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Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))
- with information concerning request for restoration of the right of priority in respect of one or more priority claims (Rules 26bis.3 and 48.2(b)(vii))

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4 July 2013

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Previous Correction:

see Notice of 14 March 2013

(54) Title: INTERACTIVE HAIR GROOMING APPARATUS, SYSTEM, AND METHOD

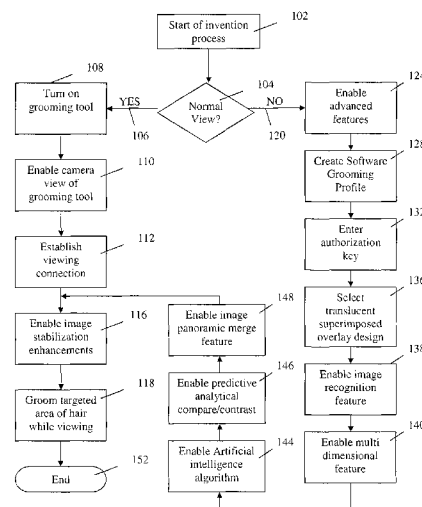


FIG. 1

(57) Abstract: The present invention relates to an intelligent interactive apparatus, system and method that aligns with grooming tools such as hair clippers or trimmers. More particularly, the present invention relates to a hair clipper having an attached imaging apparatus assembly that is linked to a display output device allowing for more intelligent and consistent hair grooming views and overall control. The clipper imaging apparatus assembly of the present invention allows for an intelligent interactive system wherein the method used makes a user capable of a more accurate hair grooming experience. The present invention's system is linked by superimposed hair design overlays, and an interactive imaging apparatus for an improved viewing method. The imaging device enables a more accurate grooming experience using an imaging sensor that intelligently follows a grid mapping axis process using predictive analytics to reduce grooming errors and difficulty.

WO 2013/011380 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB12/01834

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(8) - H04N 7/18 (2013.01)
 USPC - 348/61
 According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
 Minimum documentation searched (classification system followed by classification symbols)
 IPC(8) - H04N 7/18 (2013.01)
 USPC - 348/61 , E07.085

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); DialogPro (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IEEE.org; Google Scholar; KEYWORDS: hair*, trimm*, cutter*, cutting, camera*, computer*, memory, bladeset*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 201 1/0018985 A 1 (ZHU, L) January 27, 201 1; figure 2; paragraphs [0002]-[0004] and [0012]-[0013]	1
A	US 2002/01 19428 A 1 (VITALE, J) August 29, 2002; entire document	1
A	US 2009/0303320 A 1 (DAVIS, R) December 10, 2009; entire document	1

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:
 "A" document defining the general state of the art which is not considered to be of particular relevance
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed
 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
 "&" document member of the same patent family

Date of the actual completion of the international search 03 April 2013 (03.04.2013)	Date of mailing of the international search report 27 APR 2013
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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/IB12/01834

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
See Extra Sheet.

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

-Continued from Box III:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claim 1 is directed toward an image capture device includes at least one sensor and one input component for detecting and recording images, a processor, a memory, a transmitter/receiver, and optionally, a hard wired electrical feed or rechargeable battery, having at least an indicator light for denoting camera activities, all constructed and configured in electronic connection interfaces for viewing targeted hair grooming area using the image capturing device invention as an attachment or hard wired apparatus with the preferred embodiment hair grooming trimmer tool with fixed or exchangeable cutting bladeset heads.

Group II: Claim 2 is directed toward a method for automatic identification of a hair region, comprising the steps of: identifying edges from an original image which includes face and hair regions; storing a direction and length of the lines which form each edge; searching a line bundle in which lines of a same direction are gathered; establishing a color of the line bundle as a hair color; performing line tracing to identify lines having connections to the line bundle and having the hair color; and establishing pixels on the identified lines as the hair region, and applying a superimposed overlay grooming pattern for hair design.

Group III: Claim 3 is directed toward a system and method for displaying 3D data are presented. The method involves transforming a 2D image converting image into a 3D display for grooming hair with the 3D display region divided into two or more display subregions, and assigning a set of display rules to each display subregion.

There are no common technical features shared between Groups I-III, thus Groups I-III lack unity.