of birds surviving to market was approximately 95%. In these examples, the poultry increased in size from about the 30 percentile to about the 60 percentile. Similarly, in these examples, the size of the poultry was noticeably increased within 2 to 3 days of exposure to the lighting system.

[00048] Although particular embodiments of the invention have been described using specific terms, devices, and methods, such description is for illustrative purposes only. The words used are words of description rather than of limitation. It is to be understood that changes and variations may be made by those of ordinary skill in the art without departing from the spirit or the scope of the present invention, which is set forth in the following claims. In addition, it should be understood that aspects of the various embodiments may be interchanged both in whole or in part. Therefore, the spirit and scope of the appended claims should not be limited to the description of the preferred versions contained therein.

What is claimed is:

1. A lighting system for an avian house comprising:
 - a. a feeding or watering system; and
 - b. a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the source of LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered.
2. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,500K to about 7,000K.
3. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,700K to about 6,500K.
4. The lighting system of claim 1, wherein the LED light source is white and has a correlated color temperature of from about 3,000K to about 6,500K.
5. The lighting system of claim 1 wherein the LED light source is white and is classified as cool white.
6. The lighting system of claim 1 wherein the LED light source is white and is classified as bright white.
7. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 420 nm to about 520 nm.
8. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 440 nm to about 500 nm.
9. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 480 nm to about 600 nm.
10. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 500 nm to about 550 nm.
11. The lighting system of claim 1, wherein the LED light source has an intensity of from about 10 to about 30 lux.
12. The lighting system of claim 1, wherein the LED light source has an intensity of from about 20 to about 30 lux.
13. The lighting system of claim 1, wherein the LED light source is a strip light or rope light.

14. The lighting system of claim 13, wherein the emitting diode of the LED light source is positioned perpendicular to the length of the strip or rope light.
15. The lighting system of claim 1, wherein the LED lighting is positioned adjacent to a food or water delivery device of the feeding or watering system.
16. A method for attracting avian species to a feeding or watering system, the method comprising:
 - a. providing a feeding or watering system;
 - b. providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which generally corresponds to the eye level of the avian species to be fed or watered; and
 - c. maintaining the LED light source in a lit configuration to attract the avian species to the feeding or watering system.
17. The method according to claim 16, wherein the avian species is selected from the group consisting of poultry, chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds.
18. The method according to claim 16, wherein the light is maintained in a lit configuration for 24 hours per day.
19. The method according to claim 16, wherein the avian species is between birth and about four days of age.
20. The method according to claim 16, wherein the method is utilized for at least the first four days of life for the avian species.

ABSTRACT

In an embodiment, the invention is directed to a lighting system for an avian house comprising a feeding or watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the feeding or watering system at a height which corresponds to eye level to of the avian species to be fed or watered. The invention is also directed to a method for attract an avian species to a feeding or watering system using an LED lighting system.

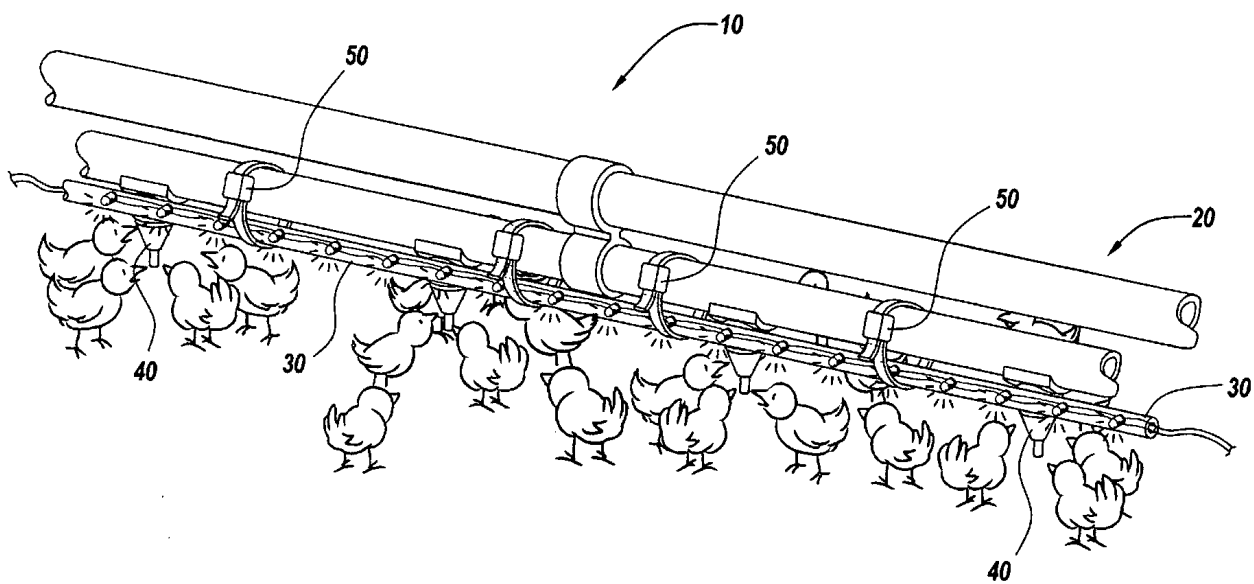
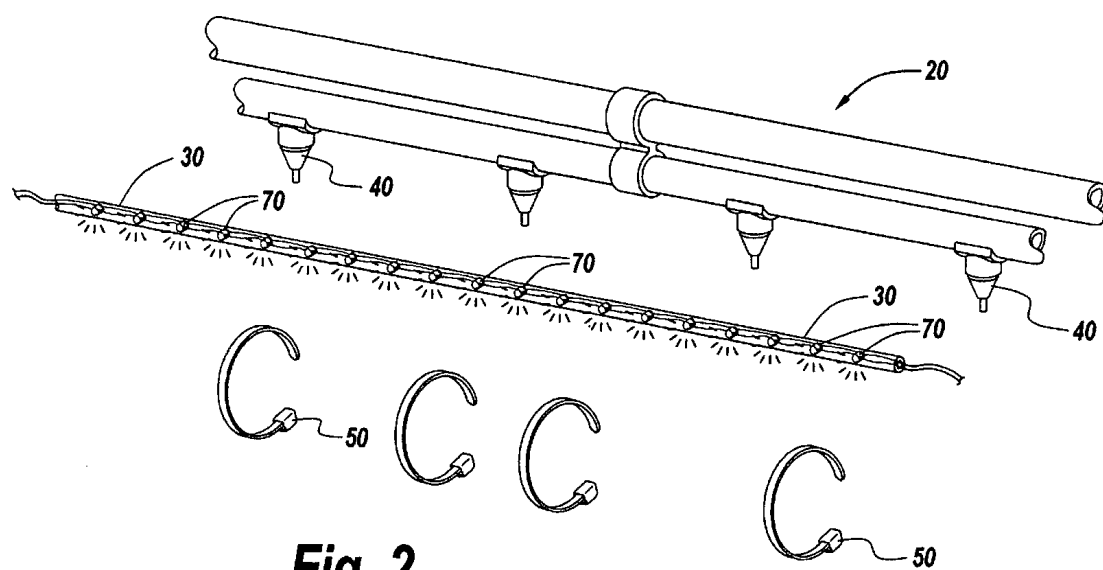
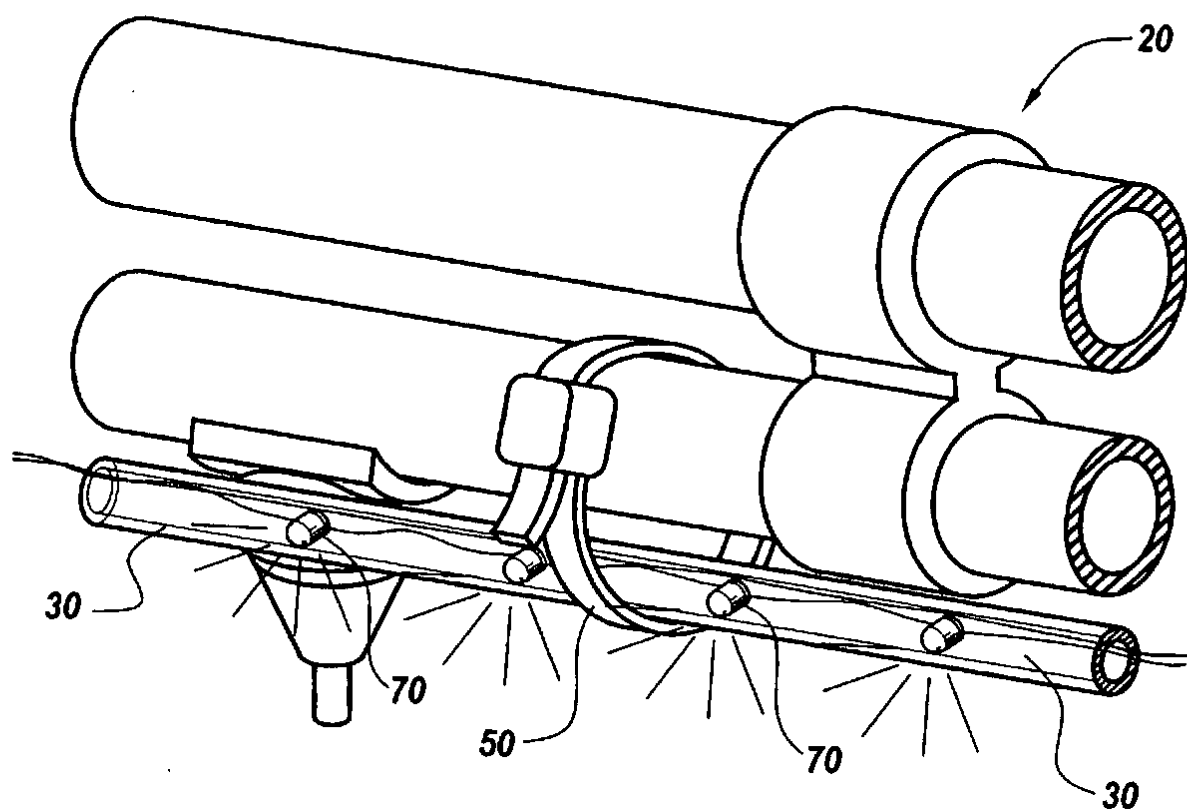
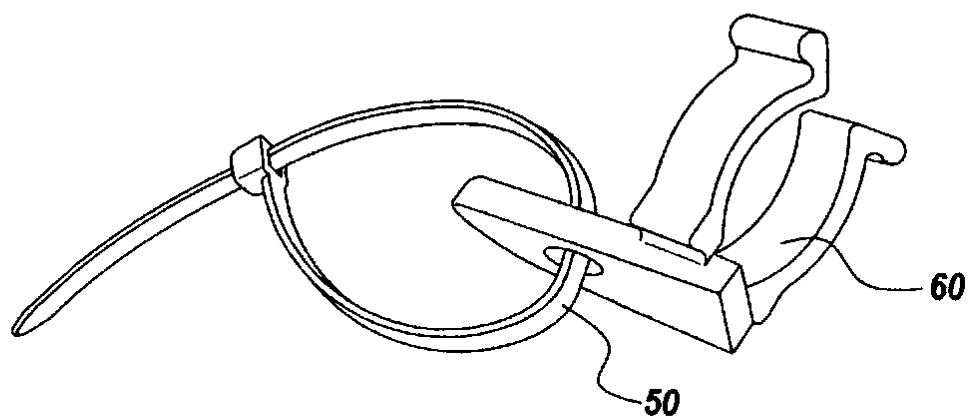
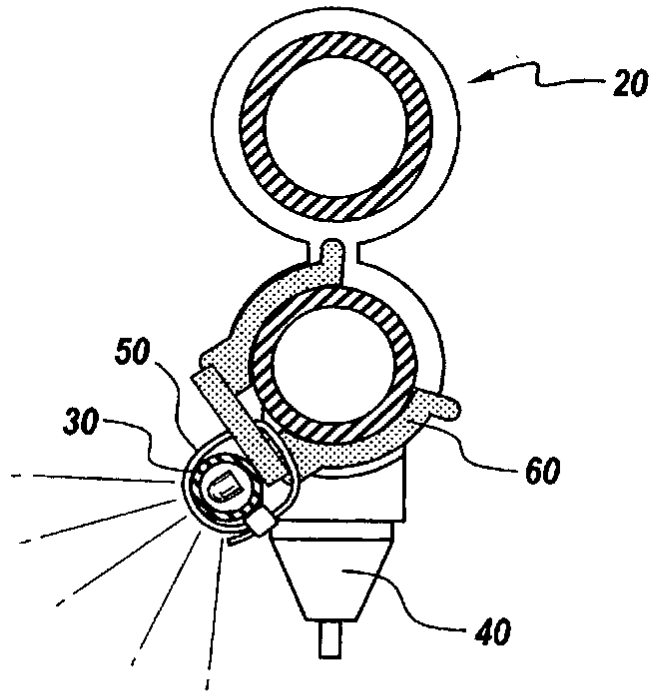


Fig. 1



**Fig. 3****Fig. 4**

**Fig. 5**

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		
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Attorney Docket Number	38124/09000	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	1

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Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
		61506455	2011-07-11
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ESTADOS UNIDOS DE AMÉRICA

A quien corresponda:

DEPARTAMENTO DE COMERCIO DE ESTADOS UNIDOS

OFICINA DE MARCAS Y PATENTES DE ESTADOS UNIDOS

15 de agosto de 2011

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DE ACUERDO CON LA DISPOSICION 35 USC 111.

NÚMERO DE SOLICITUD: 61/508/869

FECHA DE RADICACIÓN: 18 de julio de 2011.

EL CÓDIGO DEL PAIS Y EL NÚMERO DE SU SOLICITUD DE PRIORIDAD,
PARA USARSE EN EL EXTRANJERO DE ACUERDO CON LA CONVENCIÓN DE
PARIS ES US61/508,869

POR AUTORIZACIÓN DEL SUBSECRETARIO DE COMERCIO PARA PROPIEDAD
INTELLECTUAL Y DIRECTOR DE LA OFICINA DE MARCAS Y PATENTES DE
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FIRMA ILEGIBLE, T. WALLACE, FUNCIONARIO CERTIFICADOR.

SELLO: OFICINA DE MARCAS Y PATENTES DE ESTADOS UNIDOS,
DEPARTAMENTO DE COMERCIO.

Eduardo Calado N
Eduardo Calado Noguera
TRADUCTOR OFICIAL
Inglés - Español - Inglés
Res. 541 Febrero de 1976

COLO 18587 801 001 5

221 PALABRAS. 30 MINUTOS

ECN\ECN\ID-200937\WPCL002G

Bogota, 16 de septiembre de 2011.

Edmundo Calado R.

Edmundo Calado Riquelme
TRANSDUCTOR CALADO
- Español-Ingles
- Inglés-Español

REIVINDICACIONES

1.- Un sistema de iluminación para una casa de aves que comprende: a. un sistema de comedero o abrevadero; y b. una fuente de iluminación LED que emite
5 luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la fuente de iluminación LED está fija al sistema de comedero o abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará
10 alimento o agua.

2.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,500K a aproximadamente
15 7,000K.

3.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,700K a aproximadamente
20 6,500K.

4.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 3,000K a aproximadamente
25 6,500K.

5.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca fría.

6.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca brillante.
30

7.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente

de luz LED es azul y tiene una longitud de onda de aproximadamente 420 nm a aproximadamente 520 nm.

5 8.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es azul y tiene una longitud de onda de aproximadamente 440 nm a aproximadamente 500 nm.

10 9.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 480 nm a aproximadamente 600 nm.

10.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 500 nm a aproximadamente 550 nm.

15 11.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 10 a aproximadamente 30 lux.

20 12.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 20 a aproximadamente 30 lux.

25 13.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es una cinta de luz o cordón de luz.

14.- El sistema de iluminación de conformidad con la reivindicación 13, caracterizado además porque el diodo emisor de la fuente de luz LED está colocado perpendicular a la longitud de la cinta o cordón de luz.

30 15.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la iluminación LED está colocada adyacente a un dispositivo de suministro de alimento o de agua del sistema de comedero o abrevadero.

16.- Un método para atraer especies de aves a un sistema de comedero o abrevadero, el método comprende: a. proveer un sistema de comedero o abrevadero; b. proveer una fuente de iluminación LED que emite luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la iluminación LED está fija al sistema de comedero o abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará alimento o agua; y c. mantener la fuente de luz LED en una configuración iluminada para atraer a la especie de ave al sistema de comedero o abrevadero.

17.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de aves se selecciona del grupo que consiste de aves de engorda, pollos, codornices, patos, pichones, faisanes, pavorreales, y cualesquiera otras aves de caza.

18.- El método de conformidad con la reivindicación 16, caracterizado además porque la luz es mantenida en una configuración iluminada por 24 horas por día.

19.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de ave está entre el nacimiento y aproximadamente cuatro días de edad.

20.- El método de conformidad con la reivindicación 16, caracterizado además porque el método se utiliza por lo menos por los primeros cuatro días de vida de la especie de ave.



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APPLICATION NUMBER: 61/506,455

FILING DATE: August 04, 2011

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US61/506,455

By Authority of the
Under Secretary of Commerce for Intellectual Property
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N. WILLIAMS
Certifying Officer



Electronic Acknowledgement Receipt	
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First Named Inventor/Applicant Name:	William J. Odom
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UNITED STATES PATENT APPLICATION

OF

William J. Odom, Jr.

FOR

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

AVIAN HOUSE LIGHTING APPARATUS AND METHOD

BACKGROUND OF THE INVENTION

(1) Field of the Invention

[0001] The invention relates generally to a lighting apparatus and method for attracting avian species to a water source.

SUMMARY OF THE INVENTION

[0002] In an embodiment, the invention is directed to a lighting system for an avian house comprising a watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be watered.

[0003] In another embodiment, the invention is directed to a method for attracting avian species to a watering system, the method comprising providing a watering system, providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be watered, and maintaining the LED light source in a lit configuration to attract the avian species to the watering system.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] A full and enabling disclosure of the present invention is set forth in the specification, which refers to the appended figures, in which:

[0005] Figure 1 illustrates an embodiment of the lighting system of the invention, shown in operation.

[0006] Figure 2 illustrates an embodiment of the lighting system of the invention, shown in separate pieces.

[0007] Figure 3 illustrates an embodiment of the lighting system of the invention.

[0008] Figure 4 illustrates an alternative attachment mechanism for the lighting system of the invention.

[0009] Figure 5 illustrates a cross-sectional view of the lighting system of the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[00010] Reference now will be made in detail to the embodiments of the invention, one or more examples of which are set forth below. Each example is provided by way of explanation of the invention, not a limitation of the invention. In fact, it will be apparent to those skilled in the art that various modifications and variations can be made in the present invention without departing from the scope or spirit of the invention. For instance, features illustrated or described as part of one embodiment, can be used on another embodiment to yield a still further embodiment.

[00011] Thus, it is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents. Other objects, features and aspects of the present invention are disclosed in or are obvious from the following detailed description. It is to be understood by one of ordinary skill in the art that the present discussion is a description of exemplary embodiments only, and is not intended as limiting the broader aspects of the present invention.

[00012] Avian species, including poultry, are very sensitive to light. Light not only allows them to be active and find their food and water, but it also stimulates their brains for seasonal reproduction. It is believed that light is perceived not just through their eyes, but also through receptors in their brain, after penetrating the feathers, skin, and skull. Studies have shown that even blind birds respond to light.

[00013] Light is particularly important to poultry in the first four days of life. Some growers recommend 24 hours of light during the first three days of life to ensure that chicks, for example, learn to find food and water.

[00014] The inventors have discovered that during the first four days of life, poultry are attracted to particular light sources which, when associated with a water source, attract the poultry to the water source. The inventive apparatus and method lead the poultry to the water source unexpectedly quickly, thus preventing dehydration. The hydrated poultry are then able to find food sources more easily and gain weight more quickly than is possible with standard poultry operations, resulting in increased survival rates, weight, and feed conversion.

[00015] In an embodiment, the lighting source utilized in the invention may be a light emitting diode (LED). LEDs are solid-state semiconductor devices that convert electrical energy directly into light. LEDs are comprised of a semiconductor chip, or die, of which one side is bonded to the top of reflector cup, often called the anvil, which carries the negative current. The other side of the semiconductor is connected with a micro wire, often referred to as the whisker, which supplies the positive current. The semiconductor chip consists of two parts, a P-type semiconductor where holes dominate the region and an N-type semiconductor which is dominated by electrons. When they are sandwiched together, a PN junction is formed. When an electric current is applied to the chip through the lead, electrons are pushed across the junction into the P-region. There, electrons and holes meet and recombine and then release energy in the form of photons of light. The wavelength (color) of the light depends on the materials forming the PN junction. In an embodiment, the LED light source may be an organic LED, or an OLED.

[00016] Generally speaking, the emitted LED light utilized in the present invention may be in the visible, ultraviolet, and/or infrared wavelength spectrum. In an embodiment of the invention, the emitted light is in the visible light spectrum. By proper selection of semiconductor materials, LEDs can be constructed to emit white light or light of certain colors, such as red, blue, or green. LEDs offer advantages over incandescent light sources including lower energy consumption, longer lifetime, improved robustness, smaller size, faster switching, and greater durability and reliability.

[00017] In an embodiment, the LED light source of the invention is a white light. In a particular embodiment, the LED light source comprises bright white or cool white light. In another embodiment, the LED light source comprises blue or green light. In any embodiment, the LED light may be coated with a phosphor. In an embodiment, the white light may be emitted by combining red, green, and blue light emitting layers. The color of the emitted light may depend on the materials used to make each LED light. In an example, a blue LED may include gallium nitride (GaN) or indium gallium nitride (InGaN). In another example, a green LED may include aluminum gallium phosphide (AlGaP).

[00018] In an embodiment, the wavelength associated with the blue LED may be between about 420 nm and about 520 nm. In a particular embodiment, the wavelength

associated with the blue LED may be between about 440 nm and about 500 nm. In another embodiment, the wavelength associated with the green LED may be between about 480 nm and about 600 nm. In yet another embodiment, the wavelength associated with the green LED may be between about 500 nm and about 550 nm.

[00019] There are several approaches using LEDs to achieve white light, any of which are contemplated by the current invention. In an embodiment, the white light LEDs may include one phosphor material that absorbs a portion of the radiation emitted by the LED and re-emits radiation of a different color (wavelength). In this embodiment, the LED die or chip may generate blue light in the visible part of the spectrum and the phosphor may re-emit yellow light or a combination of green light and red light. The portion of the visible blue light generated by the LED that is not absorbed by the phosphor may mix with the yellow light or the combination of emitted green light and red light to provide light that appears to the eye as being white in color. In another embodiment, red, green, and blue LEDs can be combined to produce white light. In an embodiment, any method of generating white, blue, or green LED light may be utilized. In an embodiment, the LED light source may be monochromatic or multichromatic.

[00020] The correlated color temperature (CCT) provides a relative color appearance of a white light source, determined by comparing its hue with a theoretical, heated black-body radiator. CCT is specified in Kelvin (K) and corresponds to the absolute temperature of the blackbody whose chromaticity most nearly resembles that of the light source. The CCT of a white LED is determined by the light wavelength and power emitted by the LED die or chip used therein. The CCT range for white LED light, for example, is generally from about 2,500K to about 7,000K, with the lower color temperatures being referred to as "warmer" colors and the higher color temperatures being referred to as "cooler" colors. The particular naming of white light colors, based upon CCT, may vary based upon manufacturer.

[00021] In an embodiment, the LED light source has a CCT of from about 2,500K to about 7,000K. In another embodiment, the LED light source has a CCT of from about 2,700K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,000K to about 6,500K. In another embodiment, the LED light source has a CCT of from about 3,500K to about 6,000K. In yet another embodiment, the LED light source has a CCT of from about 4,500K to about 6,500K. In a particular embodiment,

the LED light source has a CCT of about 3,500K. The ranges provided herein are examples only and any individual color temperature or range of color temperatures between those set forth is contemplated by the invention.

[00022] In an embodiment, the intensity of the LED light source may be from about 10 to about 30 lux. In another embodiment, the intensity of the LED light source may be from about 20 to about 30 lux.

[00023] In an embodiment, the amount of light provided in lumens (lm) by the light source may be from about 0.10 lm to about 1.0 lm. In a particular embodiment, the amount of light provided may be about 0.75 lm.

[00024] In an embodiment, a power source may be configured to provide an AC input of from about 12 V to about 220 V. In another embodiment, a power source may be configured to provide an AC input of from about 24 V to about 110 V. In a particular embodiment, a power source may be configured to provide an AC input of about 120 V. In an embodiment, the DC output of the power source may be from about 12 V to about 220 V. In another embodiment, the power source may be configured to provide DC output of from about 24 V to about 110 V.

[00025] In an embodiment, the LED light source may be a strip light or a rope light. A strip light can be configured as a flat strip, with optional adhesive on one side. The LED lights are contained within the flat strip at intervals, behind a plastic or PVC layer. The lights on the strip can be cut and customized according to the desired length of the strip. A rope light is typically configured as a plastic or PVC rope with LED lights at intervals within the rope. In an embodiment, the LED light source is waterproof, water repellant, water resistant, moisture repellant, and/or moisture resistant. The plastic lens, rope, or cover over the LED light source may be clear or colored, depending on the effect or lighting color desired.

[00026] In an embodiment, the LED lights within the strip light or rope light may be from about $\frac{1}{16}$ inch to about 6 inches apart. In another embodiment, the lights may be from about $\frac{1}{4}$ inch to about 3 inches apart. In yet another embodiment, the lights may be from about $\frac{1}{2}$ inch to about 2 inches apart.

[00027] In an embodiment, the length of the strip or rope lighting may be from about 1 inch to about 1000 feet. In another embodiment, the length of the strip or rope lighting

may be from about 1 foot to about 100 feet. In an embodiment, the length of the strip or rope lighting may correspond with the length of the watering system or water source.

[00028] In an embodiment, the diameter of the individual LED lights is from about 0.5 mm to about 8 mm. In another embodiment, the diameter of the individual LED lights is from about 1 mm to about 5 mm. In another embodiment, the diameter of the individual LED lights is less than about 8 mm. In a particular embodiment, the diameter of the individual LED lights is about 2 mm. In another embodiment, the size of the individual LED lights is about 2 mm in diameter by about 20 mm in length.

[00029] In an embodiment, the emitting diode of the LED light may be mounted at eye-level with the poultry. Thus, the light may be emitted in a direction parallel with the eyes of the poultry. Said another way, in this embodiment, the diode of the LED light is configured such that it is perpendicular to the length of the strip or rope in which it is contained. The strip or rope light is then configured such that the emitted light is directed toward the eyes of the poultry. In an embodiment, the diode, and thus emitted light, is parallel to the floor of the poultry house and is positioned at or just above the eye level of the poultry. In an embodiment, the LEDs emit light from the top and sides of the diode in a hemispherical pattern. In an embodiment, the diode of the LED light is configured such that it is parallel to the length of the strip or rope in which it is contained. In a particular embodiment, the light source may be configured such that the strip or rope lights emit light in two or more directions, the emitting directions being parallel to the floor of the poultry house and at eye level to the poultry. In still another embodiment, the light source may be configured to emit light in all directions. In yet another embodiment, the light source may be configured to emit light in 360 degrees.

[00030] The LED light source of the invention may have any configuration known in the art. In an embodiment, the LED source may be concave and/or round. In another embodiment, the LED light source may be an LED array. In an embodiment, the LED lights may be wired in series or in parallel.

[00031] In a typical poultry house, watering systems are used to provide water to the birds. With reference to the drawings, and as particularly shown in Fig. 1, the present poultry watering system 10 utilizes an LED light source 30, as discussed herein, in combination with a watering system 20. Any watering system known in the art, or suitable for use, may be utilized in the invention. In an embodiment, the watering

system may be a gravity watering system. In another embodiment, the watering system may be a low psi (0 to 10 psi) watering system. The water delivery device 40 of the watering system can be round, square, rectangular, or any configuration known in the art or suitable for using in such a watering system. In an embodiment, water delivery device 40 may be a nipple. The watering system may be configured with or without a drip pan and/or with cups, pans, or trays. In an embodiment, the lighting system could be used in conjunction with feeding systems for any avian species. In an embodiment, the watering system may be a Ziggity® watering system, available from Ziggity Systems, Inc., a Lubing watering system, available from Gillis Agricultural Systems, Inc., or a Val-Co™ watering system, available from Valco Companies, Inc.

[00032] In an embodiment, LED light source 30 of the invention is positioned on, near, or just above the water delivery device (such as a nipple) of the water source. In another embodiment, cups (not shown) may be utilized to contain the source water for the poultry. In this embodiment, LED light source 30 may be positioned on the ground, near the cups or may be attached to the base or lip of the cups. For turkeys, for example, the water could be placed in a 5-gallon bucket having a trough around the bucket's edge. In this embodiment, the LED light source of the invention could be configured just below the lip of the trough.

[00033] In an embodiment, the individual LED lights may run along the entire length of the strip or rope light. In another embodiment, the individual LED lights may be positioned at particular locations within the strip or rope light, for example, corresponding to the locations of the water delivery devices 40.

[00034] Any fastening mechanism known in the art may be utilized in the invention to attach the LED light source 30 to the watering system 20. In an embodiment, the fastening mechanism may be a series of plastic ties 50. In another embodiment, the fastening mechanism may be a clip 60, or any other fastener known in the art or useful in the invention. In an embodiment, the fastening mechanism may permanently affix the LED light source 30 to the watering system 20. In another embodiment, the fastening mechanism may removably affix the LED light source 30 to the watering system 20.

[00035] In an embodiment, the LED light source 30 may comprise bright white light and is configured in an LED rope light. In another embodiment, the LED light source 30 may comprise cool white light and may be configured in an LED rope light.

[00036] In an embodiment, the lighting system of the invention may be utilized during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 1 day during the first four days of life for the poultry. In another embodiment, the lighting system of the invention may be utilized for at least 2 days during the first four days of life for the poultry. In an embodiment, the lighting system of the invention may be utilized during the entire life of the poultry. In an embodiment, the lighting system may be maintained in a lit configuration for 24 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 20 hours per day. In another embodiment, the lighting system may be maintained in a lit configuration for at least 15 hours per day. As is known the art, the amount of light provided to the birds per day may vary according to the age of the birds and the purpose for which they are being raised.

[00037] In an embodiment, the invention may be useful in connection with the provision of water to any avian birds, such as chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds. In an embodiment, the invention may be useful in connection with broiler chickens, breeder chickens, or pullet chickens. In an embodiment, the invention may be useful in connection with poults, hens, or poms.

[00038] In an embodiment, the lighting system of the invention may be used in addition to natural lighting and/or standard lighting, overhead or otherwise that may be present in the avian house. In another embodiment, the lighting system of the invention may be used as a substitute for natural lighting and/or standard lighting, overhead or otherwise.

[00039] In an embodiment, the lighting system of the invention contains an adjusting mechanism capable of continuous or stepwise adjustment of illuminance and/or CCT. In an embodiment, the CCT of the light source may be tunable. In another embodiment, the poultry may be exposed to light in a stepwise or continuous manner, from the lowest level of illuminance to the highest level of illuminance. Additionally, in an embodiment, the lighting system may be adjustable in height, such that the light can be maintained at eye level with the birds, regardless of their size.

Example 1

[00040] The average livability for quail, from birth until full grown (approximately 35-45 days), under standard lighting conditions known in the art, is approximately 72%. As will be shown in this example, the average livability for quail, from birth until full grown (approximately 35-45 days), under the inventive lighting conditions, was approximately 95%. This illustrates an improvement of as much as 18% in average livability when the present invention is utilized.

Example 2

[00041] The average chick, under standard lighting conditions, eats approximately $\frac{2}{10}$ ounces per day during the first 4 days of life. As will be shown in this example, chicks ate approximately $\frac{1}{2}$ ounce per day during the first 4 days of life under the inventive lighting conditions. Due to the increased food intake, the tested chicks quadrupled their body weight. For broiler chickens, this early improved growth cuts approximately 1-7 days off of the life cycle of the chicken. The farmer may save considerable costs on feed and may bring chickens to market sooner with heavier weights when the present invention is utilized.

Example 3

[00042] In this embodiment, a variety of colors of LED light sources were tested in a quail house to determine the colors most attractive to the birds. The tested colors/types of LED light sources were: cool white (LED rope), bright white (LED rope), warm white (LED strip), blue (LED strip), red (LED strip), yellow (LED strip), and green (LED strip). Each of the light sources tested was approximately 4 feet in length. In a quail house, each rope or strip was attached to a portion of a Ziggity® watering system, at eye level, and was separated from the next light source by about 3 feet. After attaching the rope or strip to the watering pipe, just above the nipples, they were turned on.

[00043] Approximately 80,000 birds that were 1 day old were placed in the quail house. The birds immediately moved toward the cool white, bright white, blue, and green light sources. The birds were able to find water, due to the use of the present invention, within approximately 90 minutes. The birds were not attracted to, and did not move toward, the red, yellow, or warm white lights.

[00044] In these examples, the inventors were able to decrease the mortality rate from 27.4% to about 5%. That is, rather than approximately 72.6% of birds surviving to

market, the percentage of birds surviving to market was approximately 95%. In these examples, the poultry increased in size from about the 30 percentile to about the 60 percentile. Similarly, in these examples, the size of the poultry was noticeably increased within 2 to 3 days of exposure to the lighting system.

[00045] Although particular embodiments of the invention have been described using specific terms, devices, and methods, such description is for illustrative purposes only. The words used are words of description rather than of limitation. It is to be understood that changes and variations may be made by those of ordinary skill in the art without departing from the spirit or the scope of the present invention, which is set forth in the following claims. In addition, it should be understood that aspects of the various embodiments may be interchanged both in whole or in part. Therefore, the spirit and scope of the appended claims should not be limited to the description of the preferred versions contained therein.

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Provisional Application for Patent Cover Sheet

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

Inventor(s)					
Inventor 1					Remove
Given Name	Middle Name	Family Name	City	State	Country
William	J.	Odom, Jr.	Fairfax	SC	US
All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add
Title of Invention		AVIAN HOUSE LIGHTING APPARATUS AND METHOD			
Attorney Docket Number (if applicable)		38124/09000			
Correspondence Address					
Direct all correspondence to (select one):					
☒ The address corresponding to Customer Number			☐ Firm or Individual Name		
Customer Number			27530		

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.	
☒ No.	
☐ Yes, the name of the U.S. Government agency and the Government contract number are:	

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Entity Status Applicant claims small entity status under 37 CFR 1.27											
☒ Yes, applicant qualifies for small entity status under 37 CFR 1.27 ☐ No											
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Signature Please see 37 CFR 1.4(d) for the form of the signature.											
Signature		/Nichole T. Andrighetti/		Date (YYYY-MM-DD)		2011-07-11					
First Name		Nichole T.		Last Name		Andrighetti		Registration Number (If appropriate)		56508	
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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 a n other 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.

What is claimed is:

1. A lighting system for an avian house comprising:
 - a. a watering system; and
 - b. a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the source of LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be watered.
2. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,500K to about 7,000K.
3. The lighting system of claim 1 wherein the LED light source is white and has a correlated color temperature of from about 2,700K to about 6,500K.
4. The lighting system of claim 1, wherein the LED light source is white and has a correlated color temperature of from about 3,000K to about 6,500K.
5. The lighting system of claim 1 wherein the LED light source is white and is classified as cool white.
6. The lighting system of claim 1 wherein the LED light source is white and is classified as bright white.
7. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 420 nm to about 520 nm.
8. The lighting system of claim 1, wherein the LED light source is blue and has a wavelength of from about 440 nm to about 500 nm.
9. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 480 nm to about 600 nm.
10. The lighting system of claim 1, wherein the LED light source is green and has a wavelength of from about 500 nm to about 550 nm.
11. The lighting system of claim 1, wherein the LED light source has an intensity of from about 10 to about 30 lux.
12. The lighting system of claim 1, wherein the LED light source has an intensity of from about 20 to about 30 lux.
13. The lighting system of claim 1, wherein the LED light source is a strip light or rope light.

14. The lighting system of claim 13, wherein the emitting diode of the LED light source is positioned perpendicular to the length of the strip or rope light.
15. The lighting system of claim 1, wherein the LED lighting is positioned adjacent to a water delivery device of the watering system.
16. A method for attracting avian species to a watering system, the method comprising:
 - a. providing a watering system;
 - b. providing a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which generally corresponds to the eye level of the avian species to be watered; and
 - c. maintaining the LED light source in a lit configuration to attract the avian species to the watering system.
17. The method according to claim 16, wherein the avian species is selected from the group consisting of poultry, chickens, quail, ducks, squab, pheasant, turkeys, and any other game birds.
18. The method according to claim 16, wherein the light is maintained in a lit configuration for 24 hours per day.
19. The method according to claim 16, wherein the avian species is between birth and about four days of age.
20. The method according to claim 16, wherein the method is utilized for at least the first four days of life for the avian species.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					Remove
Applicant Authority ☒ Inventor ☐ Legal Representative under 35 U.S.C. 117 ☐ Party of Interest under 35 U.S.C. 118					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	William	J.	Odom	Jr.	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Fairfax	State/Province	SC	Country of Residence i US	
Citizenship under 37 CFR 1.41(b) i		US			
Mailing Address of Applicant:					
Address 1	654 Cedar Knoll Road				
Address 2					
City	Fairfax	State/Province	SC		
Postal Code	29827	Countryi	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					
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Email Address	ip@nelsonmullins.com	Add Email	Remove Email
Email Address	nichole.andrighetti@nelsonmullins.com	Add Email	Remove Email

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000
		Application Number	
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		

Application Information:

Title of the Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD		
Attorney Docket Number	38124/09000	Small Entity Status Claimed	☒
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	1

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☒ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
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This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	38124/09000	
		Application Number		
Title of Invention	AVIAN HOUSE LIGHTING APPARATUS AND METHOD			
Remove				
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed	
			☒ Yes ☐ No	
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Assignee Information:

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Assignee 1 Remove				
If the Assignee is an Organization check here. ☐				
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Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.				
Signature	/Nichole T. Andrighetti/		Date (YYYY-MM-DD)	2011-07-11
First Name	Nichole T.	Last Name	Andrighetti	Registration Number
				56508

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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).
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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 inspections 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.

ABSTRACT

In an embodiment, the invention is directed to a lighting system for an avian house comprising a watering system and a source of LED lighting that emits light having a color selected from the group consisting of white, blue, or green, wherein the LED lighting is attached to the watering system at a height which corresponds to eye level to of the avian species to be watered. The invention is also directed to a method for attract an avian species to a watering system using an LED lighting system.

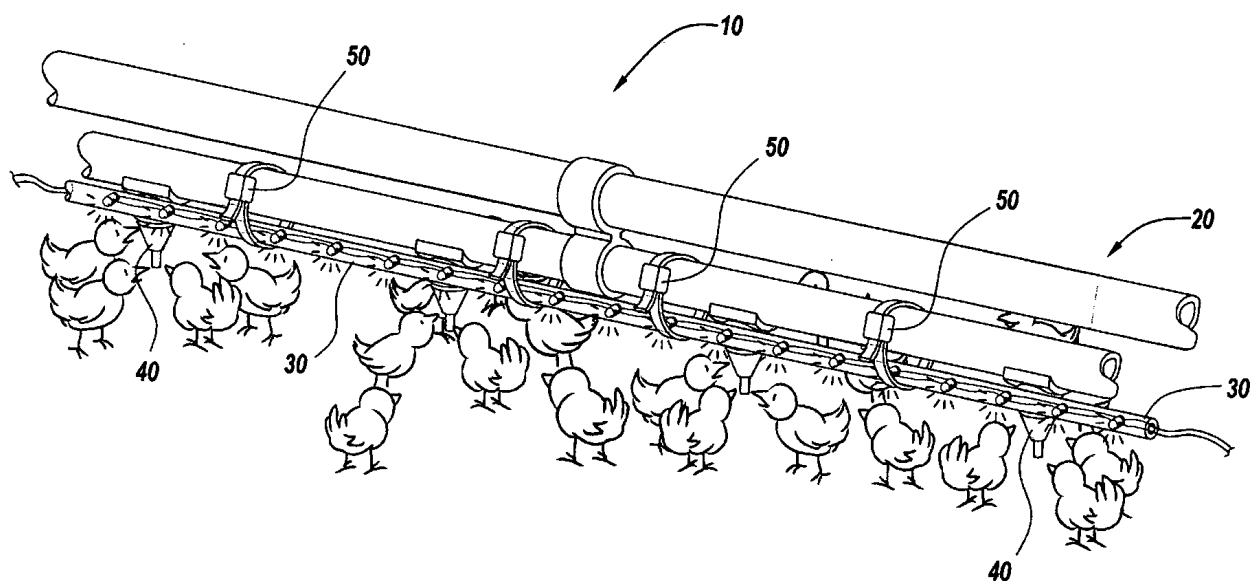
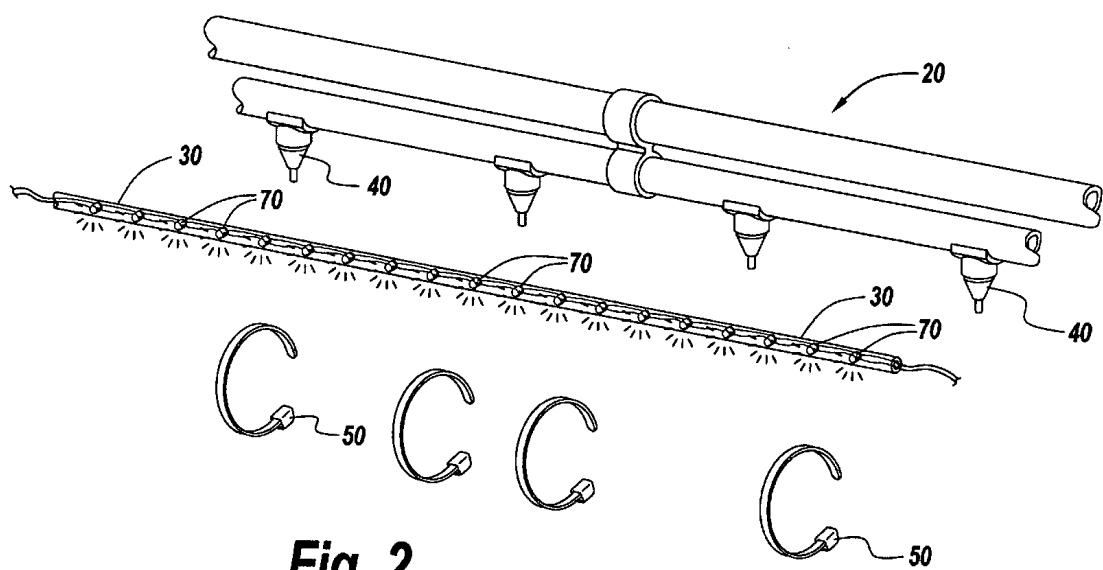


Fig. 1



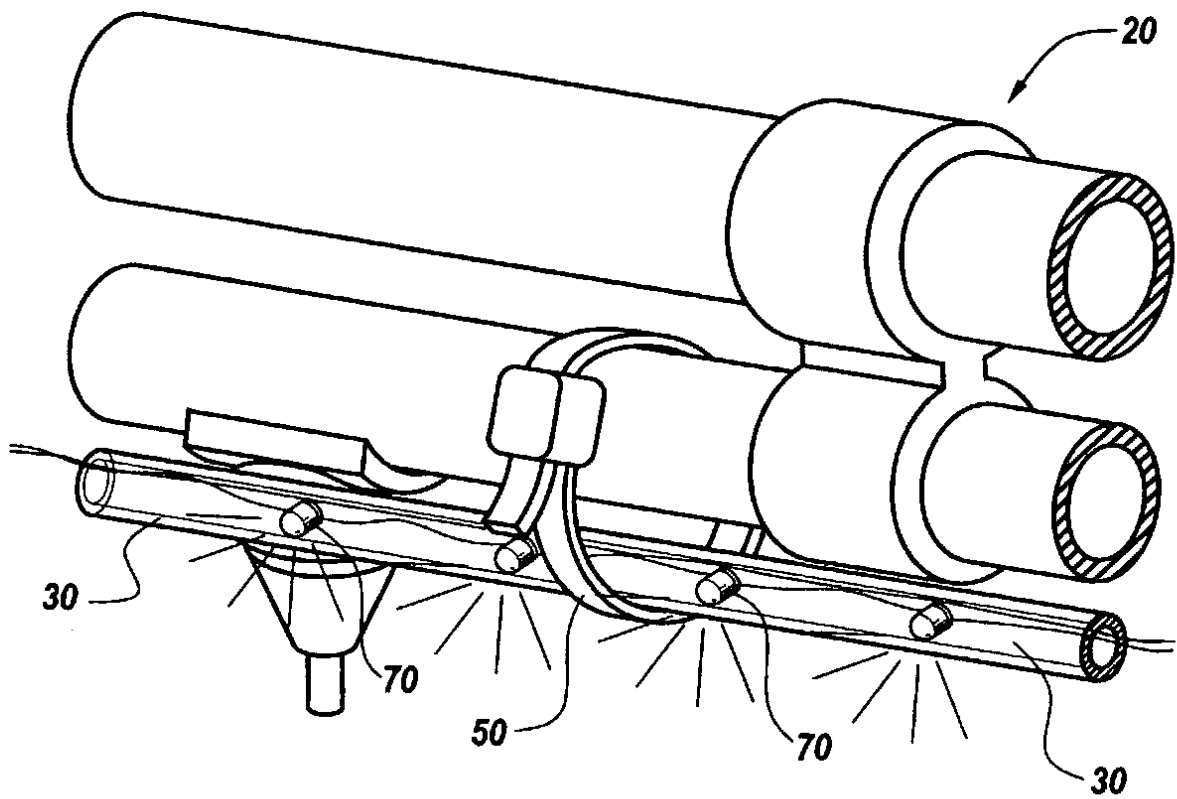


Fig. 3

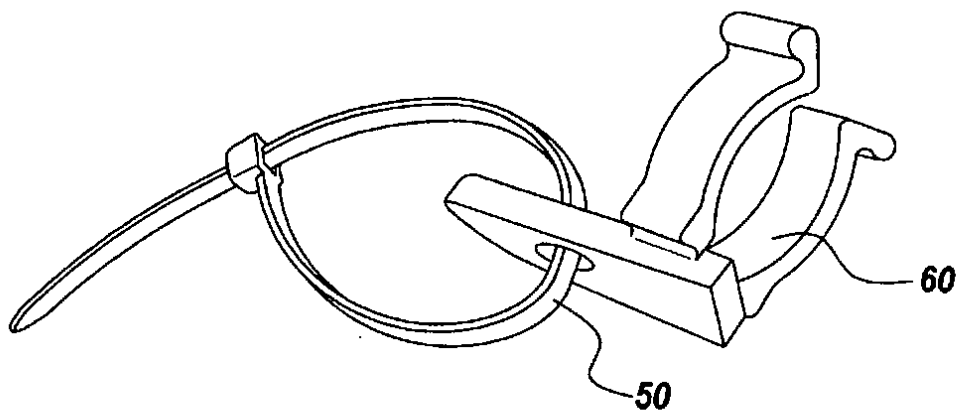
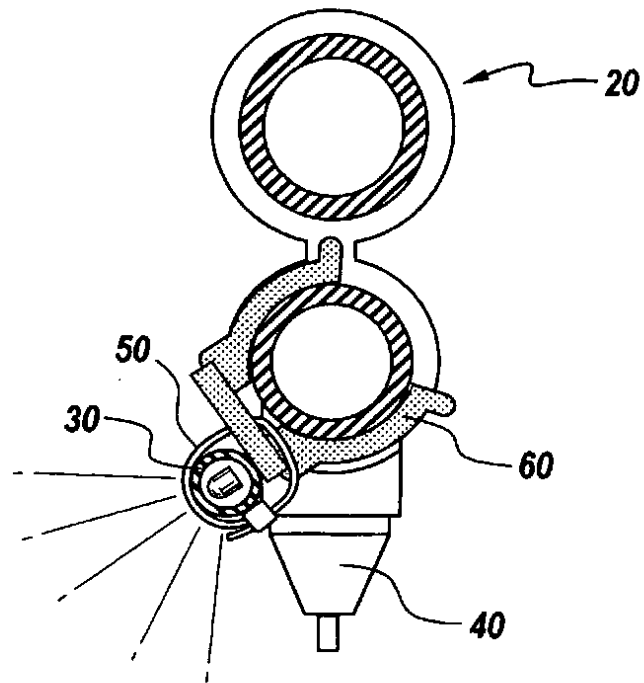


Fig. 4

**Fig. 5**

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OFICIAL AUTORIZADO POR RESOLUCIÓN 541 DEL 27 DE FEBRERO DE
1976 DEL MINISTERIO DE JUSTICIA Y DEBIDAMENTE INSCRITO ANTE
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ESTADOS UNIDOS DE AMÉRICA

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NÚMERO DE SOLICITUD: 61/506,455

FECHA DE RADICACIÓN: 4 DE AGOSTO DE 2011.

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PARA USARSE EN EL EXTRANJERO DE ACUERDO CON LA CONVENCIÓN DE
PARIS ES US61/506,455.

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LOS ESTADOS UNIDOS.

FIRMA ILEGIBLE, N. WILLIAMS, FUNCIONARIO CERTIFICADOR.

SELLO: OFICINA DE MARCAS Y PATENTES DE ESTADOS UNIDOS,
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Eduardo Calado N.

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ECN\ECN\ID-200928\WPCL002G

Bogotá, 16 de septiembre de 2011.

Eduardo Calado H.

EDUARDO CALADO H.
F. 16 de 11
16 de 11

REIVINDICACIONES

1.- Un sistema de iluminación para una casa de aves que comprende:

a. un sistema de abrevadero; y
b. una fuente de iluminación LED que emite luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la fuente de iluminación LED está fija al sistema de abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará agua.

2.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,500K a aproximadamente 7,000K.

3.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 2,700K a aproximadamente 6,500K.

4.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y tiene una temperatura de color correlacionada de aproximadamente 3,000K a aproximadamente 6,500K.

5.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca fría.

6.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es blanca y está clasificada como blanca brillante.

7.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es azul y tiene una longitud de onda de aproximadamente 420 nm a aproximadamente 520 nm.

8.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es azul y tiene una longitud de onda de aproximadamente 440 nm a aproximadamente 500 nm.

9.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 480 nm a aproximadamente 600 nm.

10.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es verde y tiene una longitud de onda de aproximadamente 500 nm a aproximadamente 550 nm.

11.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 10 a aproximadamente 30 lux.

12.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED tiene una intensidad de aproximadamente 20 a aproximadamente 30 lux.

13.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la fuente de luz LED es una cinta de luz o cordón de luz.

14.- El sistema de iluminación de conformidad con la reivindicación 13, caracterizado además porque el diodo emisor de la fuente de luz LED está colocado perpendicular a la longitud de la cinta o cordón de luz.

15.- El sistema de iluminación de conformidad con la reivindicación 1, caracterizado además porque la iluminación LED está colocada adyacente a un dispositivo de suministro de agua del sistema de abrevadero.

16.- Un método para atraer especies de aves a un sistema de abrevadero, el método comprende:

- a. proveer un sistema de abrevadero;
- b. proveer una fuente de iluminación LED que emite luz que tiene un color seleccionado del grupo que consiste de blanco, azul, o verde, en donde la iluminación LED está fija al sistema de abrevadero a una altura que generalmente corresponde al nivel de los ojos de la especie de ave a la que se dará agua; y
- c. mantener la fuente de luz LED en una configuración iluminada para atraer a la especie de ave al sistema de abrevadero.

17.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de aves se selecciona

del grupo que consiste de aves de engorda, pollos, codornices, patos, pichones, faisanes, pavorreales, y cualesquiera otras aves de caza.

18.- El método de conformidad con la reivindicación 16, caracterizado además porque la luz es mantenida en una configuración iluminada por 24 horas por día.

19.- El método de conformidad con la reivindicación 16, caracterizado además porque la especie de ave está entre el nacimiento y aproximadamente cuatro días de edad.

20.- El método de conformidad con la reivindicación 16, caracterizado además porque el método se utiliza por lo menos por los primeros cuatro días de vida de la especie de ave.