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Folios

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



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Act. 444 RESPUESTAREQUE Folios: 68

Doctor

**Jose Luis Salazar Lopez**

**Director de Nuevas Creaciones**

**Superintendencia de Industria y Comercio**

E. S. D

|      |              |                                |
|------|--------------|--------------------------------|
| Ref. | Expediente   | 16- 49076                      |
|      | Departamento | Dirección de nuevas creaciones |
|      | Asunto       | Contestación requerimiento     |
|      | Oficio       | 3355                           |

**JUAN CARLOS TORRES IBARRA**, abogado, identificado como aparece al pie de mi firma, actuando como apoderado de la sociedad extranjera **CONAIR CORPORATION** dentro del proceso de la referencia, por medio del presente escrito procedo a contestar el requerimiento formulado, por medio del oficio 3355 del 30 de marzo de 2015.

En atención a su requerimiento:

**1. Petitorio (Art. 27 D486)**

Se solicita se indique como título del modelo de utilidad el siguiente:

**"HERRAMIENTA PARA PEINADO"**

**2. Análisis de la Prioridad (Art. 9 D486)**

Anexamos copia de la solicitud cuya prioridad se invoca, certificada por la Oficina de Patentes y Marcas de Estados Unidos.

**3. Cesión (Art. 26 D 586)**

Anexamos contrato de Cesión suscrito por el señor Anthony Kit Lung, en el que cede su derecho a la Patente de Modelo de Utilidad a la sociedad Conair Corporation, solicitante de la patente de modelo de utilidad HERRAMIENTA PARA PEINADO.

**4. Descripción (Art. 28 D486)**

En la solicitud se presentó el juego de imágenes completo. La imagen 6 se encuentra en el anexo 4, de la sección de imágenes de la solicitud electrónica.

Adjuntamos el juego completo de imágenes, una en la cual resaltamos el nombre de cada figura y un juego de imágenes en limpio para su archivo.

Calle 70 No. 7-60 Of. 302 Teléfono: 3450600

E-mail: info@buriticaabogados.com / www.buriticaabogados.com Bogotá D.C.



## **5. No son Modelos de Utilidad (Art. 81 y 28 C.486)**

Acogiendo lo señalado por el despacho se ha procedido a retirar de la solicitud aquello que se refiere a la reivindicación de materiales, tal y como se confirmará en la respuesta del punto 6, con lo cual la invención propuesta reúne las condiciones para ser considerada como un Modelo de Utilidad.

## **6. Reivindicaciones (Art. 30 D486).**

Teniendo en cuenta los requerimientos planteados en este punto se procedió a modificar las reivindicaciones de la siguiente manera:

1. Se cambió el exordio o preámbulo o nombre de la patente por el ("Herramienta para peinado"), así como el enlace o transición quedando "caracterizada".
2. La reivindicación 1 se modificó, quitando las funcionalidades técnicas y los resultados a obtener como características técnicas.
3. La Reivindicación No. 2 se mantuvo por no haber sido objetada, pero se le quitó el énfasis de material para evitar hablar de funcionalidad.
4. La Reivindicación 3 antigua (ahora No. 3) quedó prácticamente igual porque no fue objetada. Se cambió redacción para evitar que la protección sea considerada como un elemento funcional.
5. La Reivindicación 4 antigua (ahora 4), se quitaron los resultados a obtener como características técnicas
6. La Reivindicación 5 antigua (ahora 5), se mantuvo quitando el factor de agarre tal y como lo determinó el oficio.
7. La Reivindicación 6 antigua, se eliminó, por cuanto sólo serviría para reivindicar el componente de silicio, no reivindicable, evitando con esto a futuro que en el estudio de forma inhabilitaran la reivindicación.
8. La Reivindicación 7 antigua (ahora 6), se modificó quitando los resultados a obtener objetados por el oficio.
9. La Reivindicación 8 antigua (ahora 7), se eliminaron las funcionalidades técnicas objetadas.
10. Reivindicación 9 antigua (ahora 8), se quitaron los resultados a obtener objetados por el oficio.
11. La Reivindicación 10 antigua (ahora 9), se quitó el término impreciso objetado en el oficio.
12. La Reivindicación 11 antigua (ahora 10), Se mantuvo igual.



13. La Reivindicación 12 antigua (ahora 11), se mantuvo igual, no fue objetada en el oficio.
14. Reivindicación 13 antigua (ahora 12), Se mantuvo igual, no fue objetada en el oficio.
15. Reivindicación 14 antigua (ahora 13), Se mantuvo igual, no fue objetada en el oficio.
16. Reivindicación 15 antigua (ahora 14), Se quitó el término impreciso objetado en el oficio y se redactó mejor.
17. Reivindicación 16 antigua (ahora 15), se redactó mejor.
18. Reivindicación 17 antigua (ahora 16), se quitaron los resultados a obtener como características técnicas y se asoció a la reivindicación 1.
19. Reivindicación 18 antigua (ahora 17), se mejoró su redacción.
20. Reivindicación 19 antigua (ahora 18), no se modificó por no haber sido objetada en el oficio.

En virtud de lo anterior anexamos las reivindicaciones modificadas para aportarlas al expediente.

#### **ANEXOS.**

1. Certificado de prioridad.
2. Contrato de cesión de los derechos de Patente de Modelo de Utilidad.
3. Juego de imágenes con el nombre de la figura resaltado.
4. Juego de imágenes en limpio.
5. Reivindicaciones.

#### **NOTIFICACIONES**

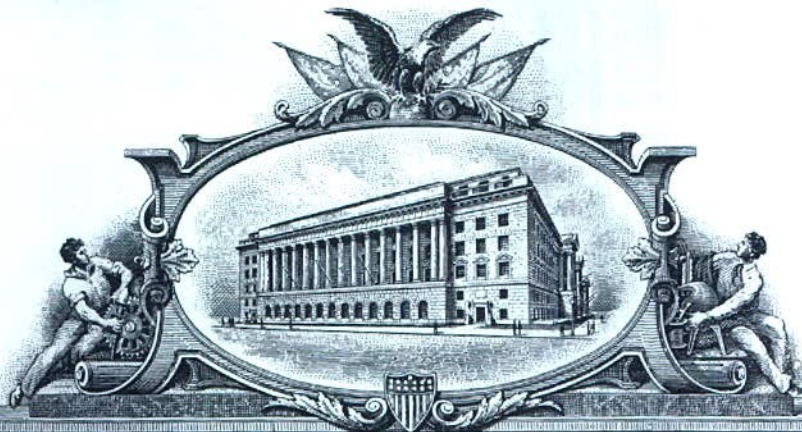
Para efectos del presente proceso, podré ser notificado en mi oficina, ubicada en la Calle 70 No. 7-60 Of. 302 de la ciudad de Bogotá, Tel. 3450799, correo electrónico [jctorres@buriticaabogados.com](mailto:jctorres@buriticaabogados.com)

Cordial saludo,

**Juan Carlos Torres Ibarra**  
**C.C. 73.167.160 de Cartagena**  
**T.P. 99.849 del C.S. de la J.**



# Anexo 1



# THE UNITED STATES OF AMERICA

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**UNITED STATES DEPARTMENT OF COMMERCE**

**United States Patent and Trademark Office**

**March 01, 2016**

**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: 14/985,710**

**FILING DATE: December 31, 2015**

**THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS US14/985,710**

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



  
**JOHN A BURSON**  
**Certifying Officer**

| Electronic Acknowledgement Receipt   |                                   |
|--------------------------------------|-----------------------------------|
| EFS ID:                              | 24501783                          |
| Application Number:                  | 14985710                          |
| International Application Number:    |                                   |
| Confirmation Number:                 | 2516                              |
| Title of Invention:                  | HAIR STYLING APPARATUS            |
| First Named Inventor/Applicant Name: | Anthony Kit Lun Leung             |
| Customer Number:                     | 13025                             |
| Filer:                               | Joseph W. Schmidt/Suzanne Forlani |
| Filer Authorized By:                 | Joseph W. Schmidt                 |
| Attorney Docket Number:              | 4075/U (1327-654)                 |
| Receipt Date:                        | 31-DEC-2015                       |
| Filing Date:                         |                                   |
| Time Stamp:                          | 12:10:12                          |
| Application Type:                    | Utility under 35 USC 111(a)       |

Payment information:

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Submitted with Payment                                                                                                                                                                                                                                                                                                                              | yes                |
| Payment Type                                                                                                                                                                                                                                                                                                                                        | Deposit Account    |
| Payment was successfully received in RAM                                                                                                                                                                                                                                                                                                            | \$1740             |
| RAM confirmation Number                                                                                                                                                                                                                                                                                                                             | 292                |
| Deposit Account                                                                                                                                                                                                                                                                                                                                     | 502140             |
| Authorized User                                                                                                                                                                                                                                                                                                                                     | SCHMIDT, JOSEPH W. |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)<br>Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees) |                    |

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|------------------------------|-----------------------------------------------------|--------------|------------------------------------------|------------------|------------------|
|                              |                                                     |              |                                          |                  |                  |
| File Listing:                |                                                     |              |                                          |                  |                  |
| Document Number              | Document Description                                | File Name    | File Size(Bytes)/ Message Digest         | Multi Part /.zip | Pages (if appl.) |
| 1                            | Application Data Sheet                              | 00843558.PDF | 1793373                                  | no               | 8                |
|                              |                                                     |              | 5e5e983a8055f3b655f121d118df758c0b8d8a5  |                  |                  |
| Warnings:                    |                                                     |              |                                          |                  |                  |
| Information:                 |                                                     |              |                                          |                  |                  |
| 2                            |                                                     | 00843561.PDF | 151908                                   | yes              | 20               |
|                              |                                                     |              | 504820aba27164f488ac04ecd8c260b228d4be0f |                  |                  |
|                              | Multipart Description/PDF files in .zip description |              |                                          |                  |                  |
|                              | Document Description                                |              | Start                                    | End              |                  |
|                              | Specification                                       |              | 1                                        | 15               |                  |
|                              | Claims                                              |              | 16                                       | 19               |                  |
|                              | Abstract                                            |              | 20                                       | 20               |                  |
| Warnings:                    |                                                     |              |                                          |                  |                  |
| Information:                 |                                                     |              |                                          |                  |                  |
| 3                            | Drawings-only black and white line drawings         | 00843537.PDF | 577682                                   | no               | 8                |
|                              |                                                     |              | 51e47f4f6a4e3ca783f3d282dfb65dd2b943a499 |                  |                  |
| Warnings:                    |                                                     |              |                                          |                  |                  |
| Information:                 |                                                     |              |                                          |                  |                  |
| 4                            | Fee Worksheet (SB06)                                | fee-info.pdf | 36894                                    | no               | 2                |
|                              |                                                     |              | 562532a06e4dd09a47adcc849a07aa07ed4b32e6 |                  |                  |
| Warnings:                    |                                                     |              |                                          |                  |                  |
| Information:                 |                                                     |              |                                          |                  |                  |
| Total Files Size (in bytes): |                                                     |              | 2559857                                  |                  |                  |

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.

## **HAIR STYLING APPARATUS**

### **BACKGROUND**

#### **1. Technical Field**

[0001] The present disclosure relates to an apparatus for treating hair, and, in particular, relates to an apparatus adapted to impart both a straightening and curling effect on a subject's hair. The apparatus further relates to an apparatus with a dual ceramic heating assembly and metallic construction, which distributes thermal energy to all areas of the treatment head whereby hair straightening and curling capabilities are enhanced.

#### **2. Background of the Related Art**

[0002] Heated hair may be smoothed, manipulated, and styled more easily than non-heated hair. There are numerous hair styling tools and appliances for heated styling of hair including hair straightener and curling irons apparatuses with each having a variety of features. Hair straightener apparatuses typically include two pivotal handles which are hinged at one end and pivot about the hinge between open and closed positions. Heating heads extend from each handle and have inner surfaces comprised of a heatable material, usually metal, for straightening or styling hair. An electric heater element located beneath each heatable surface is activated to warm the surfaces to a desired temperature. The inner surfaces are positionable around hair to be styled, and the hinged handles are moved to a closed position bringing the heated inner surfaces in contact with the hair. The gripped handles are then slid along the hair strands until the hair exits from the heads. One example of a hair straightener apparatus is disclosed in commonly

PATENT APPLICATION  
Atty. Docket No. 4075/U (1327-654)

assigned U.S. Patent No. 7,178,532, the entire contents of which are incorporated by reference herein.

[0003] Curling irons are intended to impart a curl, wave or twist pattern to hair being styled by sufficiently heating a barrel or mandrel of the curling iron and restraining the hair in physical contact with the barrel. A section of hair is typically wound around the heated barrel of the curling iron and held in contact with the heated barrel for a period of time. Heat from the heated barrel reforms plastic bonds in the hair. When the heat styled hair is removed from the heated barrel, the hair generally retains the shape of the curling iron's barrel.

[0004] Conventional hair straighteners and curling irons have certain deficiencies which detract from their usefulness in performing multiple styling functions on a subject's head. For example, these apparatuses are ill suited to perform the dual function of hair straightening and hair curling. Reasons for this include insufficient heat distribution to the outer heating heads or mandrels, which may be a result of the construction, materials and/or the arrangement and configurations of the heating assemblies of these apparatuses.

## **SUMMARY**

[0005] Accordingly, the present disclosure is directed to a hair treatment or styling apparatus adapted to impart both a straightening and/or curling effect on hair. The apparatus includes a novel thermally conductive construction and heating assembly, which conveys thermal energy uniformly to all areas of the treatment head such that the desired style is achieved regardless of the skill of the user. The apparatus further includes a hinge assembly incorporating one or more

ceramic bearing units which provide smooth consistent resistance for pivoting movement of the treatment members and a more durable hinge joint thereby increasing the life and usability of the apparatus. The frame components of the styling apparatus are made from a metal, e.g. a stainless steel construction, which provides superior resistance to warping, shrinkage, expansion, etc. when subjected to various thermal energy levels in comparison to conventional models utilizing plastic components and parts.

[0006] In accordance with one embodiment, a hair styling apparatus includes a first member and a second member adapted for relative movement between an open position for receiving hair therebetween and an approximated position. The first and second members each include a handle and a treatment head. The treatment heads each include an inner plate segment to impart a straightening effect on hair and an outer shell segment configured to impart a curling effect on hair. The outer shell segments are formed of a thermally conductive metallic material. A heating assembly is associated with the inner plate segments of the first and second members whereby thermal energy is conveyed from the inner plate segments to the outer shell segments of the treatment heads.

[0007] In embodiments, the thermally conductive metallic material of the outer shell segments includes stainless steel. The handles of the first and second members each may include a handle cover, which is formed of a thermally conductive material. A handle insulator may be disposed between the handles and the treatment heads of the first and second members. The handle insulator includes an insulator material to reduce transfer of thermal energy from the treatment heads to the handles. In certain embodiments, a tip insulator may be disposed adjacent

outer ends of each of the treatment heads. The tip insulators may include an insulator material to permit grasping of the outer ends by a user. The insulator material of the handle insulator and the tip insulator may include silicon.

[0008] In some embodiments, a manually manipulative lock switch is mounted to the first member. The manually manipulative lock switch may be movable between an unlocked position permitting movement of the first and second members to an open position and a locked position securing the first and second members in the approximated condition. One of the first and second members may include a lock hood and the other of the first and second members may include a lock pin. The lock hood is dimensioned to securely engage the lock pin when the lock switch is in the locked position and releases the lock pin when the lock switch is in the unlocked position. In certain embodiments, the lock hood has lock surfaces defining a recess whereby the lock pin is received within the recess and configured to engage the lock surfaces when the lock switch is in the locked position.

[0009] In some embodiments, each heating assembly of the first and second members includes a first ceramic heating plate and at least one ceramic substrate having a heating element mounted thereto. Each heating assembly of the first and second members may further include a second ceramic substrate in superposed relation with the first ceramic substrate and having a heating element mounted thereto. The heating element of each of the first and second ceramic substrates may include a resistive wire. The resistive wire may be printed on each of the first and second ceramic substrates. In some aspects, the resistive wire includes a plurality of

longitudinal wire segments extending along a longitudinal axis of the first and second members and arranged in laterally spaced relation.

[0010] In embodiments, a hinge assembly is coupled to the first and second members to enable pivotal movement of the first and second members between the open position and the approximated position. The hinge assembly includes at least one hinge bearing, with the at least one hinge bearing comprising a ceramic material. In some embodiments, the hinge assembly includes first and second sets of hinge bearings mounted to the first member and the second member. Individual hinge bearings of each of the first and second sets comprise a ceramic material and are mounted to respective first and second members in contacting relation.

[0011] In an alternate embodiment, a hair styling apparatus includes first and second members configured to style hair, a hinge assembly coupled to the first and second members to enable pivotal movement between an open position for receiving hair therebetween and an approximated position. The hinge assembly includes at least one hinge bearing formed of a ceramic material and a heating element associated with at least one of the first and second members.

[0012] In embodiments, the hinge assembly includes a first hinge bearing mounted to the first member and a second hinge bearing mounted to the second member. The first and second hinge bearings include a ceramic material and are in contacting relation. The hinge assembly includes a third hinge bearing mounted to the first member and a fourth hinge bearing mounted

to the second member. The third and fourth hinge bearings include a ceramic material and are in contacting relation, and are spaced from the first and second hinge bearings.

[0013] Other advantages of the present disclosure will be appreciated from the following description.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

[0014] Various embodiments of the present disclosure are described hereinbelow with references to the drawings, wherein:

[0015] **FIG. 1** is a perspective view of the hair styling apparatus in accordance with the principles of the present disclosure illustrating the first and second treatment members in an open condition;

[0016] **FIG. 2** is an exploded perspective view of the hair styling apparatus;

[0017] **FIG. 3** is a perspective view with parts separated illustrating the components of the ceramic hinge assembly of the hair styling apparatus;

[0018] **FIG. 4** is an axial cross-sectional view illustrating the components of the ceramic hinge assembly mounted within the handle of the hair styling apparatus;

[0019] **FIG. 5** is a perspective view with parts separated illustrating the components of an alternate ceramic hinge assembly of the hair styling apparatus;

[0020] **FIG. 6** is an axial cross-sectional view illustrating the components of the ceramic hinge assembly of **FIG. 5** mounted within the handle of the hair styling apparatus;

[0021] **FIG. 7** is a side elevation view in partial cross-section of the hair styling apparatus illustrating the lock mechanism in an unlocked condition;

[0022] FIG. 8 is an enlarged view of the area of detail depicted in FIG. 7 illustrating the relationship of the lock switch, the lock pin and the lock hood of the lock mechanism in the unlocked condition;

[0023] FIG. 9 is a view similar to the view of FIG. 7 illustrating the lock mechanism in a locked condition facilitating use of the hair styling apparatus in a curling function;

[0024] FIG. 10 is an enlarged view of the area of detail depicted in FIG. 9 illustrating the relationship of the lock switch, the lock pin and the lock hood of the lock mechanism in the locked condition;

[0025] FIG. 11 is a perspective view of the dual ceramic heating assembly mounted within each of the first and second treatment members;

[0026] FIG. 12 is an exploded perspective view of the dual ceramic heating assembly of FIG. 11;

[0027] FIG. 13 is a perspective view of an alternate embodiment of the hair styling apparatus; and

[0028] FIG. 14 is a perspective view of another alternate embodiment of the hair styling apparatus.

#### **DETAILED DESCRIPTION**

[0029] Referring now in detail to the drawings and, in particular, to FIG. 1, the hair styling apparatus 100 in accordance with the principles of the present disclosure is illustrated. The hair styling apparatus 100 is operable between two modes, including a first hair straightening mode to impart a straightening effect on the hair of the subject and a second hair curling mode to impart a shaping, twisting or curling effect on the subject's hair.

[0030] The hair styling apparatus 100 includes first and second members 102, 104 connected to each other through a hinge assembly 106. The segment or section of the first and second members 102, 104 adjacent the hinge assembly 106 and which is engaged by the user defines the handle segment or “handle” of the apparatus while the segment or section remote from the hinge assembly 106 which styles the hair defines the “treatment head” of the apparatus 100.

[0031] The hinge assembly 106 typically incorporates a spring (not shown) to normally bias the first and second members 102, 104 to the open position depicted in FIG. 1. The first and second members 102, 104 are adapted to pivot about the hinge assembly 106 between open and approximated positions. As discussed hereinabove, the hinge assembly 106 includes one or more ceramic bearings which enhances the pivoting operation of the first and second members 102, 104 and increases the stability of the hinge joint thereby increasing the life and usability of the apparatus 100. Further details of the hinge assembly 106 will be discussed hereinbelow.

[0032] With reference to FIG. 2, in conjunction with FIG. 1, the first and second members 102, 104 include respective first and second housing members 108, 110 extending along a longitudinal axis “k” (FIG. 1) of the apparatus 100. Each of the first and second housing members 108, 110 has an outer handle cover 112 mounted thereto adjacent the hinge assembly 106 and dimensioned for engagement by the user. The outer handle covers 112 may be formed in whole, or in part, of stainless steel. The first and second housing members 108, 110 further include respective first and second inner handle frames 114, 116 with the first handle frame 114 incorporating an electrical component 118 such as a rheostat or electrical connector, and the

second handle frame **116** having a control or circuit board **120**. The control or circuit board **120** may include a controller/processor for controlling operation of the apparatus **100**. The second housing member **110** may include an a plurality of control buttons **122** in electrical communication with the control board **120** for controlling operation of the apparatus **100**, including temperature control, duration of treatment time, etc., and also include at least one or more indicator lights, e.g., LEDS **124** for providing visual indicia when the power is activated. A power cord **126** extends from the second housing member **110** for connection to a suitable electric outlet. Alternatively, the apparatus **100** may include a rechargeable battery.

[0033] Referring still to **FIGS. 1-2**, each of the first and second housing members **108, 110** has an outer shell **128** mounted thereto via conventional means within the treatment head segment of the apparatus **100**. Each outer shell **128** may include a slight arcuate profile. The outer shells **128** may be formed in whole, or in part, of a thermally conductive material such as stainless steel. Similarly, the first and second housing members **108, 110** may be formed in whole, or in part, of stainless steel. Each of the first and second housing members **108, 110** further include a heating assembly **130** mounted within the interior surface of the housing members **108, 110**. The heating assemblies **130** each include multiple ceramic heating elements/substrates. Further details of the heating assemblies **130** and the significance of the stainless steel construction of the first and second housing members **108, 110** and the outer shells **128** will be discussed in greater detail hereinbelow.

[0034] Referring now to **FIGS. 3-4**, in conjunction with **FIG. 2**, the hinge assembly **106** will be discussed. The hinge assembly **106** includes a hinge pin or axle **132** which extends through

openings 134, 136 of hinge mounts 138, 140 of the first and second inner handle frames 114, 116 of the first and second members 102, 104 respectively. The hinge mount 138 may include a single post or column while the hinge mount 140 may include a pair of spaced posts or columns 140a, 140b (FIG. 4). The single post of the hinge mount 138 is disposed or received within the spaced columns 140a, 140b of the hinge mount 140 upon coupling of the hinge assembly 106 as best depicted in FIG. 4. The hinge assembly 106 further includes two sets of bearings 142a, 142b disposed between the hinge mounts 138, 140, i.e., on each side of the hinge mount 138. The bearings 142a of each set are mounted or engaged with the hinge mount 138 of the first member 102 and the bearings 142b are mounted or engaged with the respective columns 140a, 140b of the second hinge mount 140 of the second member 104. The bearings 142a, 142b are in contacting relation and provide the surfaces about or along which the first and second members 102, 104 pivot.

[0035] The bearings 142a, 142b are formed of a ceramic material. The use of a ceramic material within the hinge assembly 106 provides very smooth, consistent resistance for relative pivoting movement of the first and second members 102, 104 thereby providing a much stronger and stable hinge joint as compared to conventional units utilizing plastic or metallic hinge elements. The ceramic material or bearings incorporated within the hinge assembly 106 increases the overall life of the hair styling apparatus 100 by permitting unlimited pivotal action of the first and second members 102, 104 with minimal wear and tear on the bearings 142a, 142b. The hinge assembly 106 further includes hinge covers 144 with associated fasteners and/or nuts 146, 148 to enclose the hinge assembly 106.

[0036] **FIGS. 5 and 6** illustrate an embodiment where only one set of ceramic bearings **142a**, **142b** may be incorporated within the hinge assembly **106**. Due to the characteristics of the ceramic material, it is envisioned that one set of ceramic bearings **142a**, **142b** may provide sufficient support and smooth resistance to facilitate pivotal movement of the first and second members **102**, **104** while also extending the life of the apparatus **100**.

[0037] Referring to **FIGS. 1, 2 and 7-8**, the hair styling apparatus **100** further includes a lock mechanism to secure the first and second members **102**, **104** in the approximated condition when utilizing the apparatus **100** in a curling styling mode. The lock mechanism includes a lock switch **150** at least partially received within an opening **152** (**FIG. 2**) in the handle cover **112** of the first member **102**. The lock switch **150** is secured to a generally U-shaped lock hood **154** through fastener **156**. The lock hood **154** defines an elongated opening **158**. The lock mechanism further includes a lock pin **160** depending outwardly from the second inner handle frame **116** of the second member **104**. The lock pin **160** is received within the elongated opening **158** of the lock hood **154**. In the unlocked position of the lock switch **150** (**FIGS. 7 and 8**) the lock pin **160** is aligned with the opening **158** of the lock hood **154** to permit the lock pin **160** to pass through the opening **158** thereby enabling the first and second members **102**, **104** to move to the open position depicted in **FIG. 1**. Upon longitudinal movement of the lock switch **150** and the lock hood **154** to the locked position depicted in **FIGS. 9-10**, the lock pin **160** is misaligned with the opening **158** such that the enlarged pin head **160a** of the lock pin **160** engages the surfaces of the lock hood **154** defining the opening **158** in secured relation therewith. In this position, the first and second members **102**, **104** are prevented from undergoing pivotal movement, thereby securing the first and second members **102**, **104** in a curling iron mode, i.e.,

where the first and second members **102, 104** may be utilized to curve hair around the outer shells **128**.

[0038] Referring now to **FIGS. 11-12**, in conjunction with **FIG. 2**, the dual ceramic heating assemblies **130** within the treatment head of the apparatus **100** will be discussed. Each heating assembly **130** includes an inner heating plate **162** and first and second ceramic substrates **164, 166** in superposed relation with respect to the heating plate **162**. The heating plate **162** is substantially planar; however, the heating plate **162** may include an arcuate profile depending on the intended use of the apparatus **100**. The heating plate **162** is comprised of a ceramic material. The first and second ceramic substrates **164, 166** each include at least one wire resistor **168**, printed on, embedded within, or mounted to, each surface of the ceramic substrates **164, 166**. The wire resistor **168** includes a plurality of longitudinally extending and spaced resistor segments **168a** extending along a majority of the length of the respective first and second substrates **164, 166** to encompass substantially the entire surfaces areas of the first and second ceramic substrates **164, 166**. The first ceramic substrate **164** is electrically connected to the power source through first and second lead wires **170** and contacts **172** electrically coupled to the resistor **168**. Similarly, the second ceramic substrate **166** is electrically connected to the power source through third and fourth lead wires **174** and contacts **176**. The third and fourth lead wires **174** extend through openings **178** of the first ceramic substrate **164** to engage the contacts **176**.

[0039] The provision and arrangement of the first and second ceramic substrates **164, 166** with associated wire resistors **168** maximizes the surface area heated and the thermal energy conveyed to the heating plates **162** (e.g., the ceramic heating plates **162**). Moreover, the relative

thin profile of the ceramic substrates **164**, **166** facilitates transfer of thermal energy to the heating plates **162** without the energy loss inherent in larger volume conventional steel or aluminum heaters. In addition, as will be discussed hereinbelow, the dual ceramic heating assemblies **130** enhance heat transfer to the stainless steel outer shells **128** of the first and second members **102**, **104**, which facilitates use of the apparatus **100** during the curling mode.

**[0040]** The use of the styling apparatus **100** for imparting a straightening effect on hair will now be discussed. In use, the apparatus **100** is activated, and hair is positioned between the heating plates **162** of the heating assemblies **130** of each of the first and second members **102**, **104** when in the open position of **FIG. 1**. The first and second members **102**, **104** are moved to the approximated position of **FIG. 7**. In one embodiment, electrical contacts (not shown) associated with the first and second members **102**, **104** may engage and activate the heating assemblies **130**. The apparatus **100** is maneuvered to drag the hair between the heating plates **162** to straighten the hair. When it is desired to utilize the apparatus **100** in a curling mode, the lock switch **150** is moved from the unlocked position of **FIGS. 7-8** to the locked position of **FIGS. 9-10** and the apparatus **100** is manipulated to wrap the hair about the outer shells **128** of the first and second members **102**, **104**. As discussed in detail hereinabove, the dual ceramic substrate and ceramic heating plate of each heating assembly **130** produces a substantial amount of thermal energy which is conveyed (with minimal heat loss) to the highly conductive (e.g., thermal) stainless steel outer shells **128** of the first and second housing members **108**, **110**. It is noted that the first and second housing members **108**, **110** are fabricated from stainless steel and also may conduct thermal energy to the outer shells **128**. The outer shells **128**, which are at an

appropriate temperature to plasticize and shape hair, are utilized to impart a curling or wave effect to the hair.

[0041] **FIGS. 13-14** illustrate additional or alternate features of the present disclosure. The styling apparatus **100** of **FIG. 13** includes proximal cooling ridges or handle insulators **180** which may be mounted at the end of the handle of the styling apparatus **100**, e.g., between the handle covers **112** and the outer shells **128** of each of the first and second members **102**, **104**, or alternatively be mounted about the respective peripheries of either the handle covers **112** or the outer shells **128**. As a further option, the handle insulators **180** may be received within grooves defined within the peripheries of either handle covers **112** or the outer shells **128**. The handle insulators **180** may be fabricated from a heat insulator material such as, e.g., silicon, and may be band-like in configuration extending relative to the periphery of the respective first and second members **102**, **104**. The handle insulators **180** each substantially prevent conveyance of thermal energy from the treatment head of the apparatus **100**, e.g., from the outer shells **128** to the handle covers **112** to protect the user. In **FIG. 14**, the apparatus **100** incorporates a second or tip insulator **182** adjacent each of the ends of the first and second members **102**, **104** remote from the hinge assembly **106**. The tip insulators **182** may be similar in construction and function to the handle insulators **180** and serve to insulate the end of the first and second members **102**, **104**, e.g., disrupt thermal conductivity to the ends. In this manner, the user may grasp or pinch the ends of the first and second members **102**, **104** while holding the handle with the remaining hand during operation of the apparatus **100** to facilitate maneuverability. The tip insulators **182** may be mounted about the outer shells **128** spaced from the extreme ends of the first and second

members **102**, **104** and/or may at least partially extend between the inner and outer surfaces of the outer shells **128**, e.g., be received within respective grooves in the outer shells **128**.

[0042] The styling apparatus **100** of the present disclosure provides significant benefits over known devices. Firstly, the styling apparatus **100** is readily convertible for use as a hair straightener or a hair curler. The frame components including the first and second housing members **108**, **110**, the handle covers **112**, the first and second inner handle frames **114**, **116** and the outer shells **128** may be entirely formed of stainless steel which significantly improves the life of the apparatus **100** while also providing a more robust device compared to conventional partially plastic units. The dual ceramic heating assemblies **130** provide an effective, efficient and uniform transfer of thermal energy to the internal heating plates **162** during a hair straightening mode of the apparatus **100**, and to the outer stainless steel outer shells **128** during a hair curling mode of the apparatus **100**. The ceramic hinge assembly enhances smooth and unencumbered pivoting movement of the first and second members **102**, **104** and provides a more durable hinge joint further increasing the life and usability of the apparatus.

[0043] The above description and the drawings are provided for the purpose of describing embodiments of the present disclosure and are not intended to limit the scope of the disclosure in any way. It will be apparent to those skilled in the art that various modifications and variations can be made without departing from the spirit or scope of the disclosure. Thus, it is intended that the present disclosure cover the modifications and variations of this disclosure provided they come within the scope of the appended claims and their equivalents.

**WHAT IS CLAIMED IS:**

1. A hair styling apparatus, which comprises:

a first member and a second member adapted for relative movement between an open position for receiving hair therebetween and an approximated position, said first and second members each including a handle and a treatment head, said treatment heads each including an inner plate segment to impart a straightening effect on hair and an outer shell segment configured to impart a curling effect on hair, said outer shell segments being formed of a thermally conductive metallic material; and

a heating assembly associated with said inner plate segments of said first and second members whereby thermal energy is conveyed from said inner plate segments to said outer shell segments of said treatment heads.

2. The hair styling apparatus according to claim 1 wherein said thermally conductive metallic material of said outer shell segments includes stainless steel.

3. The hair styling apparatus according to claim 2 wherein said handles of said first and second members each include a handle cover, said handle covers being formed of a thermally conductive material.

4. The hair styling apparatus according to claim 3 including a handle insulator disposed between said handles and said treatment heads of said first and second members, said handle insulator including an insulator material to reduce transfer of thermal energy from said treatment heads to said handles.

5. The hair styling apparatus according to claim 4 including a tip insulator disposed adjacent outer ends of each said treatment heads, said tip insulators including an insulator material to permit grasping of said outer ends by a user.

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6. The hair styling apparatus according to claim 5 wherein said insulator material of said handle insulator and said tip insulator includes silicon.

7. The hair styling apparatus according to claim 1 including a manually manipulative lock switch mounted to said first member, said lock switch movable between an unlocked position permitting movement of said first and second members to an open position and a locked position securing said first and second members in said approximated condition.

8. The hair styling apparatus according to claim 7 wherein one of said first and second members includes a lock hood and the other of said first and second members includes a lock pin, said lock hood securely engaging said lock pin when said lock switch is in said locked position and releasing said lock pin when said lock switch is in said unlocked position.

9. The hair styling apparatus according to claim 8 wherein said lock hood has lock surfaces defining a recess, said lock pin received within said recess and configured to engage said lock surfaces when said lock switch is in said locked position.

10. The hair styling apparatus according to claim 1 wherein each said heating assembly of said first and second members includes a first ceramic heating plate and at least one ceramic substrate having a heating element mounted thereto.

11. The hair styling apparatus according to claim 10 wherein each said heating assembly of said first and second members includes a second ceramic substrate in superposed relation with said first ceramic substrate and having a heating element mounted thereto.

12. The hair styling apparatus according to claim 11 wherein said heating element of each said first and second ceramic plates includes a resistive wire.

13. The hair styling apparatus according to claim 12 wherein said resistive wire is printed on each said first and second ceramic substrates.

14. The hair styling apparatus according to claim 12 wherein said resistive wire includes a plurality of longitudinal wire segments extending along a longitudinal axis of said first and second members and arranged in laterally spaced relation.

15. The hair styling apparatus according to claim 1 including a hinge assembly coupled to said first and second members to enable pivotal movement of said first and second members between said open position and said approximated position, said hinge assembly including at least one hinge bearing, said at least one hinge bearing comprising a ceramic material.

16. The hair styling apparatus according to claim 15 wherein said hinge assembly includes first and second sets of hinge bearings mounted to said first member and said second members, individual hinge bearings of each said first and second set comprising a ceramic material and being mounted to respective first and second members in contacting relation.

17. A hair styling apparatus, which comprises:  
first and second members configured to style hair;  
a hinge assembly coupled to said first and second members to enable pivotal movement of said first and second members between an open position for receiving hair therebetween and an approximated position, said hinge assembly including at least one hinge bearing, said at least one hinge bearing comprising a ceramic material; and  
a heating element associated with at least one of said first and second members.

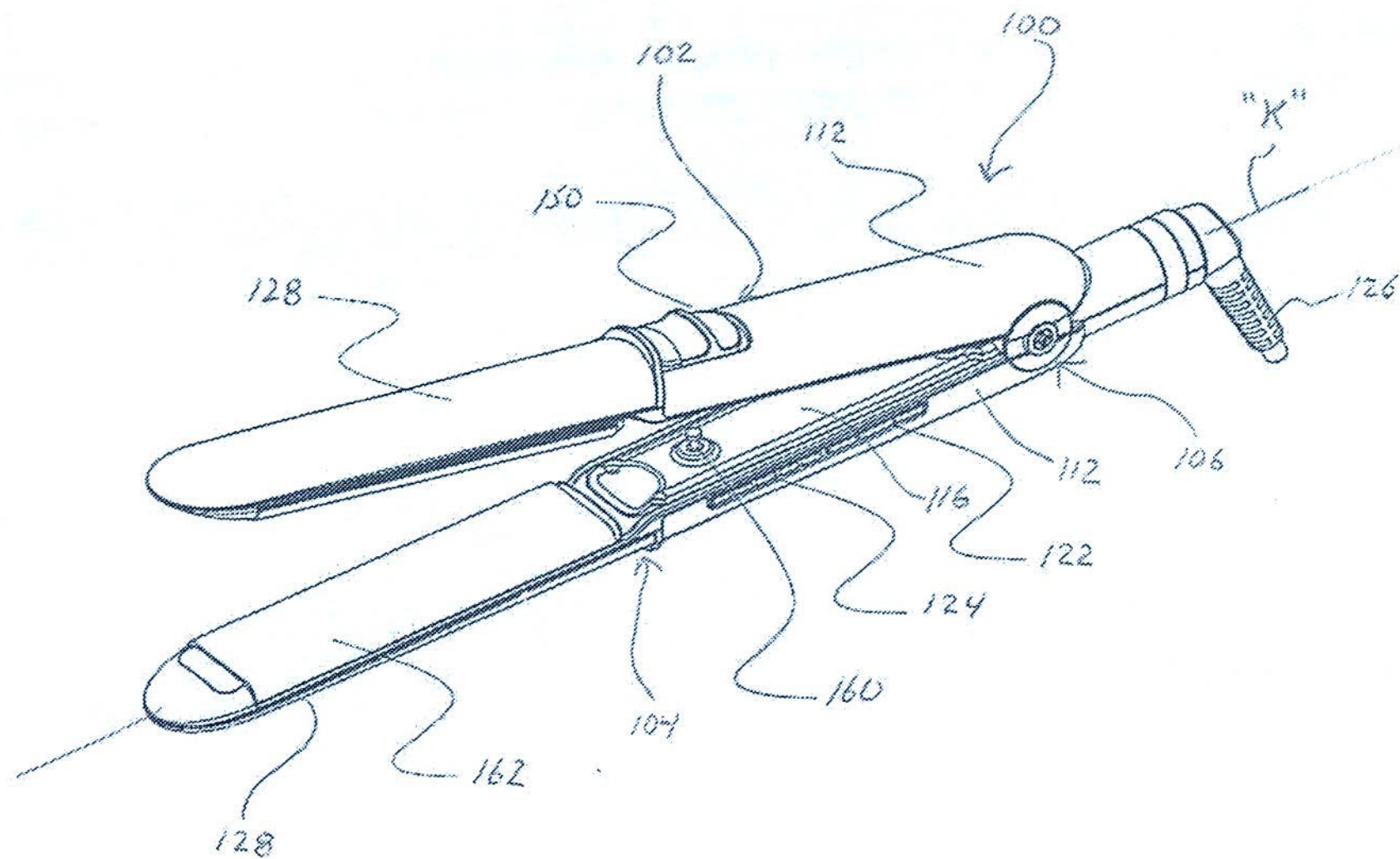
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Atty. Docket No. 4075/U (1327-654)

18. The hair styling apparatus according to claim 17 wherein said hinge assembly includes a first hinge bearing mounted to said first member and a second hinge bearing mounted to said second member, said first and second hinge bearings comprising ceramic material and being in contacting relation.

19. The hair styling apparatus according to claim 18 wherein said hinge assembly includes a third hinge bearing mounted to said first member and a fourth hinge bearing mounted to said second member, said third and fourth hinge bearings comprising ceramic material and being in contacting relation, and spaced from said first and second hinge bearings.

**ABSTRACT**

**[0044]** A hair treatment or styling apparatus adapted to impart a straightening and/or curling effect on hair includes both a novel thermally conductive construction and heating assembly, which conveys thermal energy uniformly to all areas of the treatment head such that the desired style is achieved regardless of the skill of the user. The apparatus further includes a hinge assembly incorporating one or more ceramic bearings units which provide smooth consistent resistance for pivoting movement of the treatment members and a more durable hinge joint thereby increasing the life and usability of the apparatus.



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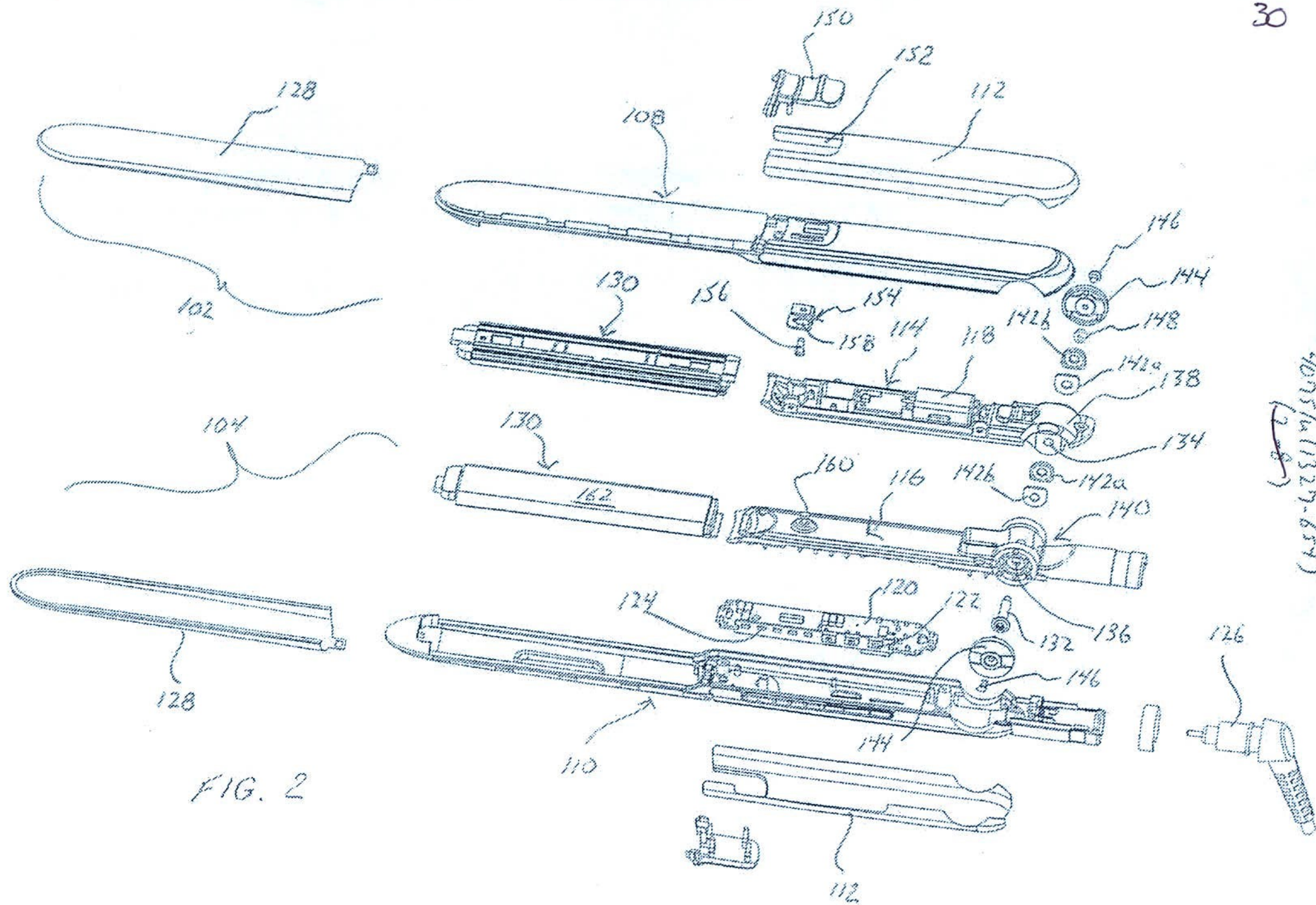


FIG. 2

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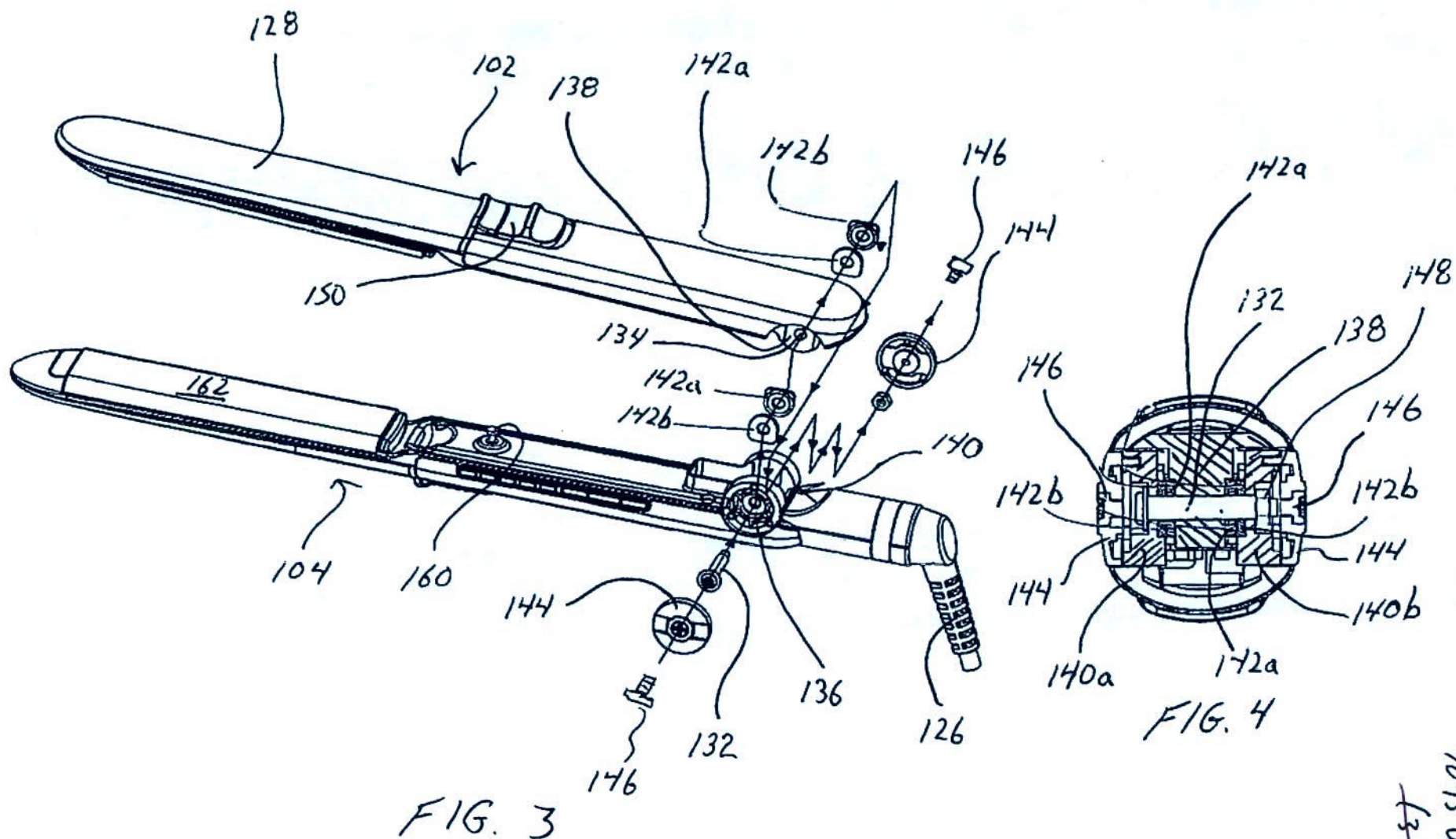


FIG. 3

FIG. 4

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(13-8)

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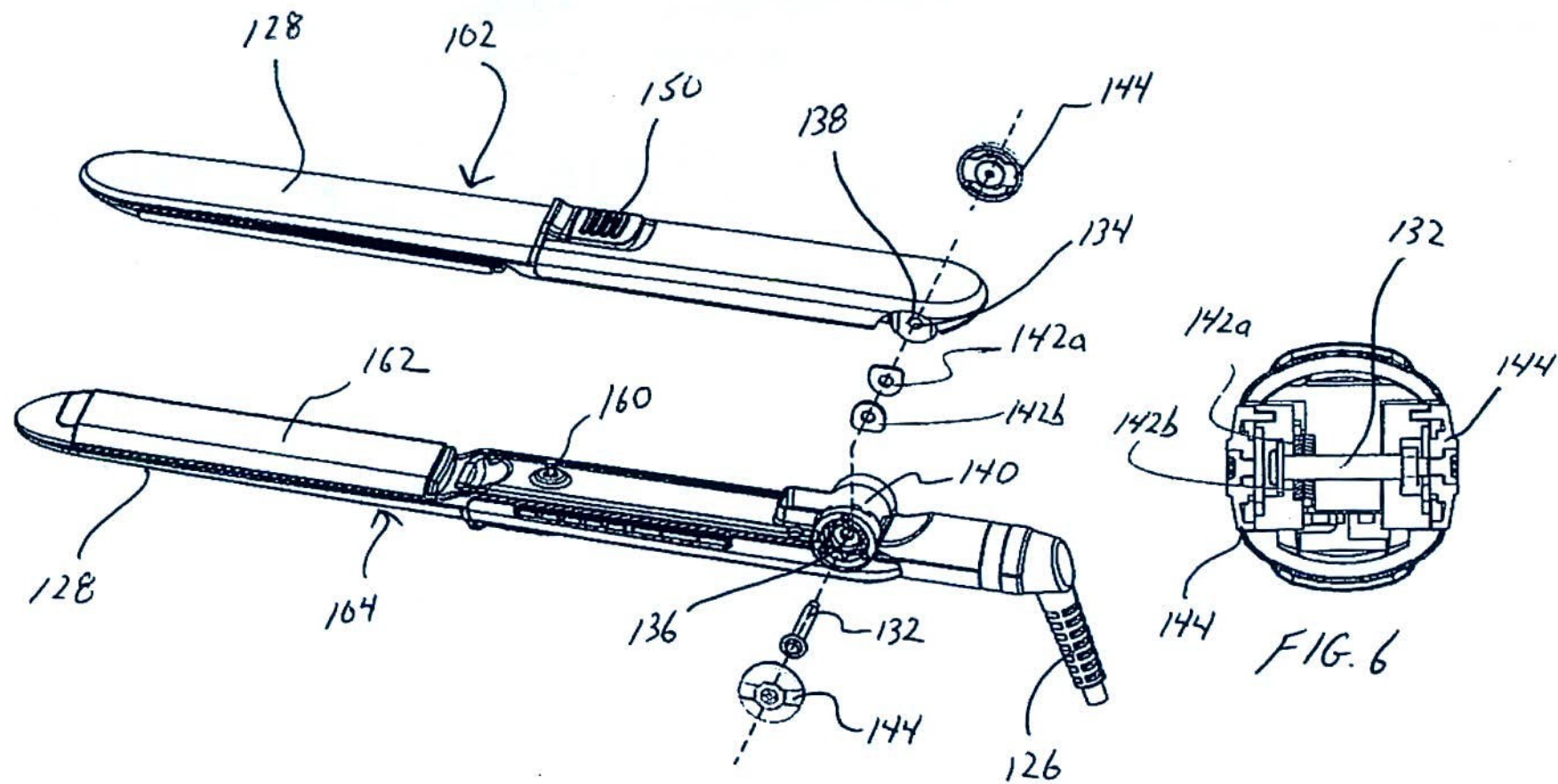


FIG. 5

FIG. 6

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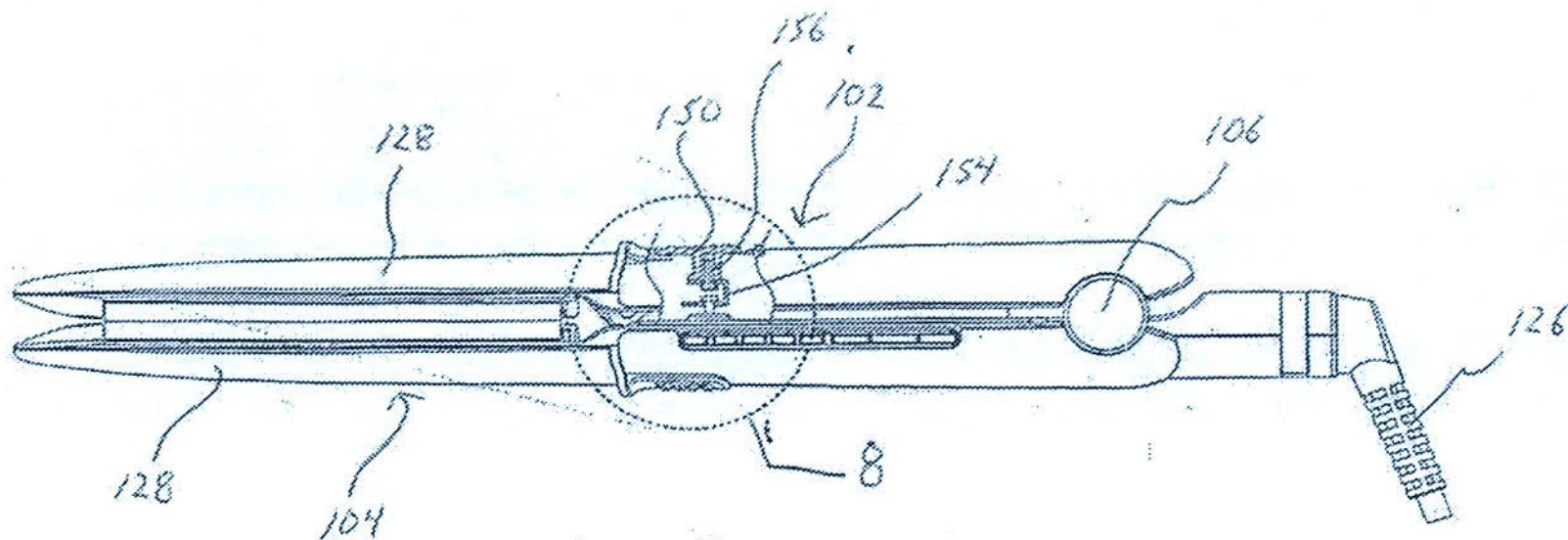


FIG. 7

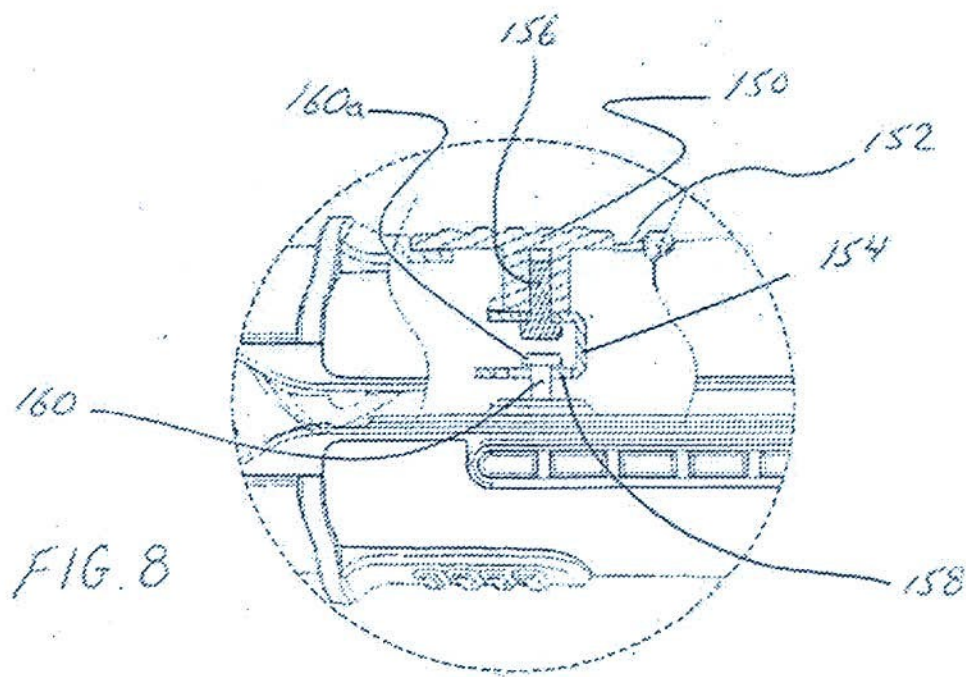
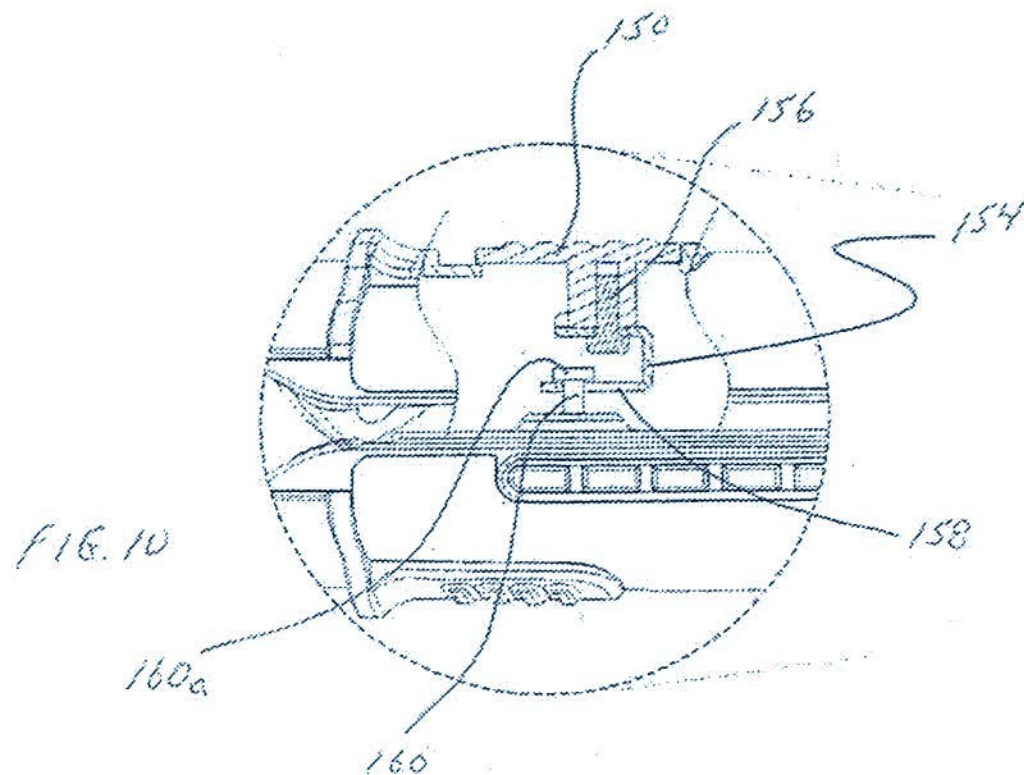
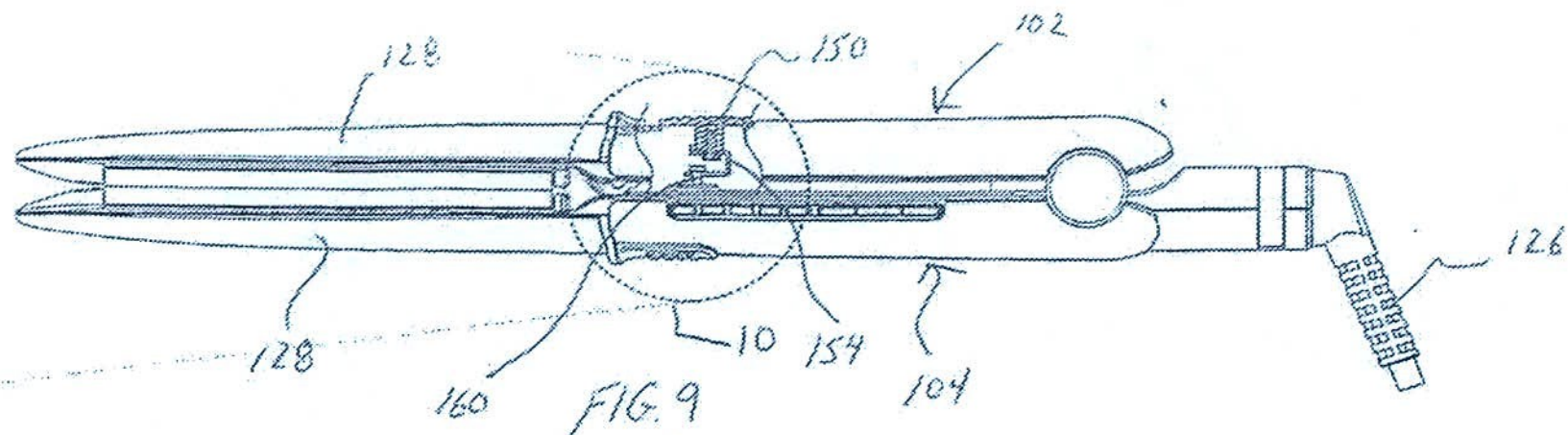


FIG. 8

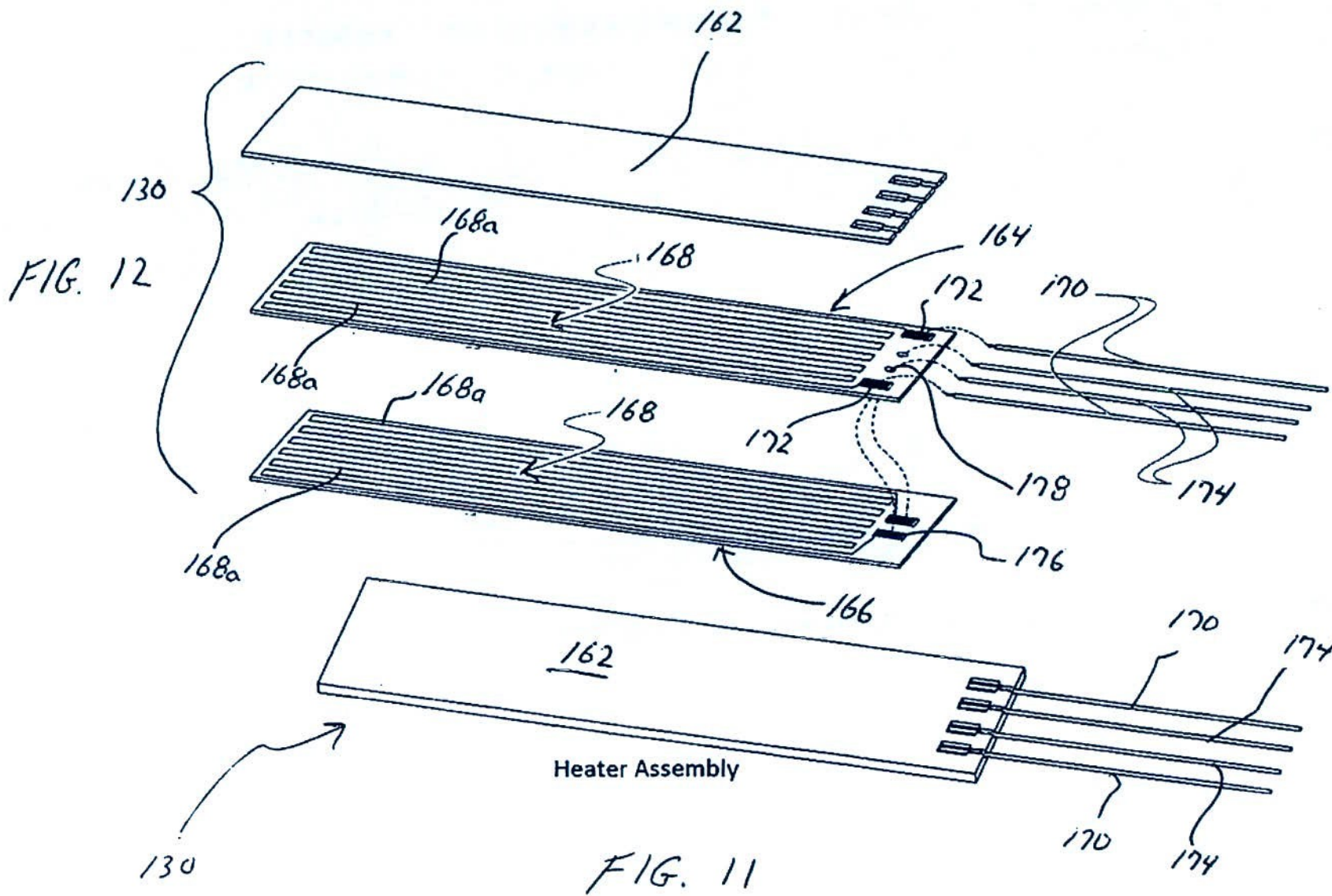
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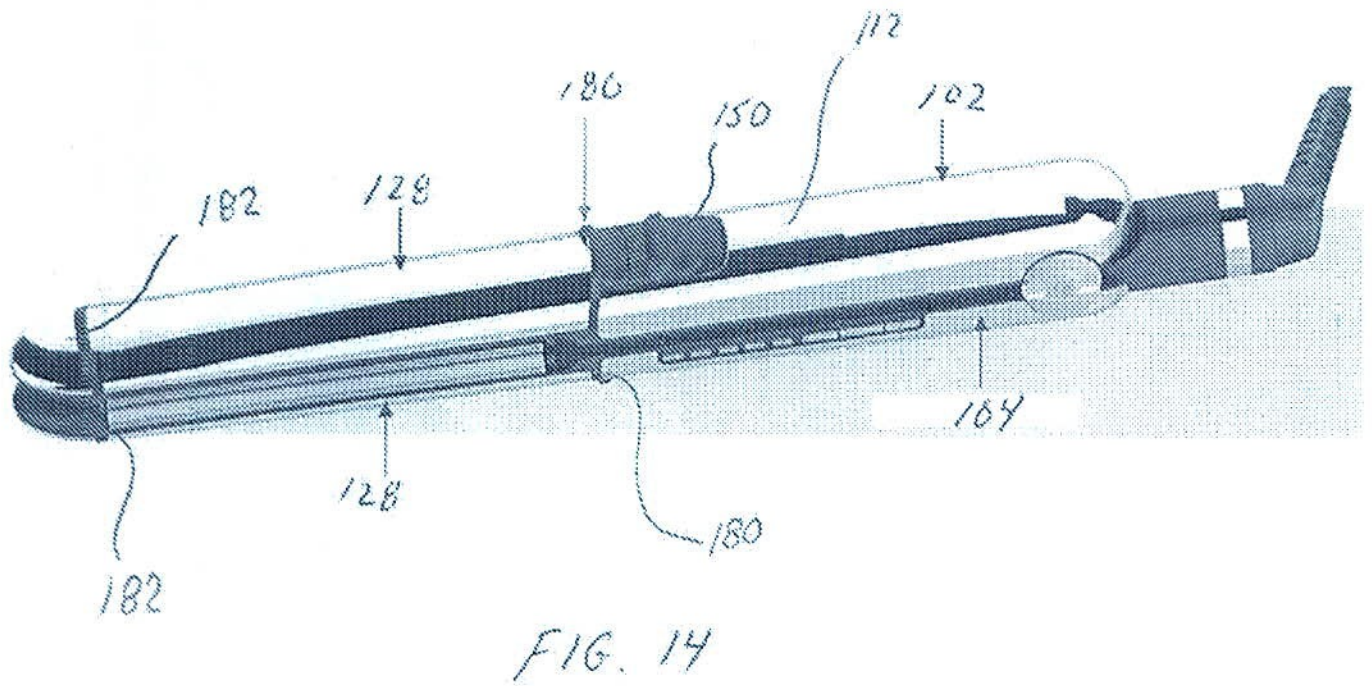
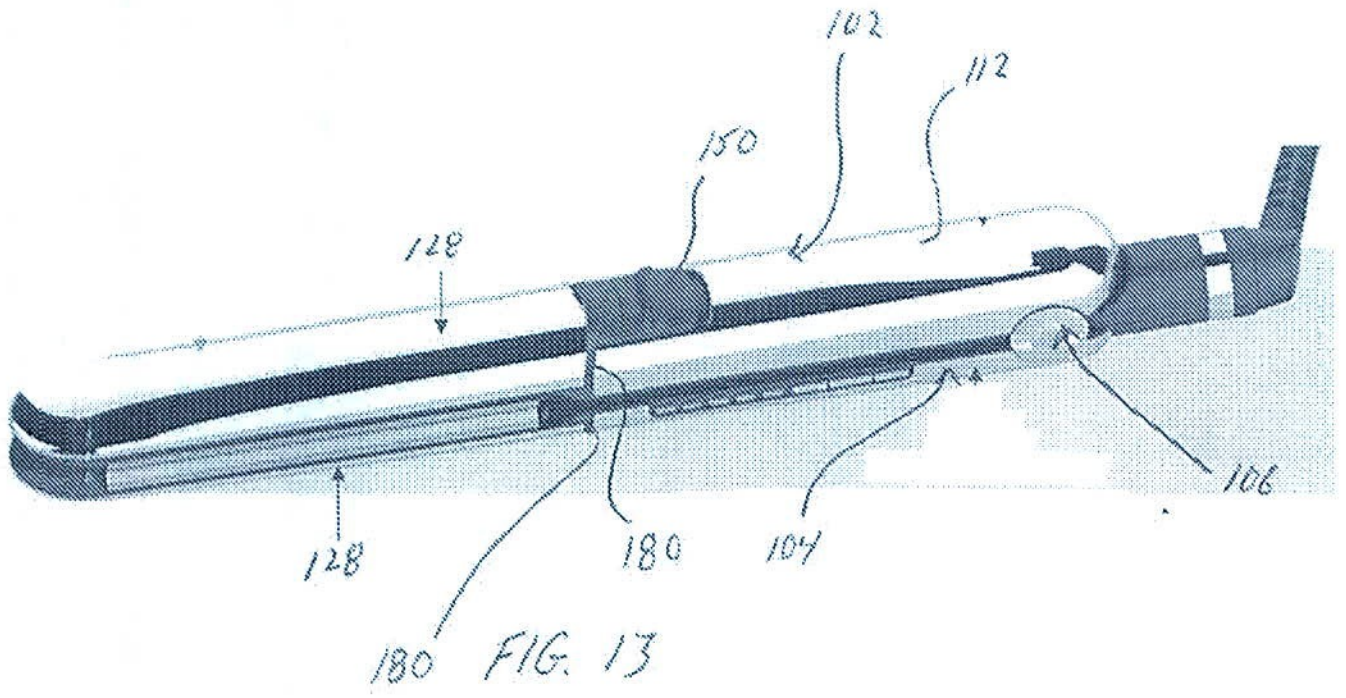
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| <b>Application Data Sheet 37 CFR 1.76</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | <b>Attorney Docket Number</b> | 4075/U (1327-654) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        | <b>Application Number</b>     |                   |
| <b>Title of Invention</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HAIR STYLING APPARATUS |                               |                   |
| 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.<br>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.)

Inventor Information:

|                                                                                                                                                     |                                             |                                          |                    |               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------|--------------------|---------------|
| <b>Inventor</b>                                                                                                                                     | 1                                           | <div>Remove</div>                        |                    |               |
| <b>Legal Name</b>                                                                                                                                   |                                             |                                          |                    |               |
| <b>Prefix</b>                                                                                                                                       | <b>Given Name</b>                           | <b>Middle Name</b>                       | <b>Family Name</b> | <b>Suffix</b> |
|                                                                                                                                                     | Anthony                                     | Kit Lun                                  | Leung              |               |
| <b>Residence Information (Select One)</b> US Residency    •    Non US Residency    Active US Military Service                                       |                                             |                                          |                    |               |
| <b>City</b>                                                                                                                                         | Hong Kong                                   | <b>Country of Residence <sup>i</sup></b> | CN                 |               |
| <b>Mailing Address of Inventor:</b>                                                                                                                 |                                             |                                          |                    |               |
| <b>Address 1</b>                                                                                                                                    | Flat B, 6/F, Block 12, Braemar Hill Mansion |                                          |                    |               |
| <b>Address 2</b>                                                                                                                                    | 37 Braemar Hill Road                        |                                          |                    |               |
| <b>City</b>                                                                                                                                         | North Point                                 | <b>State/Province</b>                    | HK                 |               |
| <b>Postal Code</b>                                                                                                                                  |                                             | <b>Country <sup>i</sup></b>              | CN                 |               |
| All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. <div>Add</div> |                                             |                                          |                    |               |

Correspondence Information:

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| <input type="checkbox"/> An Address is being provided for the correspondence information of this application.                         |                          |                      |                         |
| <b>Customer Number</b>                                                                                                                | 13025                    |                      |                         |
| <b>Email Address</b>                                                                                                                  | docket@cdfslaw.com       | <div>Add Email</div> | <div>Remove Email</div> |
| <b>Email Address</b>                                                                                                                  | lawrence_cruz@conair.com | <div>Add Email</div> | <div>Remove Email</div> |

Application Information:

|                                                |                        |                                                  |                          |
|------------------------------------------------|------------------------|--------------------------------------------------|--------------------------|
| <b>Title of the Invention</b>                  | HAIR STYLING APPARATUS |                                                  |                          |
| <b>Attorney Docket Number</b>                  | 4075/U (1327-654)      | <b>Small Entity Status Claimed</b>               | <input type="checkbox"/> |
| <b>Application Type</b>                        | Nonprovisional         |                                                  |                          |
| <b>Subject Matter</b>                          | Utility                |                                                  |                          |
| <b>Total Number of Drawing Sheets (if any)</b> | 8                      | <b>Suggested Figure for Publication (if any)</b> | 1                        |

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| <b>Application Data Sheet 37 CFR 1.76</b> |                        | Attorney Docket Number | 4075/U (1327-654) |
|                                           |                        | Application Number     |                   |
| Title of Invention                        | HAIR STYLING APPARATUS |                        |                   |

**Filing By Reference:**

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

|                                                        |                          |                                            |
|--------------------------------------------------------|--------------------------|--------------------------------------------|
| Application number of the previously filed application | Filing date (YYYY-MM-DD) | Intellectual Property Authority or Country |
|                                                        |                          |                                            |

**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). Either enter 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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| Please Select One: | <input checked="" type="radio"/> Customer Number | <input type="radio"/> US Patent Practitioner | <input type="radio"/> Limited Recognition (37 CFR 11.9) |
| Customer Number    | 13025                                            |                                              |                                                         |

**Domestic Benefit/National Stage Information:**

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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.

When referring to the current application, please leave the "Application Number" field blank.

|                                                                                                                |                 |                          |                                    |
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| Prior Application Status                                                                                       |                 | <a href="#">Remove</a>   |                                    |
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| <b>Application Data Sheet 37 CFR 1.76</b> |                        | Attorney Docket Number | 4075/U (1327-654) |
|                                           |                        | Application Number     |                   |
| Title of Invention                        | HAIR STYLING APPARATUS |                        |                   |

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. 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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)<sup>i</sup> the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

|                    |                      |                          |                                                            |
|--------------------|----------------------|--------------------------|------------------------------------------------------------|
| Application Number | Country <sup>i</sup> | Filing Date (YYYY-MM-DD) | <div>Remove</div> Access Code <sup>i</sup> (if applicable) |
|                    |                      |                          |                                                            |

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.  
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

|                                           |                        |                        |                   |
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| <b>Application Data Sheet 37 CFR 1.76</b> |                        | Attorney Docket Number | 4075/U (1327-654) |
|                                           |                        | Application Number     |                   |
| Title of Invention                        | HAIR STYLING APPARATUS |                        |                   |

## Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

**NOTE:** This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

### 1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

**A. Priority Document Exchange (PDX)** - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

**B. Search Results from U.S. Application to EPO** - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

### 2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ **A.** Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ **B.** Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

**NOTE:** Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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| <b>Application Data Sheet 37 CFR 1.76</b> |                        | Attorney Docket Number | 4075/U (1327-654) |
|                                           |                        | Application Number     |                   |
| Title of Invention                        | HAIR STYLING APPARATUS |                        |                   |

## Applicant Information:

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |                                                                |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------|-------|
| Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                                                                |       |
| <b>Applicant</b> 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    | <input type="button" value="Remove"/>                          |       |
| If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section. |    |                                                                |       |
| <input type="button" value="Clear"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |                                                                |       |
| <input type="radio"/> Assignee                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    | <input type="radio"/> Legal Representative under 35 U.S.C. 117 |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    | <input type="radio"/> Joint Inventor                           |       |
| Person to whom the inventor is obligated to assign.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    | Person who shows sufficient proprietary interest               |       |
| If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                                                                |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |                                                                |       |
| Name of the Deceased or Legally Incapacitated Inventor: <input type="text"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |                                                                |       |
| If the Applicant is an Organization check here. <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |                                                                |       |
| Organization Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    | <input type="text" value="Conair Corporation"/>                |       |
| <b>Mailing Address Information For Applicant:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |                                                                |       |
| Address 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    | <input type="text" value="23 Barry Place"/>                    |       |
| Address 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |                                                                |       |
| City                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    | State/Province                                                 | CT    |
| Country                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | US | Postal Code                                                    | 06902 |
| Phone Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    | Fax Number                                                     |       |
| <input type="text" value="203-3519118"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    |                                                                |       |
| Email Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    | <input type="text" value="lawrence_cruz@conair.com"/>          |       |
| Additional Applicant Data may be generated within this form by selecting the Add button. <input type="button" value="Add"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |                                                                |       |

## Assignee Information including Non-Applicant Assignee Information:

|                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                           |                        |                               |                   |
|-------------------------------------------|------------------------|-------------------------------|-------------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                        | <b>Attorney Docket Number</b> | 4075/U (1327-654) |
|                                           |                        | <b>Application Number</b>     |                   |
| <b>Title of Invention</b>                 | HAIR STYLING APPARATUS |                               |                   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                       |                    |               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------|--------------------|---------------|
| <b>Assignee</b>                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1                 |                       |                    |               |
| Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication. |                   |                       |                    |               |
| <div>Remove</div>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |                       |                    |               |
| If the Assignee or Non-Applicant Assignee is an Organization check here. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                      |                   |                       |                    |               |
| <b>Prefix</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Given Name</b> | <b>Middle Name</b>    | <b>Family Name</b> | <b>Suffix</b> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                       |                    |               |
| <b>Mailing Address Information For Assignee including Non-Applicant Assignee:</b>                                                                                                                                                                                                                                                                                                                                                                      |                   |                       |                    |               |
| <b>Address 1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                       |                    |               |
| <b>Address 2</b>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |                       |                    |               |
| <b>City</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   | <b>State/Province</b> |                    |               |
| <b>Country</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   | <b>Postal Code</b>    |                    |               |
| <b>Phone Number</b>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   | <b>Fax Number</b>     |                    |               |
| <b>Email Address</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |                       |                    |               |
| Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. <div>Add</div>                                                                                                                                                                                                                                                                                                                       |                   |                       |                    |               |

**Signature:**

Remove

**NOTE:** This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a juristic entity (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

|                                                                                                    |                     |                  |                          |                            |       |
|----------------------------------------------------------------------------------------------------|---------------------|------------------|--------------------------|----------------------------|-------|
| <b>Signature</b>                                                                                   | /Joseph W. Schmidt/ |                  | <b>Date (YYYY-MM-DD)</b> | 2015-12-31                 |       |
| <b>First Name</b>                                                                                  | Joseph              | <b>Last Name</b> | Schmidt                  | <b>Registration Number</b> | 36920 |
| Additional Signature may be generated within this form by selecting the Add button. <div>Add</div> |                     |                  |                          |                            |       |

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

|                                           |                        |                        |                   |
|-------------------------------------------|------------------------|------------------------|-------------------|
| <b>Application Data Sheet 37 CFR 1.76</b> |                        | Attorney Docket Number | 4075/U (1327-654) |
|                                           |                        | Application Number     |                   |
| Title of Invention                        | HAIR STYLING APPARATUS |                        |                   |

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.**

## Privacy Act Statement

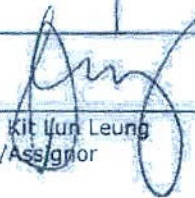
The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection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

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

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



# Anexo 2

| DOCUMENTO DE TRASPASO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ASSIGNMENT DOCUMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Yo, (nosotros), abajo firmado (s)<br/> <b>Anthony Kit Lun Leung</b></p> <p>Domiciliado (s) en</p> <p><b>Flat B, 6/F, Block 12,<br/>           Braemar Hill Mansion, 37 Braemar Hill Road,<br/>           North Point, Hong Kong</b></p> <p>Aquí llamado(s) CEDENTE, propietario (s) de los<br/>           siguientes derechos de propiedad intelectual:</p>                                                                                                                                                                                                                                                                                       | <p>I (we), the undersigned<br/> <b>Anthony Kit Lun Leung</b></p> <p>domiciled at</p> <p><b>Flat B, 6/F, Block 12,<br/>           Braemar Hill Mansion, 37 Braemar Hill Road,<br/>           North Point, Hong Kong</b></p> <p>Hereinafter the ASSIGNOR owner of the following<br/>           intellectual property rights:</p>                                                                                                                                                                                                                                                                                                                                       |
| <p align="center"><b>HAIR STYLING APPARATUS</b><br/>           Utility Patent</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>declara(n) por el presente instrumento que<br/>           cede(n) dichos derechos a:</p> <p><b>Conair Corporation</b></p> <p>sociedades organizadas y existentes bajo las<br/>           leyes de Estados Unidos de América cuyo<br/>           domicilio social y comercial es:</p> <p><b>1 Cummings Point Road<br/>           Stamford, CT 06902</b></p> <p>(aquí llamadas la CESIONARIA). Por el presente<br/>           acto, la CESIONARIA acepta dicho traspaso.</p> <p>Dado y firmado hoy</p> <p><u>21<sup>st</sup></u> de Marzo de 2016</p> <p>en</p> <p><u>Stamford, Connecticut 06902, Estados Unidos de<br/>           America</u></p> | <p>Declares by this document that assigns the<br/>           mentioned patent to:</p> <p><b>Conair Corporation</b></p> <p>A corporation organized and existent under the<br/>           laws of the United States of America and whose<br/>           place of business is:</p> <p><b>1 Cummings Point Road<br/>           Stamford, CT 06902</b></p> <p>(Which in this document will be called the<br/>           ASSIGNEE). The ASSIGNEE accepts the said<br/>           assignment.</p> <p>Given and signed this</p> <p><u>21<sup>st</sup></u> day of March 2016</p> <p>in</p> <p><u>Stamford, Connecticut 06902, United States of<br/>           America</u></p> |
| <p align="center">By: <br/>           Anthony Kit Lun Leung<br/>           Cedente/Assignor</p> <p>Date/Fecha: <u>3/21/2016</u></p> <p align="center">By: <br/>           Kathleen D. Fong<br/>           VP, Chief Legal Officer &amp; Secretary<br/>           CONAIR CORPORATION<br/>           Cesionario/Assignee</p> <p>Date/Fecha: <u>3/21/2016</u></p>                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

# Anexo 3

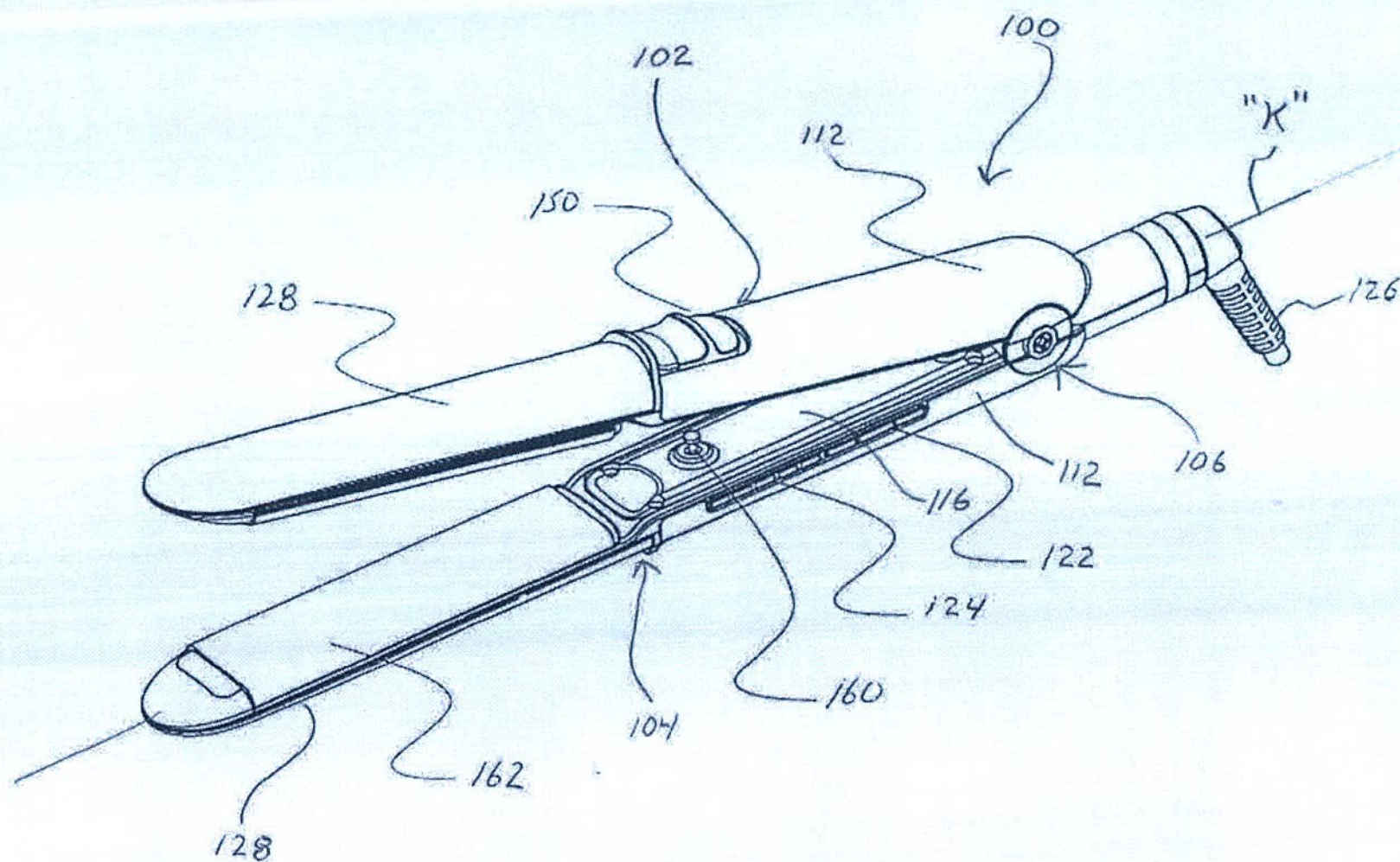


FIG. 1

4075 u (1327-654)  
(1-8)

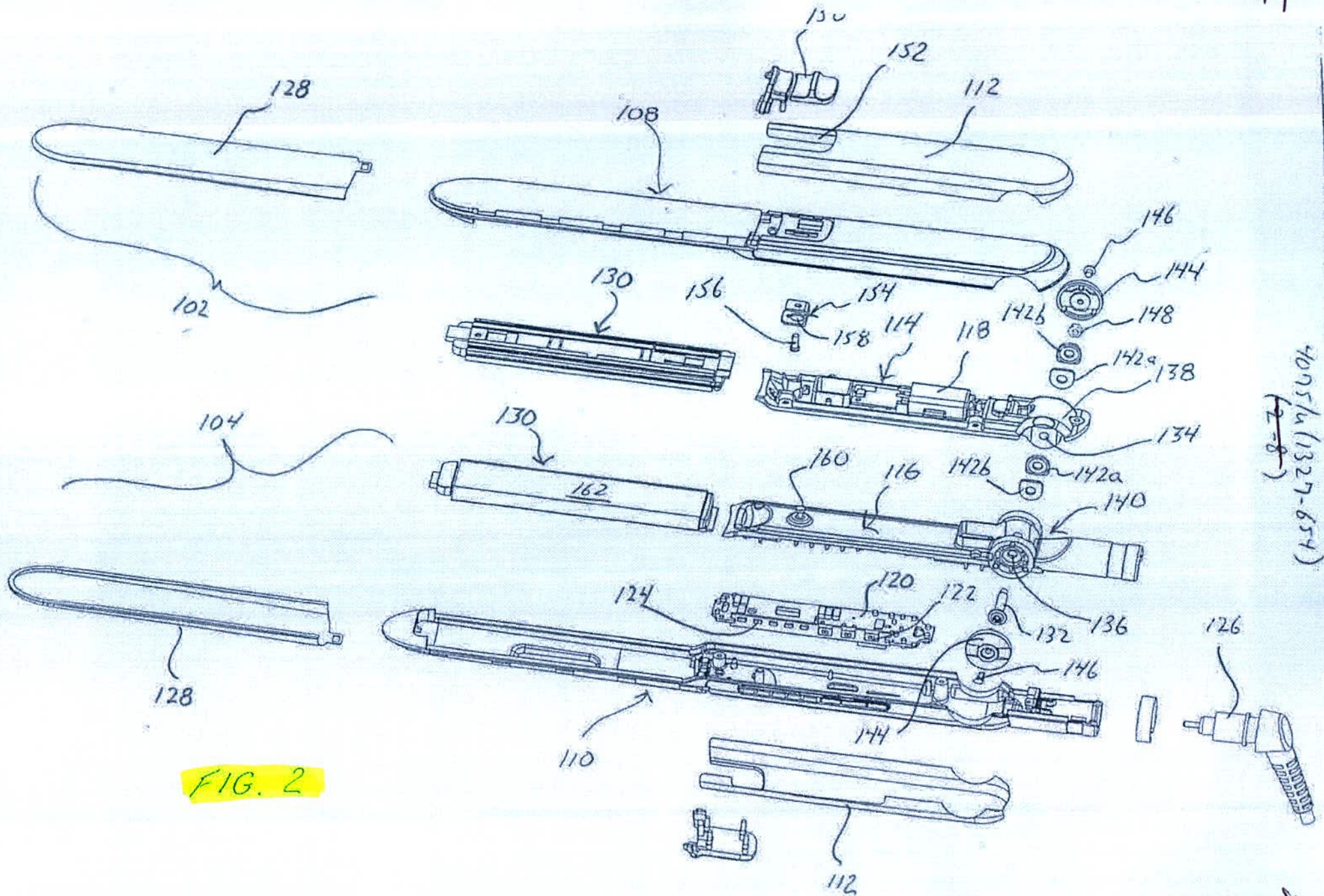


FIG. 2

4005/4 (1327-654)  
(2-8)

49

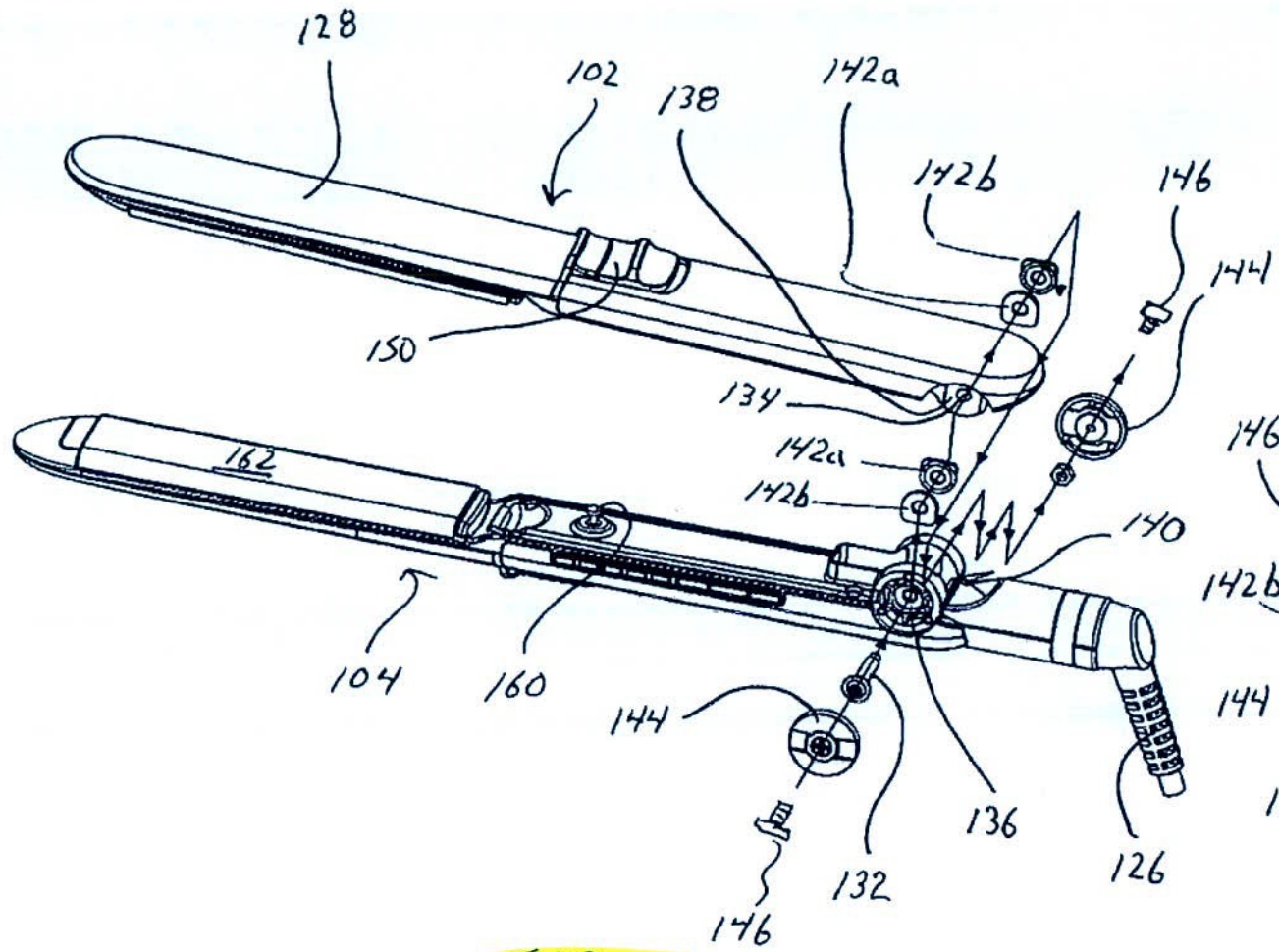


FIG. 3

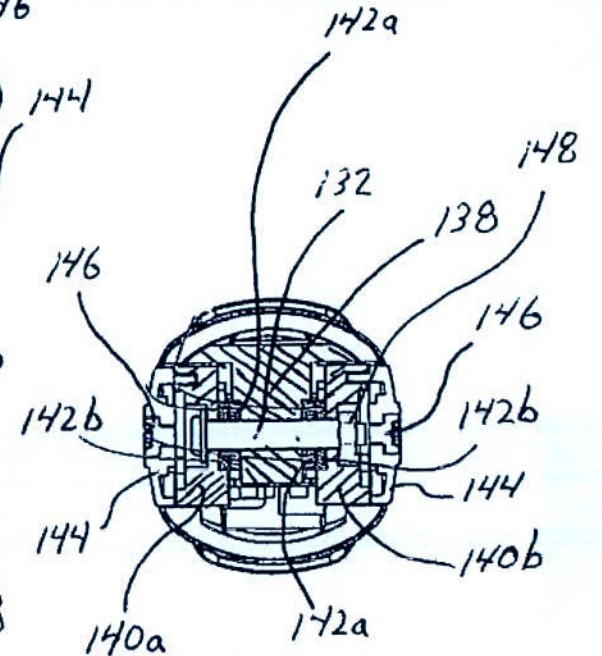


FIG. 4

4075 u (1327-654)  
(8-8)  
80

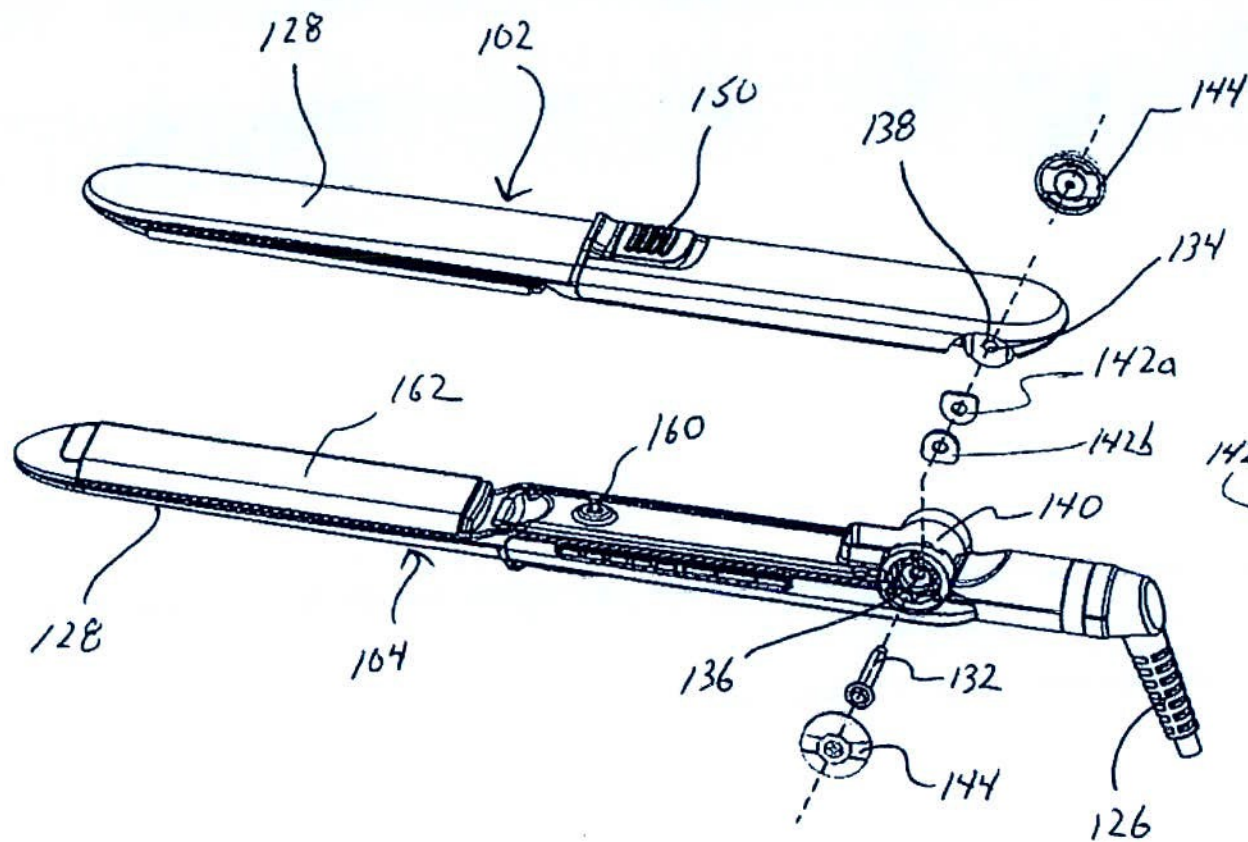


FIG. 5

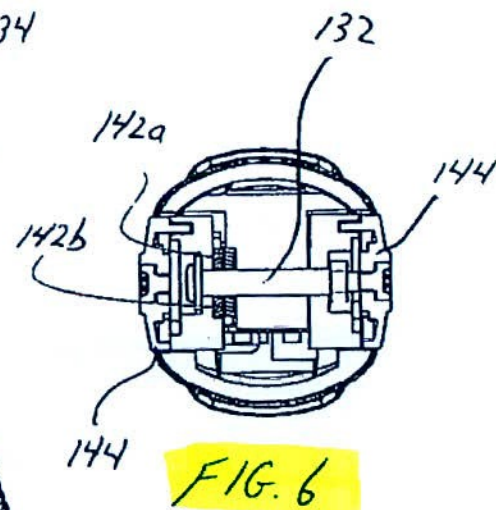


FIG. 6

40754/1327-651  
(48)

51

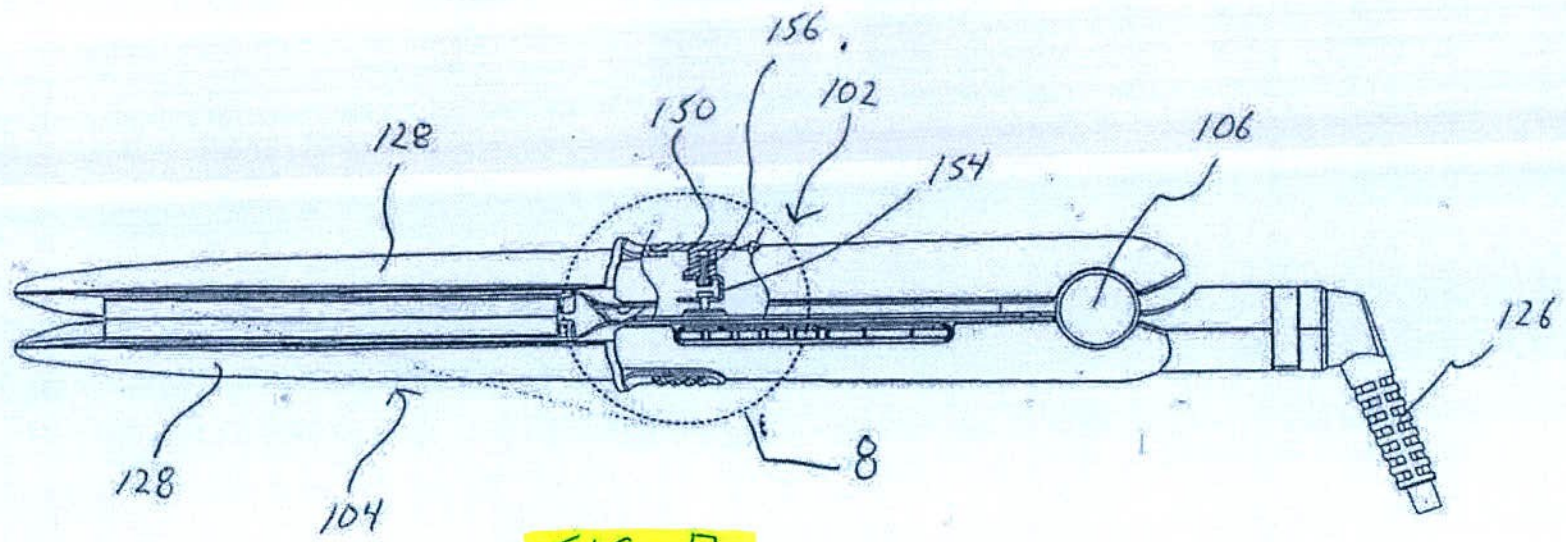


FIG. 7

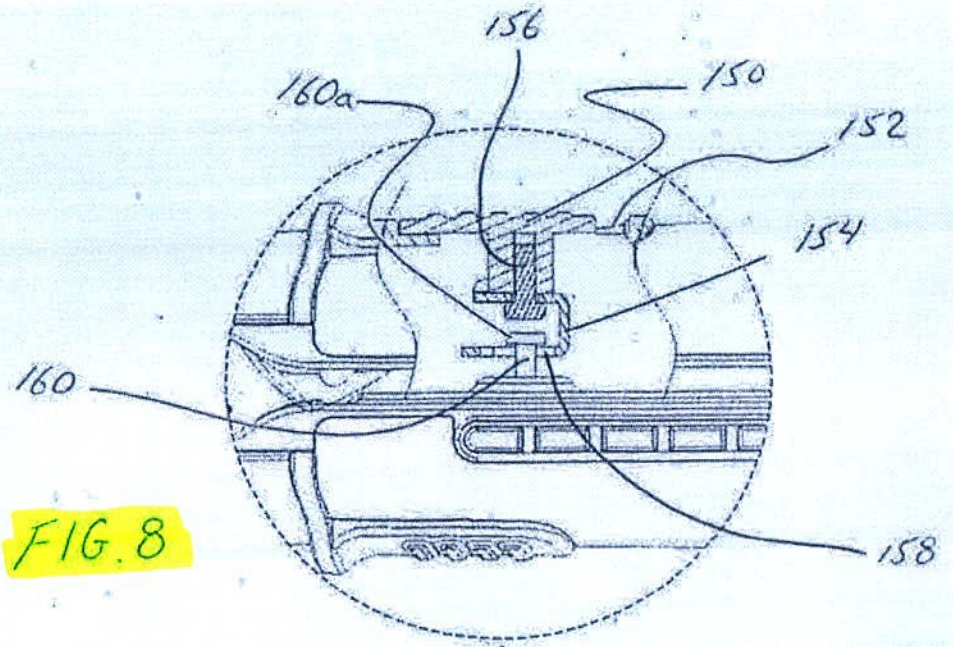
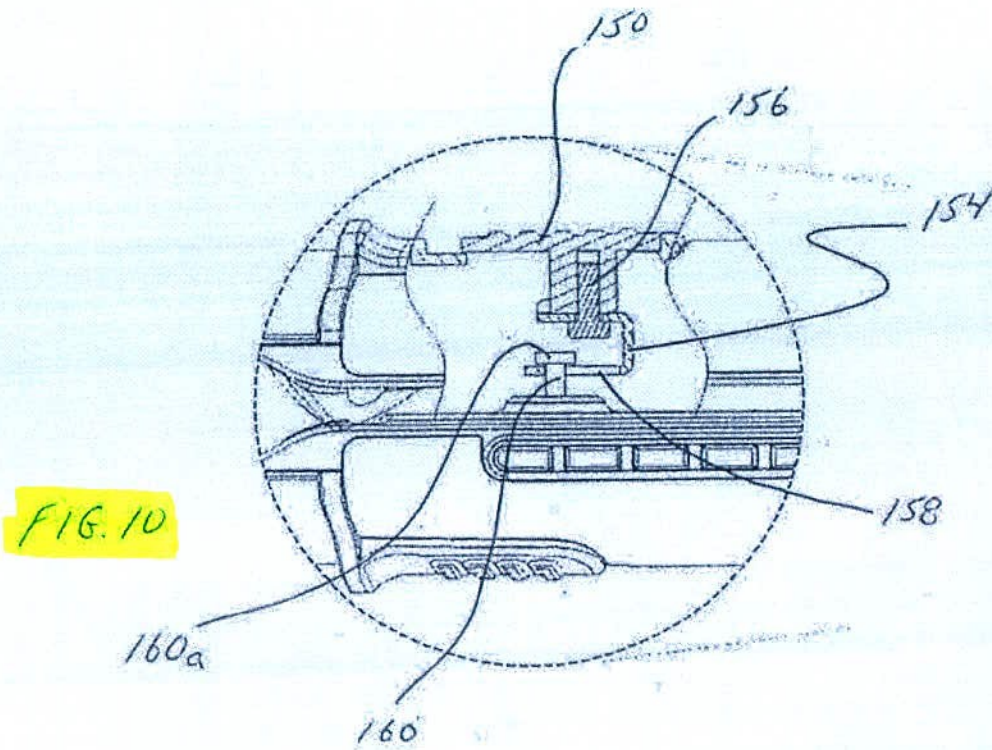
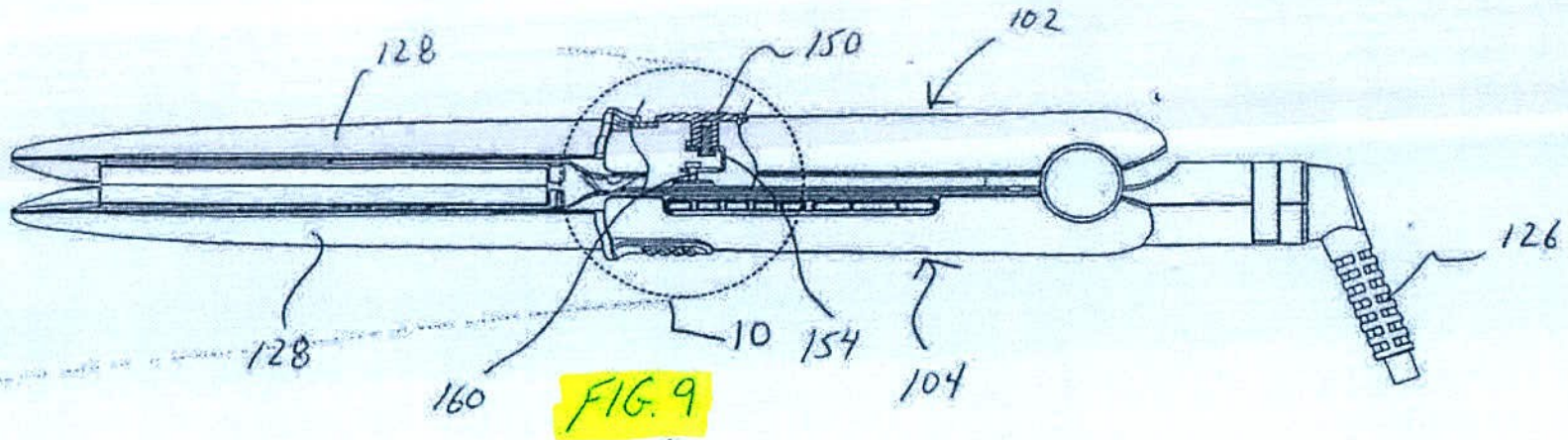


FIG. 8

40754 (1327-654) ~~52~~  
(58)



40754 (1327-654)  
(K-8)

8

FIG. 12

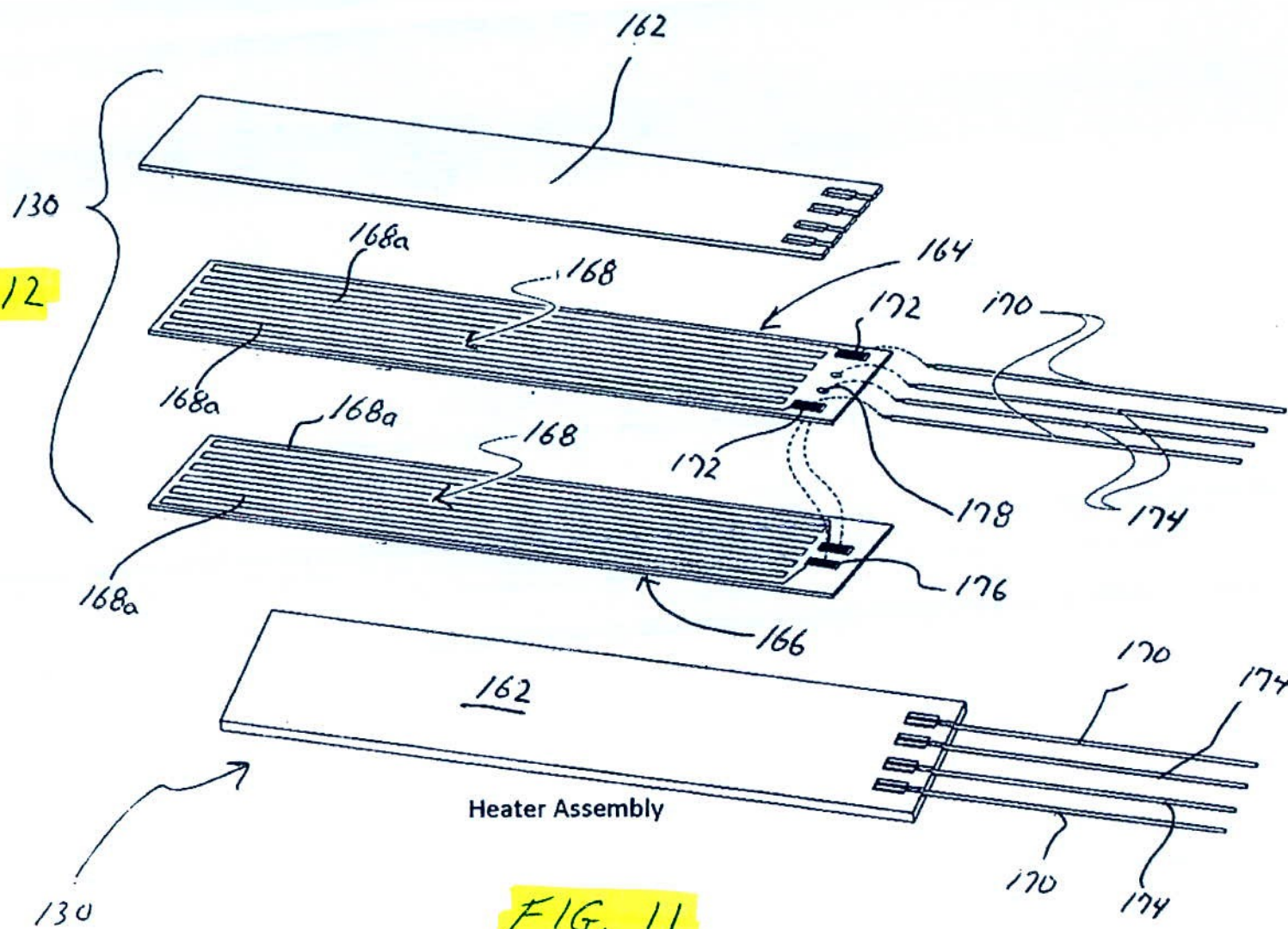
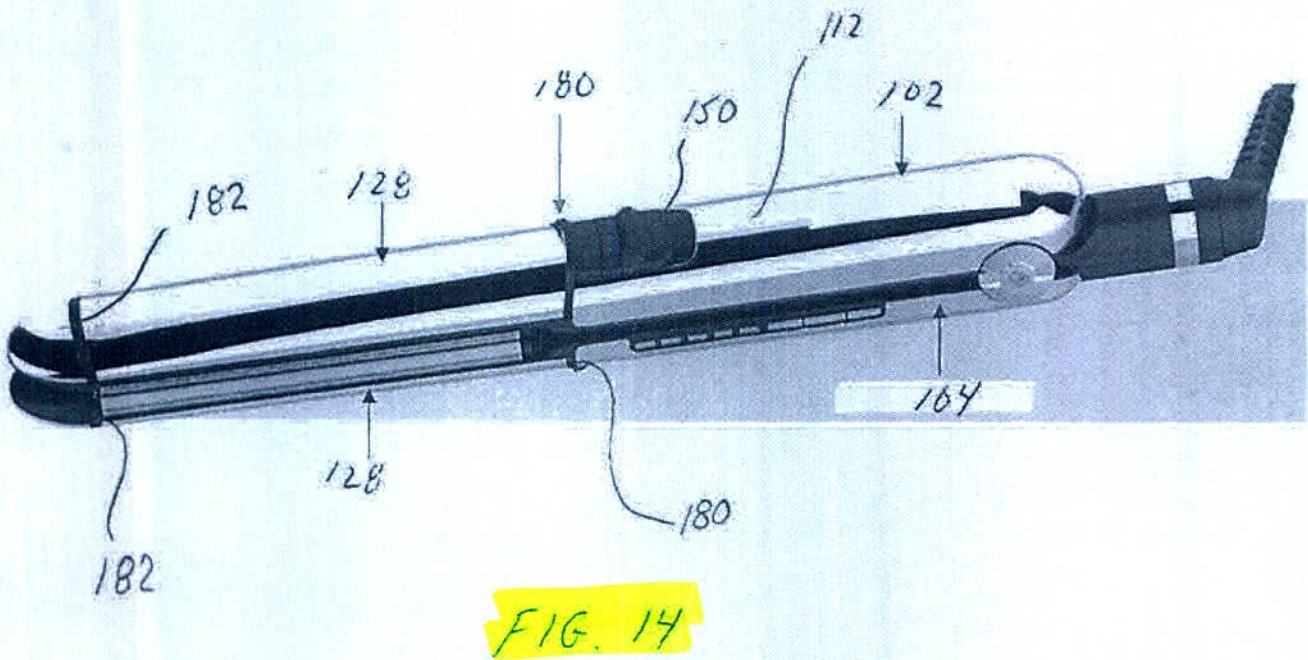
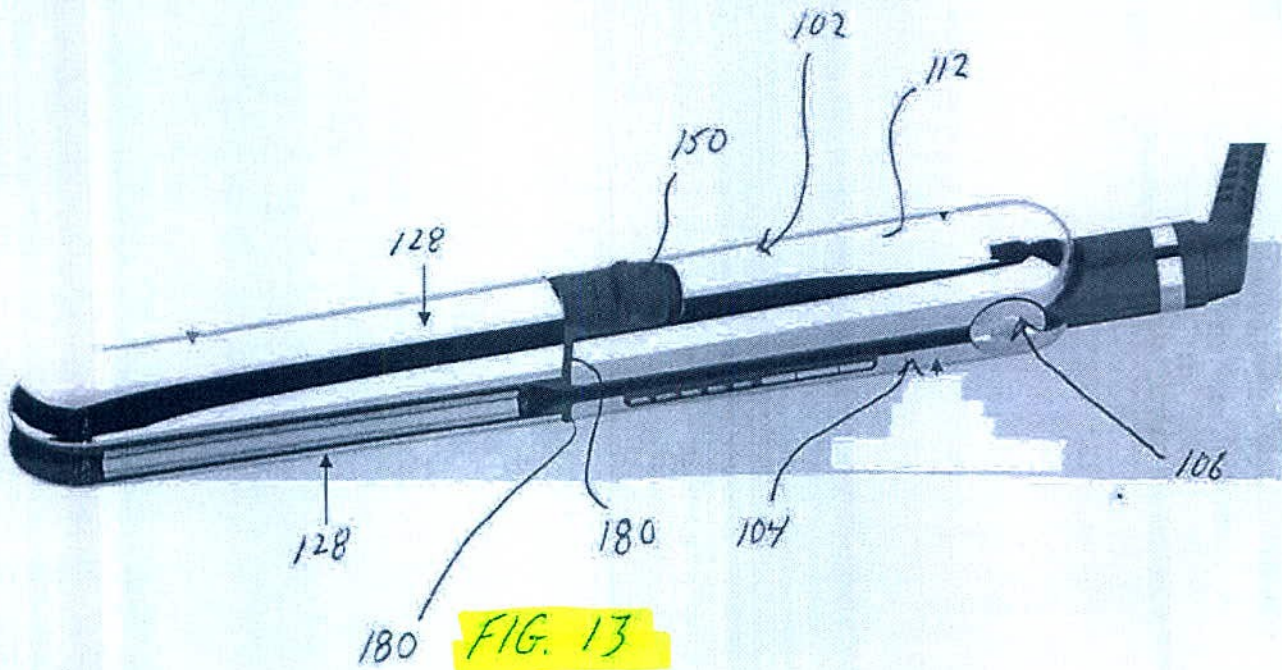


FIG. 11

40754 (1327-654)  
(28)

54



# Anexo 4

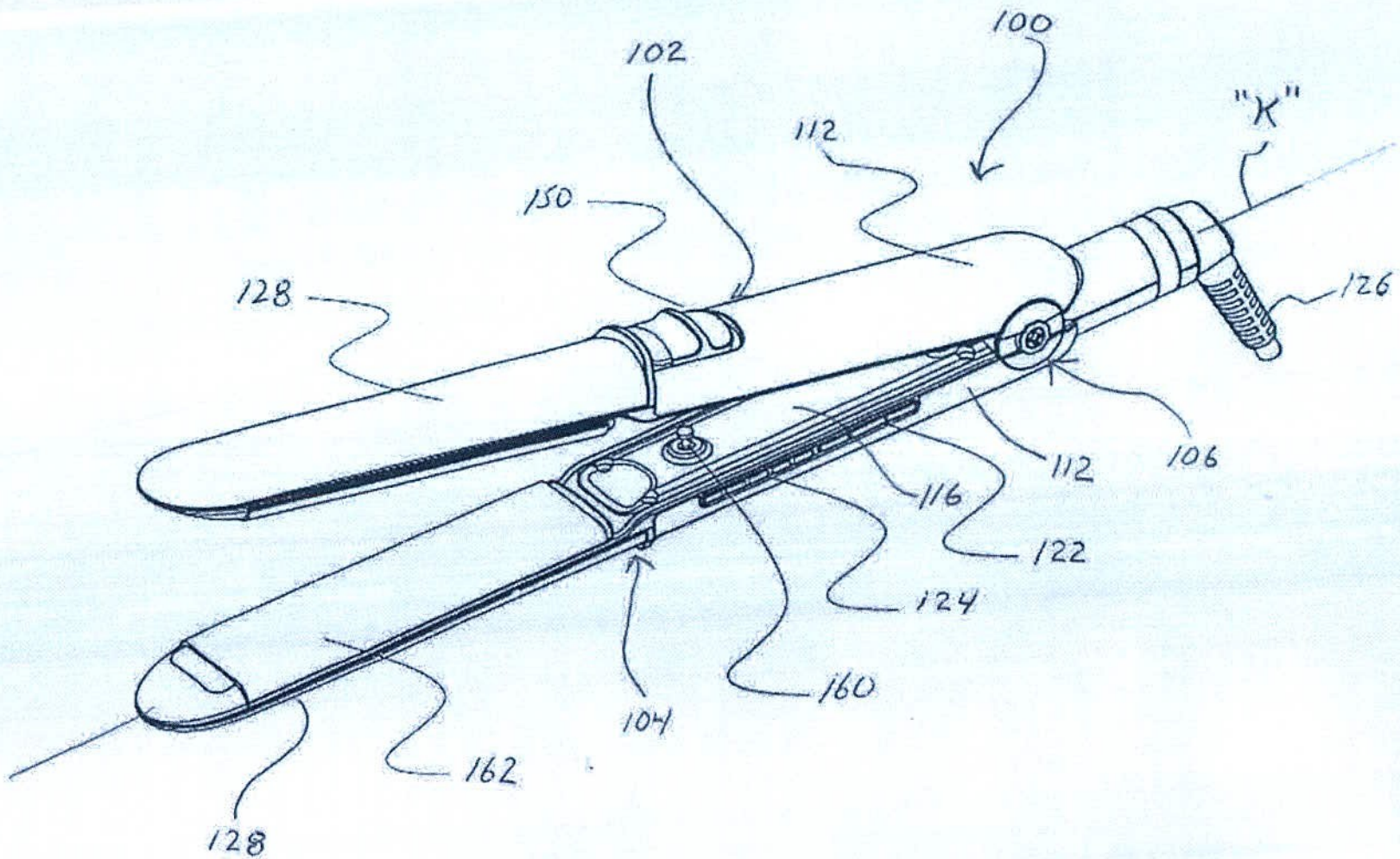


FIG. 1

4095 u (1327-654)  
(7-8)

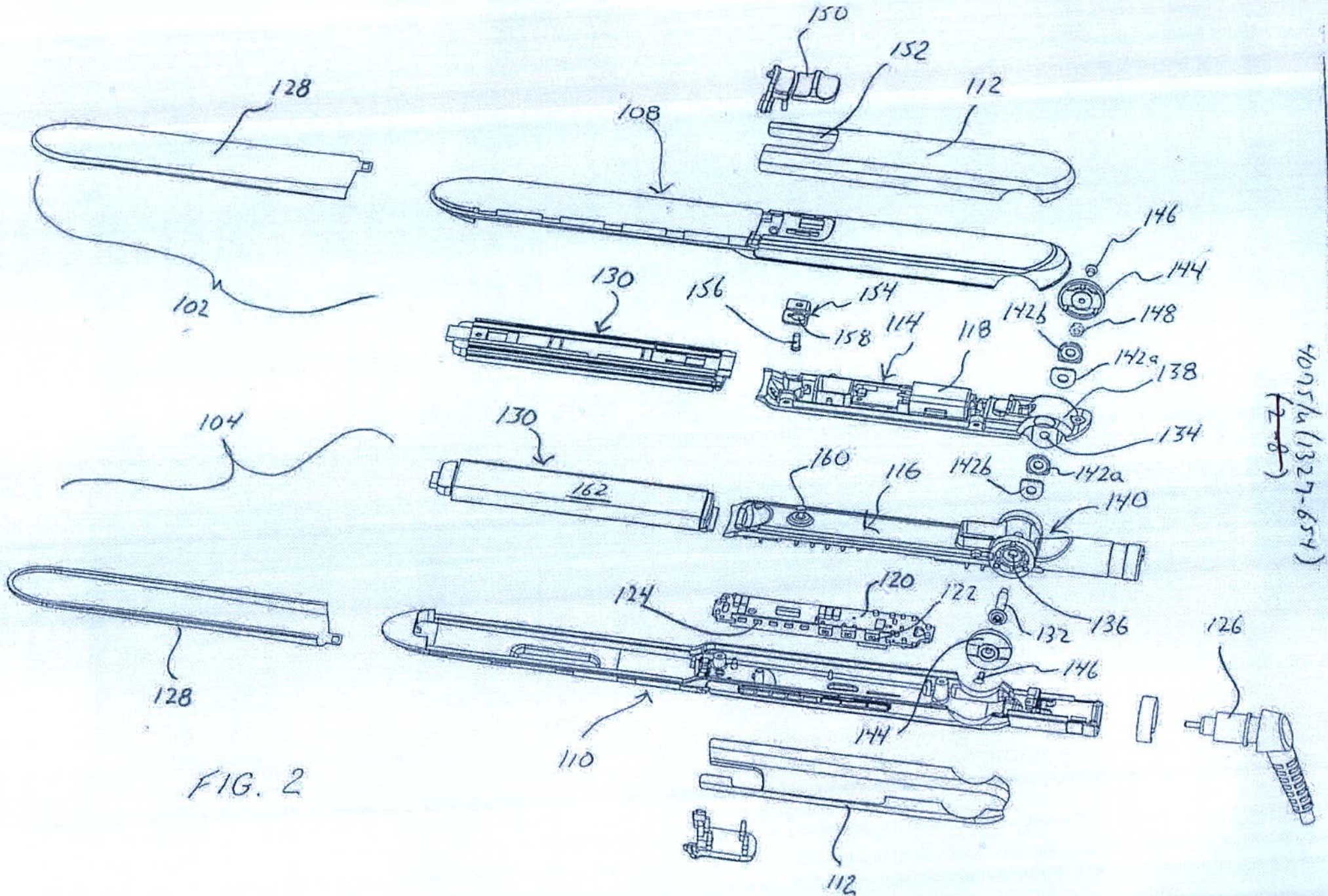
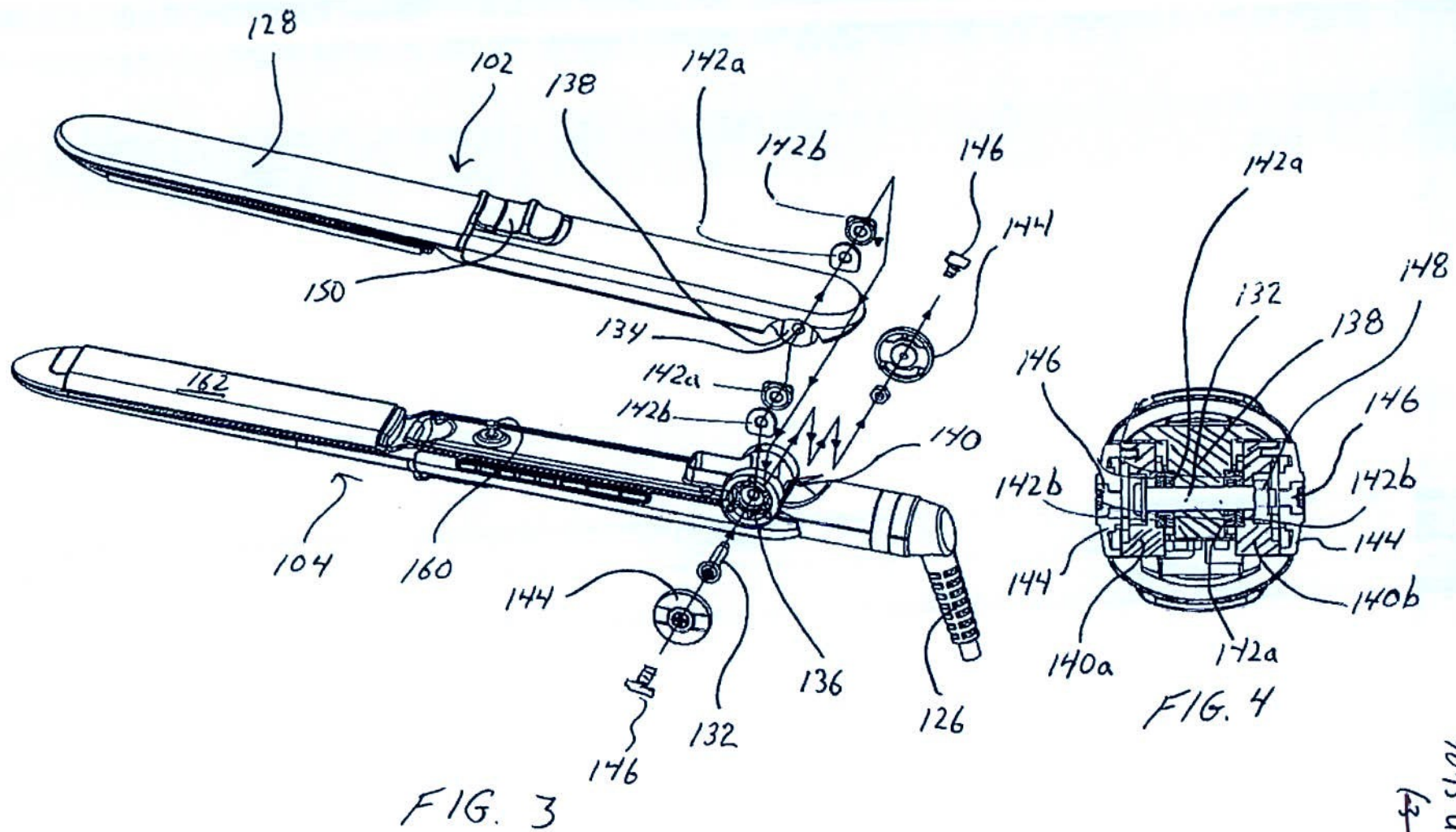


FIG. 2

4095/4 (1327-654)  
(2-8)



4075 u (1327-654) 59

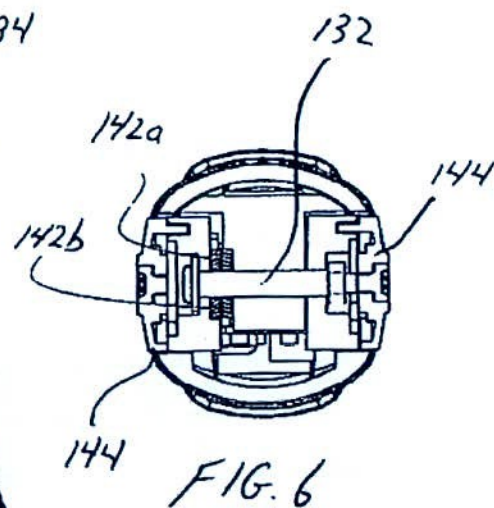
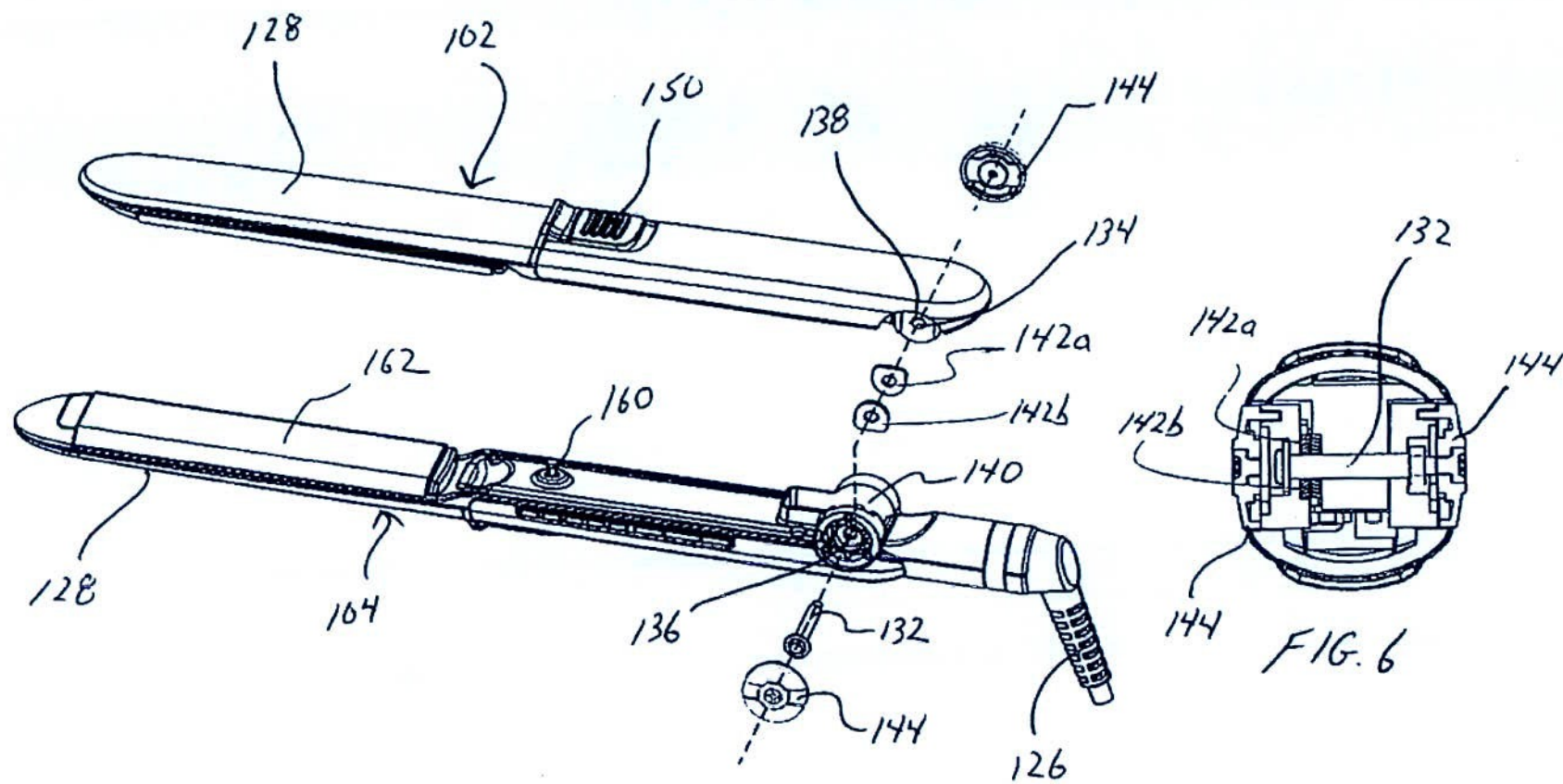


FIG. 5

✓ 6754/1327-654) ~~8~~

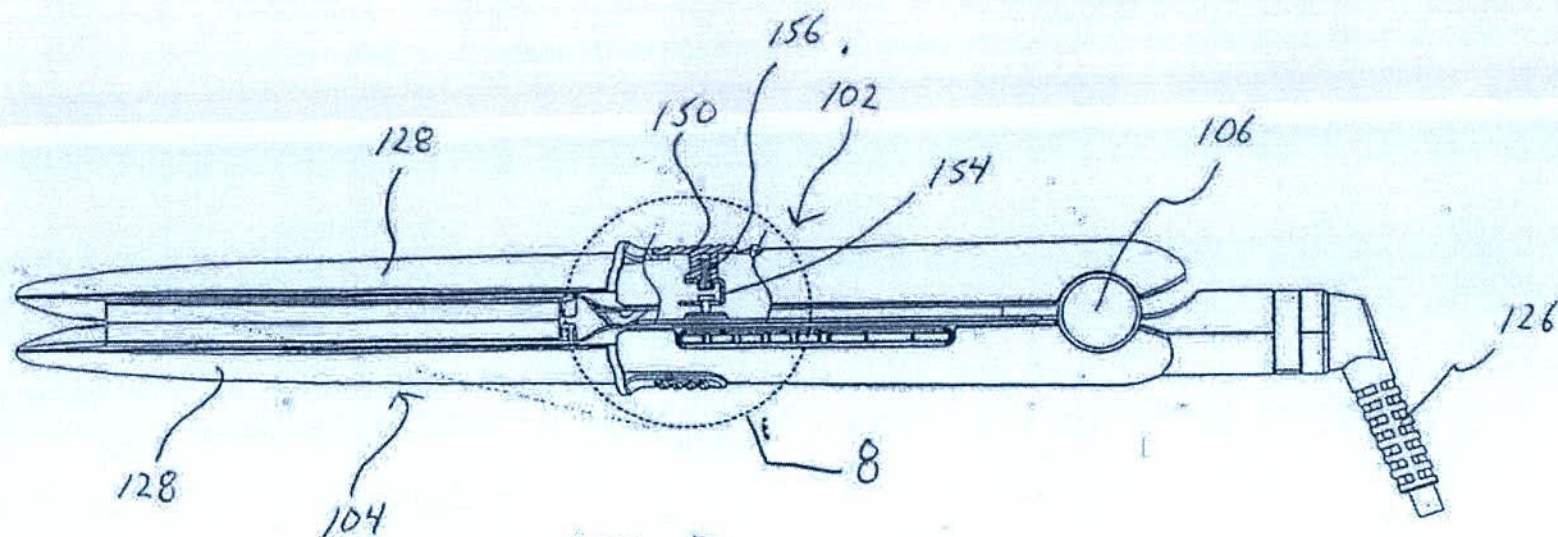


FIG. 7

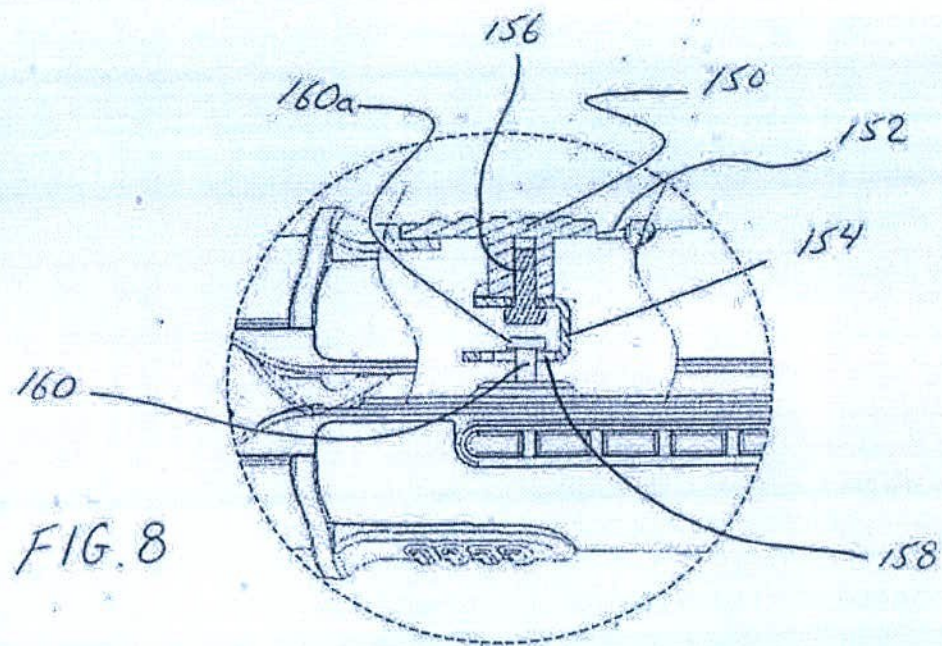
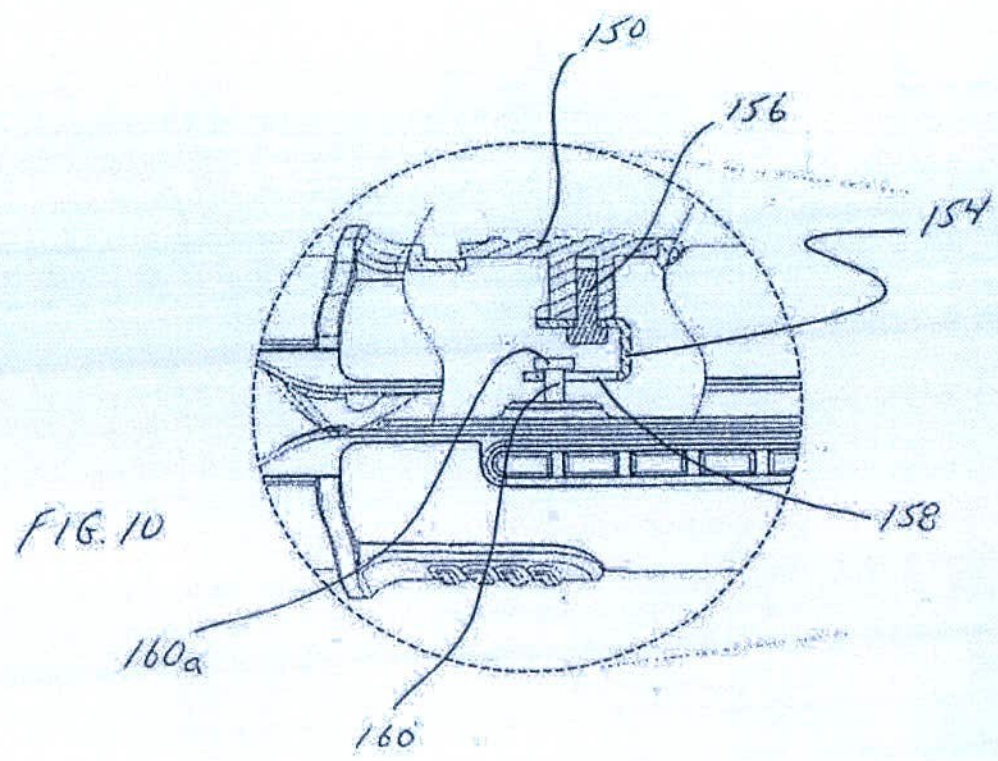
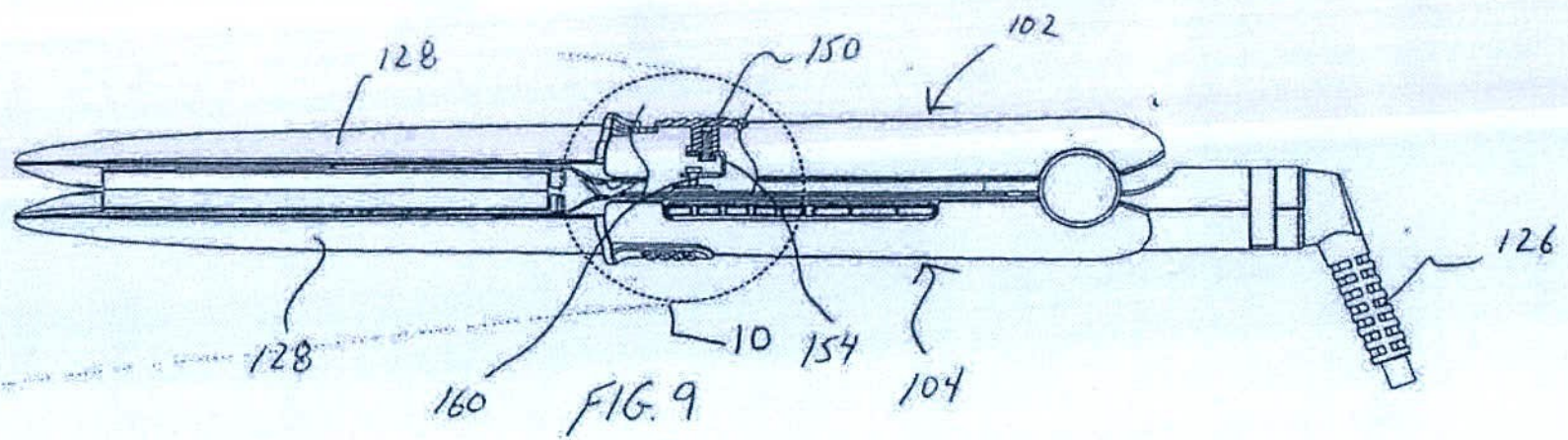
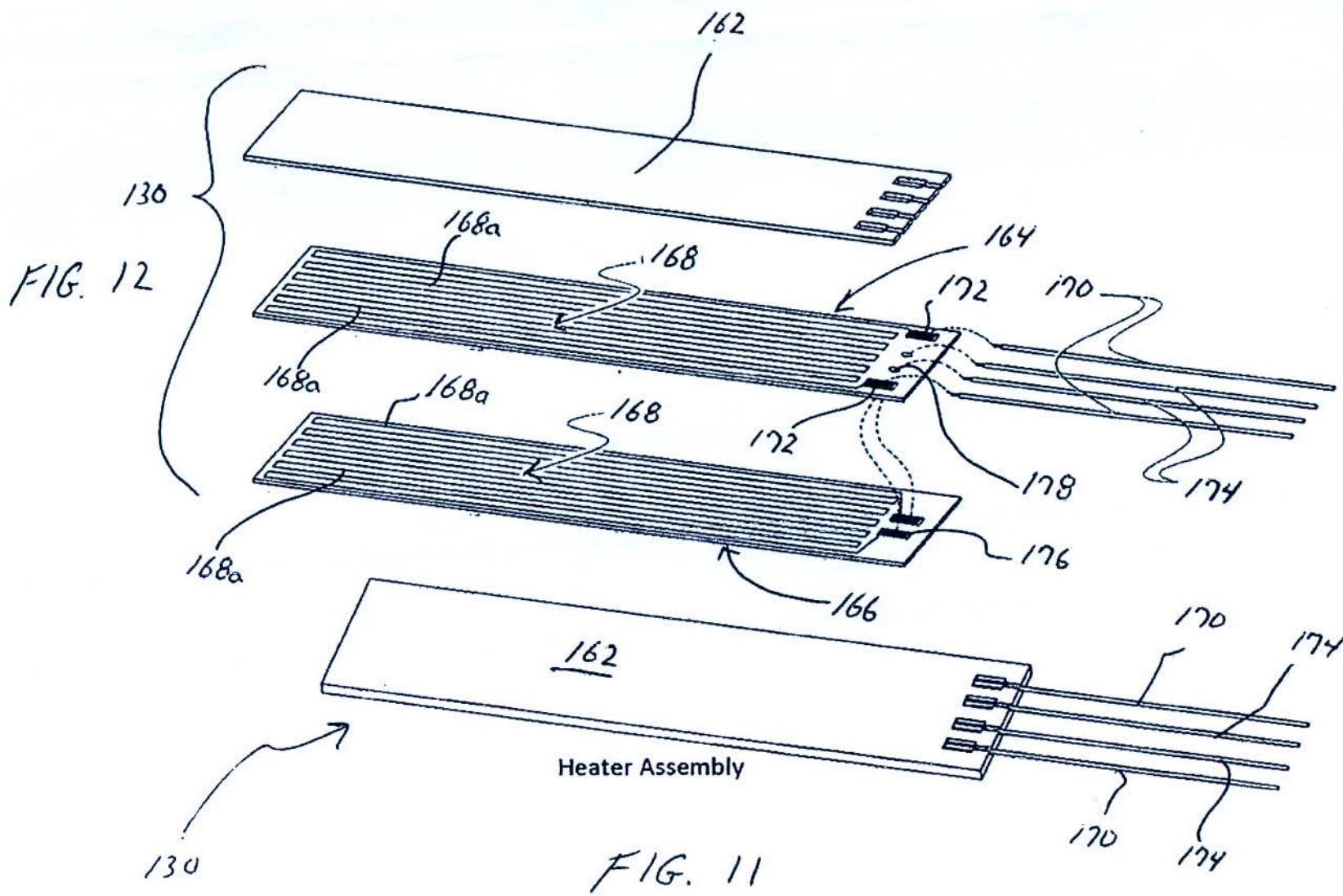


FIG. 8

4075u (1327-654)  
 (5-8) ✓



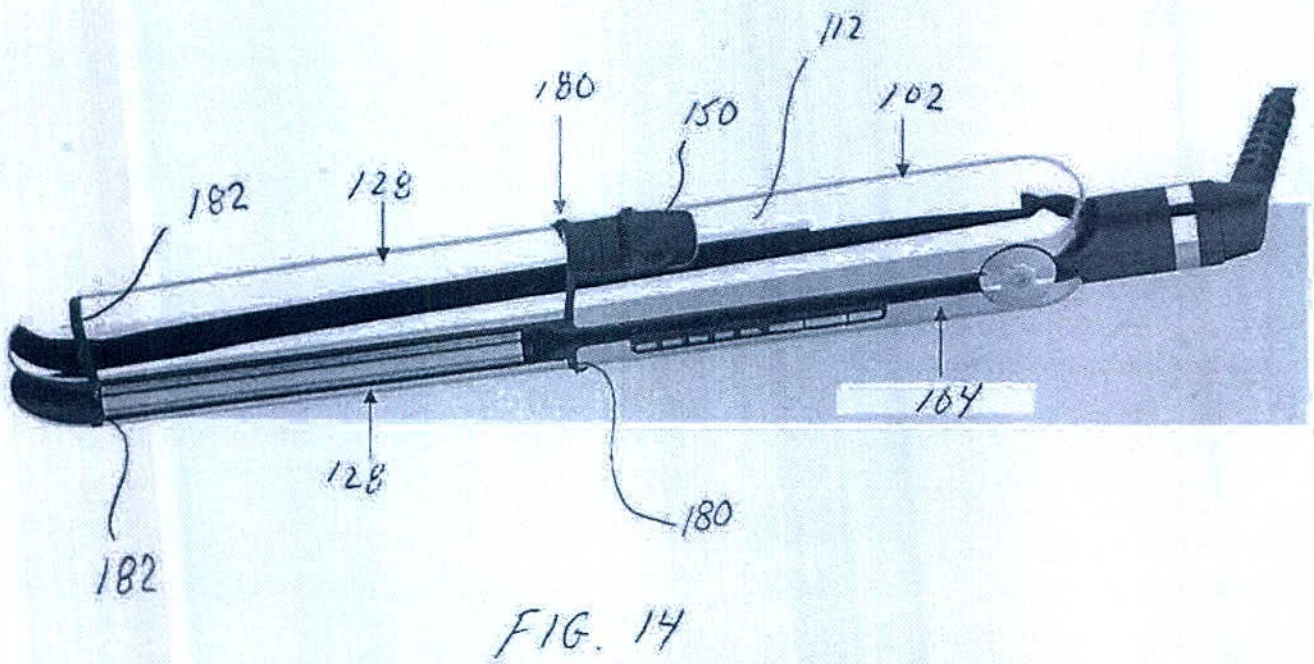
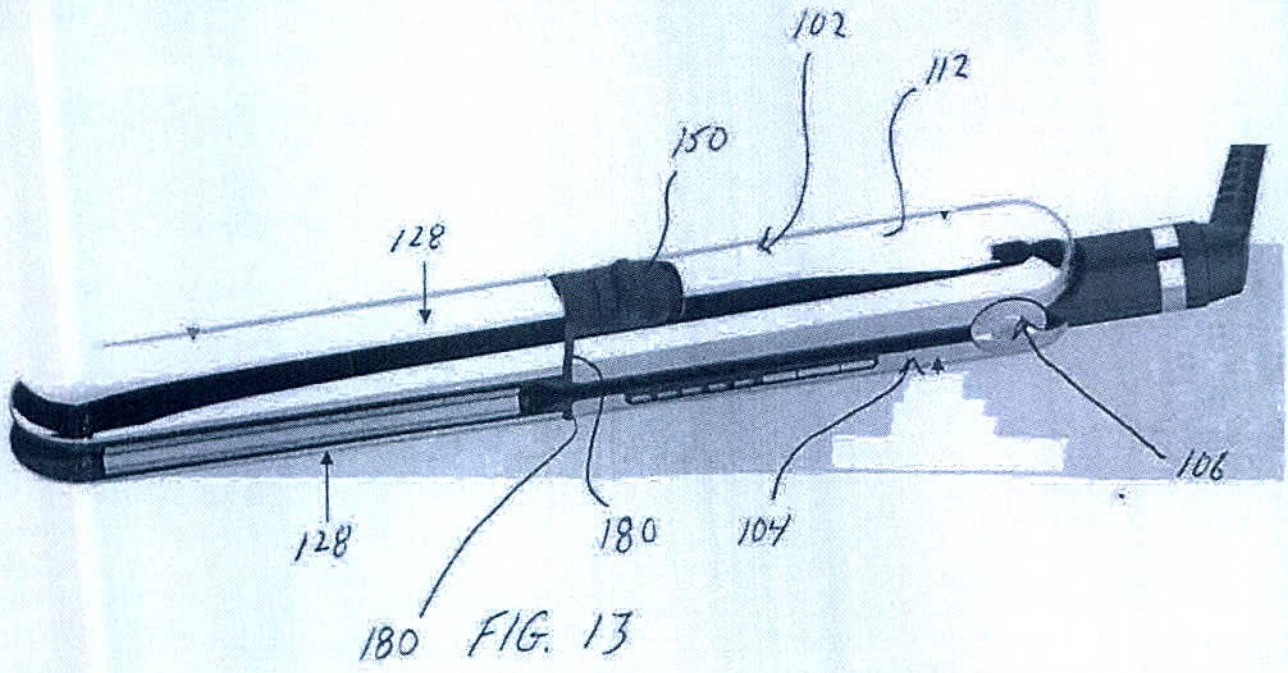
40754 (1327-654)  
(8)  
A



40154 (1327-654)  
(8)  
88

40754(1327-654)  
(8-8)

64



# Anexo 5

## REIVINDICACIONES:

1. Herramienta para peinado, caracterizada porque comprende:
  - Dos miembros (primero y segundo).
  - Un mango y una cabeza de tratamiento en cada miembro.
  - Dos cabezas de tratamiento, con segmento de placa interior.
  - Cada cabeza de tratamiento, incluye un segmento de carcasa interior y un segmento de carcasa exterior.
  - Un mecanismo de calentamiento asociado a los segmentos de placa interiores de los miembros primero y segundo.
  - Un mecanismo para el transporte de energía térmica de los segmentos de placa interior a los segmentos de carcasa exterior de la cabeza de tratamiento.
  - Mecanismos de articulación con soportes.
  
2. Herramienta para peinado, caracterizada según reivindicación 1, porque se compone de segmentos de carcasa exterior del tipo metálico conductor.
  
3. Herramienta para peinado, caracterizada según la reivindicación 1, porque los mangos de los miembros primero y segundo presentan cubiertas del tipo protector de las cabezas de tratamiento térmicamente conductoras.
  
4. Herramienta para peinado, caracterizada según la reivindicación 3, porque incluye un mango del tipo aislante térmico dispuesto entre los mangos y las cabezas de tratamiento de los dos miembros.
  
5. Herramienta para peinado, caracterizada según la reivindicación 1, porque se incluye un componente protector del tipo aislante de la punta, dispuesto de manera adyacente en los extremos exteriores de cada una de dichas cabezas de tratamiento.
  
6. Herramienta para peinado, caracterizada según la reivindicación 1, porque incluye un mecanismo interruptor de bloqueo, ubicado en el primer miembro.

7. Herramienta para peinado, caracterizada según la reivindicación **1**, porque en el primer miembro, se dispone un mecanismo de engranaje o campana de bloqueo y en el segundo miembro se dispone un pasador de bloqueo.

8. Herramienta para peinado, caracterizada según la reivindicación **7**, porque tiene un mecanismo de engranaje o campana de bloqueo de superficies con cavidad posicionadora del pasador de bloqueo.

9. Herramienta para peinado, caracterizada según la reivindicación **1**, porque cada uno de los dichos mecanismos reguladores de calentamiento de dichos miembros primero y segundo, incluyen una primera placa de calentamiento cerámico y un sustrato cerámico con un mecanismo de calentamiento montado en el mismo.

10. Herramienta para peinado, caracterizada según la reivindicación **9**, porque cada uno de dichos mecanismos reguladores de calentamiento de dichos miembros primero y segundo incluyen un segundo sustrato cerámico superpuesto con el primer sustrato cerámico y que tiene un elemento de calentamiento montado en el mismo.

11. Herramienta para peinado, caracterizada según la reivindicación **10**, porque el elemento de calentamiento de cada una de las placas primera y segunda cerámicas incluyen un resistor de alambre.

12. Herramienta para peinado, caracterizada según la reivindicación **11**, porque el resistor de alambre, está impreso en cada una de las placas de sustratos cerámicos.

13. Herramienta para peinado, caracterizada según la reivindicación **11**, en el que dicho resistor de alambre, incluye una pluralidad de segmentos de alambres longitudinales que se extienden a lo largo de un eje longitudinal del primero y segundo miembro y dispuesto en relación lateralmente espaciada.

14. Herramienta para peinado, caracterizada según la reivindicación **1**, porque incluye un mecanismo de pivote de articulación acoplado a los miembros primero y segundo, éste incluye un soporte de articulación cerámico.

15. Herramienta para peinado, caracterizada según las reivindicaciones **1** y **14**, porque en el mecanismo de articulación se incluye conjuntos de primer y segundo soporte de articulación montado sobre el primero y segundo miembro, los soportes de

articulación individuales de cada uno de dichos conjuntos primero y segundo de material cerámico, están montados en los respectivos miembros primero y segundo en relación de contacto.

16. Herramienta para peinado, caracterizada según la reivindicación 1, que comprende un mecanismo pivotante de articulación acoplado a los miembros primero y segundo, éste mecanismo incluye un soporte de articulación cerámico y presenta un elemento de calentamiento relacionado con los miembros primero y segundo.

17. Herramienta para peinado, caracterizada según la reivindicación 16, en el que el mecanismo de articulación incluye un primer soporte de articulación montado en el primer miembro y un segundo soporte de articulación montado en el segundo miembro, los dos soportes de articulación son cerámicos y están en relación de contacto.

18. Herramienta para peinado, caracterizada según la reivindicación 17, en el que el mecanismo de articulación incluye un tercer soporte de articulación montado en el primer miembro y un cuarto soporte de articulación montado en el segundo miembro, dichos soportes de articulación tercero y cuarto cerámicos están en contacto pero separados del primer y segundo soportes de articulación.