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[54] **HAIR STYLING DEVICE**

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[52] **U.S. Cl.** **132/145**

[51] **Int. Cl.** **A45d 24/38**

[58] **Field of Search** ..... 132/145, 45 R, 45 A, 9, 132/7; 128/348; 33/174

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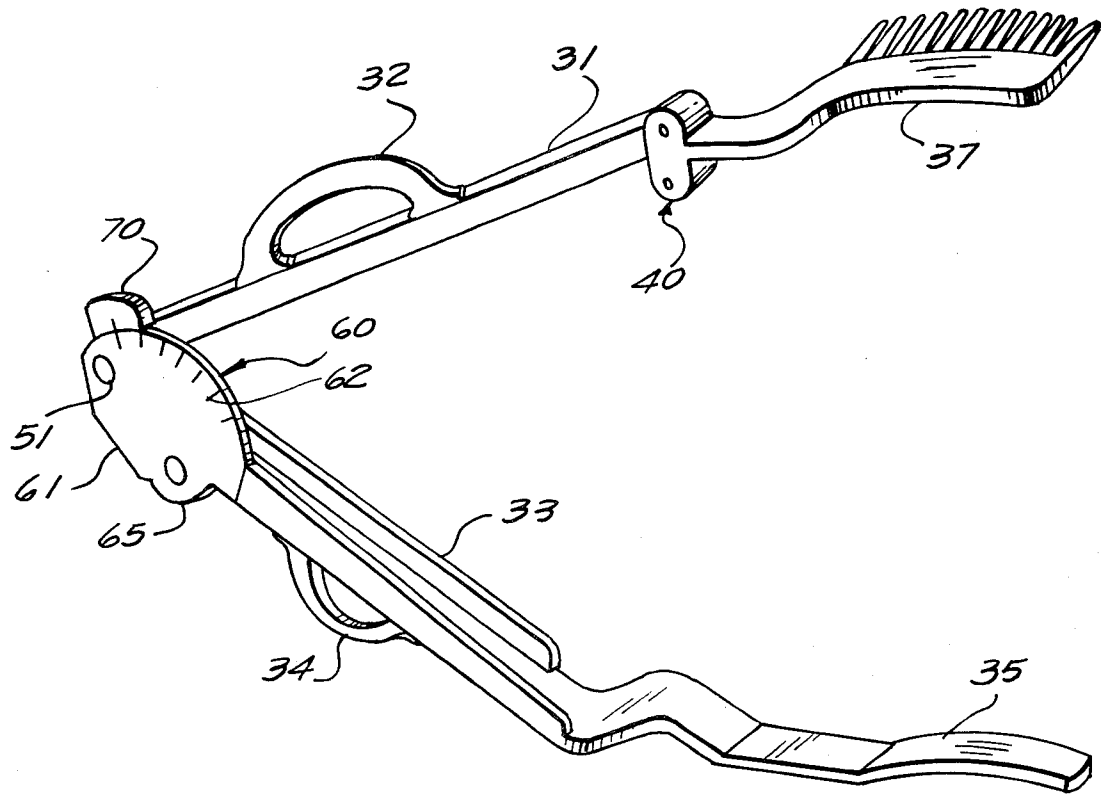
Primary Examiner—G. E. McNeill

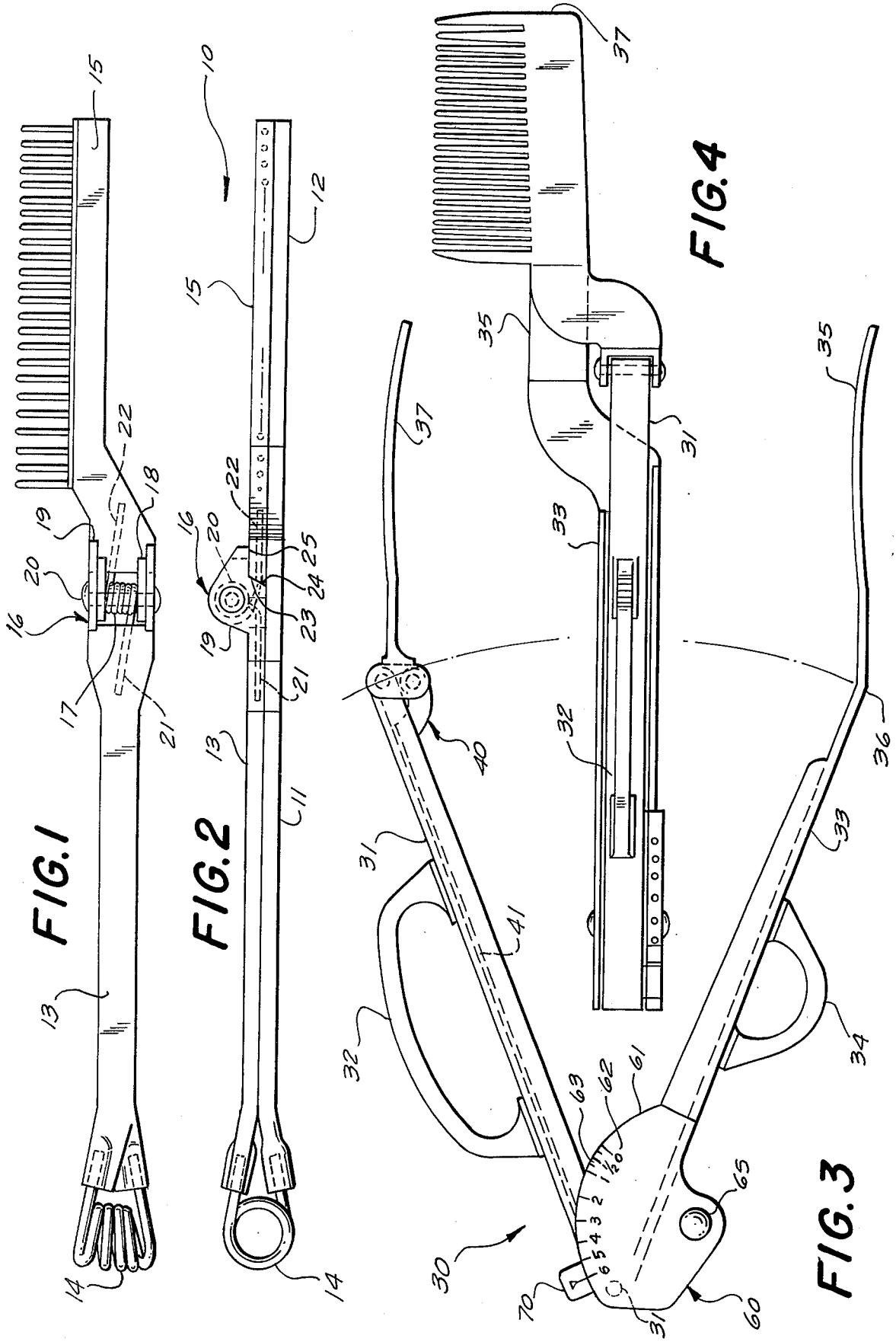
Attorney, Agent, or Firm—Pugh & Laiche

[57] **ABSTRACT**

The present invention provides a novel hair gauging or styling device for cutting hair to a uniform length in an efficacious manner such that even an amateur may perform a good job of hair cutting. The present hair styling device basically comprises elongated inner and outer handle means which are pivotally connected to each other and adapted to fit in the hand of the user whereby they may be accurately manipulated relative to each other in a horizontal plane. The inner handle means is provided at its outer portion with a guide means portion which is adapted to be placed against the head of the person whose hair is to be styled by cutting it a predetermined length. Comb means is provided in combination with the outer portion of the outer handle means and is operably attached thereto whereby it moves in a parallel spaced apart relationship relative to the guide portion of the inner handle means. Specific embodiments are directed to parallel motion linkages for achieving this mode of operation.

4 Claims, 10 Drawing Figures




FIG.1
FIG.2
FIG.3
FIG.4

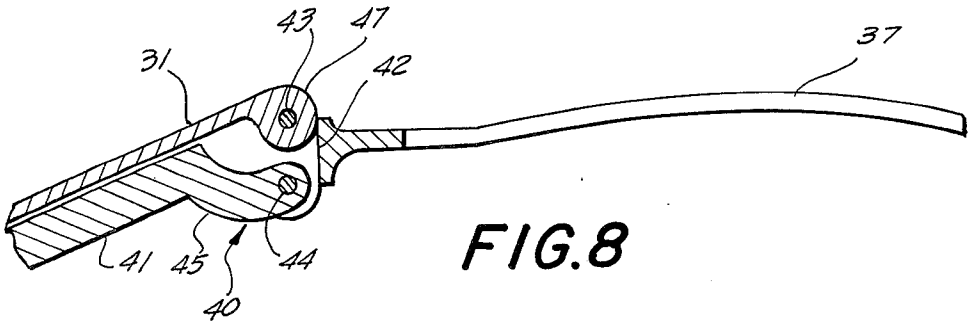


FIG.8

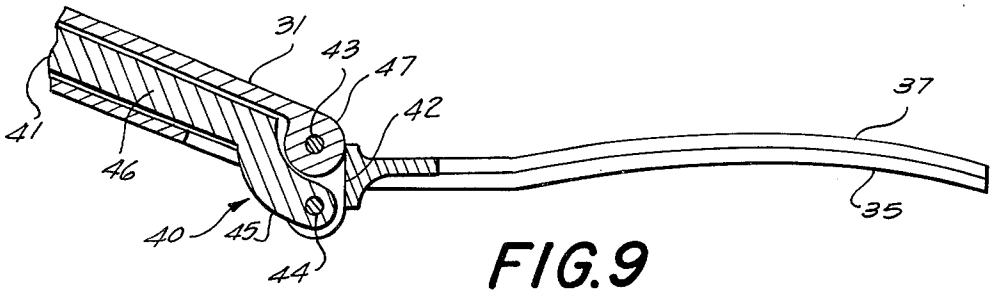


FIG.9

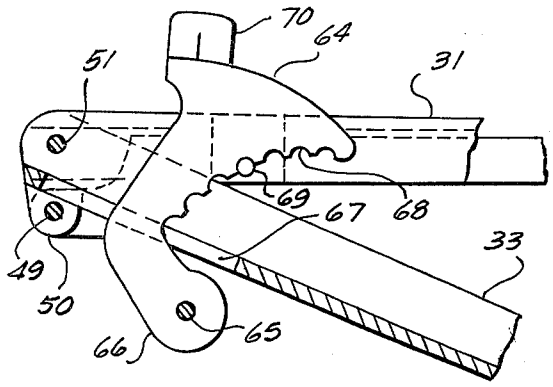


FIG.10

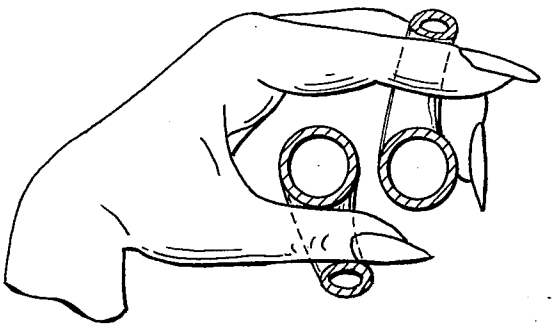


FIG.6

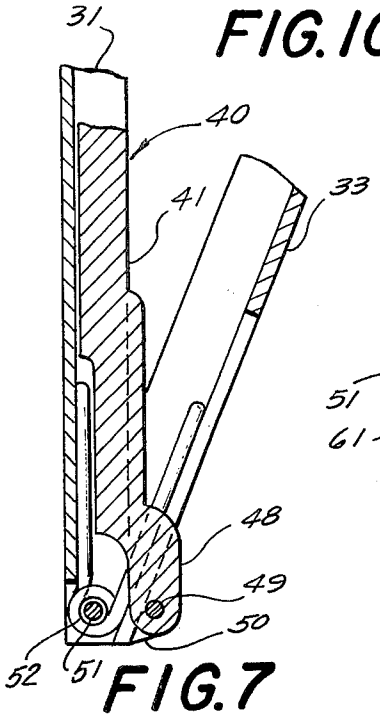


FIG.7

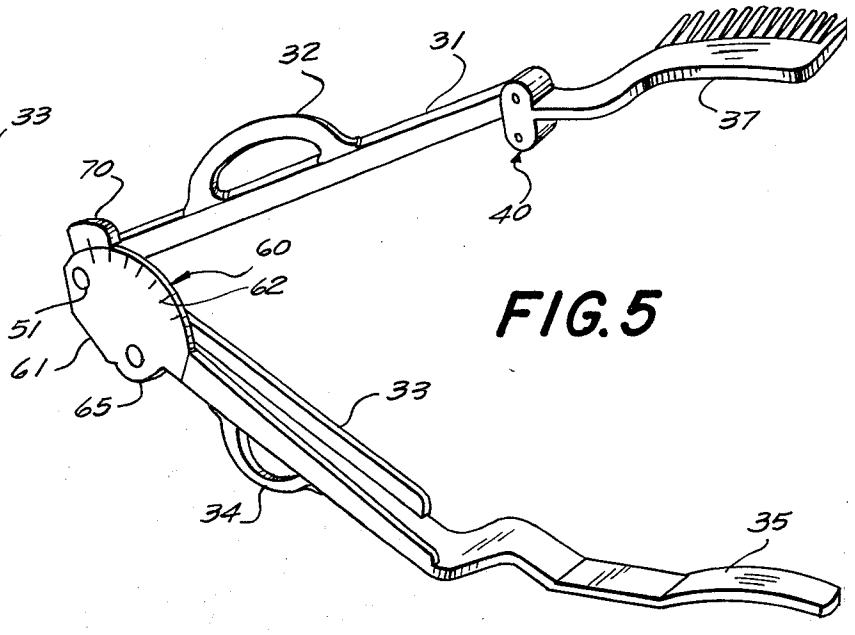


FIG.5

HAIR STYLING DEVICE

BACKGROUND OF THE INVENTION

Long hair is very much in style today and one particular coiffure that is especially popular is that known as the "shag" cut. That particular coiffure, as well as variations thereof, requires that the hair of the person be cut of equal lengths, both from side to side, as well as from top to bottom of the head of the person. An experienced hair stylist can fairly accurately estimate or gauge the length of the party's hair using a conventional comb and scissors in the customary manner of combing the hair up and holding the comb out away from the party's head the selected distance. This procedure is repeated over the head of the person such that essentially all of the hair is cut the same length to produce what is referred to as a shag cut.

Needless to say, it is difficult even for an experienced hair stylist to guess or accurately cut a party's hair a constant length, especially when the press of business requires the hair dresser to perform such tasks quickly. Moreover, it is common practice among young people today to style their own hair, and accordingly, it is even more difficult for such amateurs to accurately cut hair a constant length utilizing conventional barber tools.

Numerous devices have been made to accomplish the purpose of the present invention. Such devices generally comprise a pair of opposing combs which are operably connected so that they move apart in a parallel relationship. However, the prior art devices are generally characterized as being expensive to manufacture thus imposing an economic disadvantage, and/or are bulky and difficult to handle, generally requiring that they be held in a vertical position. The latter feature is especially undesirable when attempting to cut hair on the lower part of the party's head in the neck region whereby it becomes difficult to properly manipulate such prior art devices.

An object of the present invention is to not only provide a hair styling device for cutting hair a constant length, which device is characterized by a simplicity of design, hence offering an economic advantage, but additionally, that which can be employed in a much more efficacious manner whereby a hair stylist can perform his tasks much faster and more accurately.

Among the distinct advantages and features of the present invention is not only the accomplishment of the above objectives, but additionally the provision of a hair styling device which is particularly adapted for home or domestic use by a party unskilled or inexperienced in the barbering arts whereby said party can cut hair of a proper or constant length, especially without nicked or gouged places occurring due to cutting hair to too short of a lenth as normally experienced by ameteurs when utilizing conventional barber tools in attempting a shag cut.

DESCRIPTION OF THE DRAWINGS

FIG. 1 in the drawings depicts a front elevational view of a rudimentary embodiment of the present invention taken with respect to the plane in which the present device is normally held in the hand of the user.

FIG. 2 in the drawings depicts a side elevational view of the present device as illustrated in FIG. 1, which view would be considered the bottom of the present device as viewed from the position normally held in the hand of the user.

FIG. 3 represents a plan view of a preferred embodiment of the present hair styling device showing it reposed in a plane of normal use.

FIG. 4 depicts a front elevational view of the embodiment of FIG. 3.

FIG. 5 represents an isometric view of the preferred embodiment of the present device as illustrated in FIGS. 3 and 4.

FIG. 6 illustrates a side elevation cut-away view of another embodiment of the present device showing how it is gripped in the hand of the user, the device being cut-away across the grips provided on the handles as shown in FIGS. 3, 4 and 5.

FIG. 7 in the drawings depicts an isolated fragmentary view of the handle means of another embodiment of the present hair styling device showing how they are pivotally connected together with a parallel motion linkage mechanism (see also FIGS. 8, 9 and 10) whereby the combs means of the outer handle means and the guide portion of the inner handle means are maintained in a parallel spaced apart relationship, the parts illustrated being in section taken along a horizontal plane bisecting the handle means of the present hair styling device.

FIG. 8 is a fragmentary isolated plan view showing a section of the outer handle means and comb means as to how they are pivotally connected, a section being taken essentially along the vertical center-line of the inner handle means.

FIG. 9 depicts a similar view as embodied in FIG. 8 of the drawings with the addition of illustrating the guide portion of the inner handle means showing its position relative to the comb means that are connected to the outer handle means.

FIG. 10 represents an isolated fragmentary view of the handle locking mechanism with the handle width scale portion of the outer handle means cut-away.

DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 in the drawing depicts a rudimentary embodiment of the present hair gauging means 10 which basically comprises the elongated inner handle means or grip which is provided with the extended guide portion 12. The elongated outer handle means or grip 13 is pivotally connected to the inner handle means 11 by suitable means such as the spring means 14. In the embodiment of FIGS. 1 and 2, the spring means is operable attached to the handle means 11 and 13 by being rigidly imbedded within, for example, by forming the members 11 and 13 of some suitable plastic or metal which in turn is cast with the extended end portions of the spring means 14 being embedded therein. Other suitable modes of pivotally connecting the members can be employed, such as by connecting the members together via a shaft or pin as employed in a conventional pair of scissors.

The outer handle means 13 is operably connected to the comb means 15 by virtue of the spring loaded hinge means 16. The hinge assembly 16 comprises the helical spring 17 which is operably positioned and held in place between the raised portions 18 affixed or made integral with the comb portion 15. In turn, the raised portions or trunnions 19 are provided on the outer handle portion 13 and are spaced apart so as to receive and confine therebetween the raised portions or trunnions of the comb means 15. The raised portions 18 and 19

are formed to receive the pin means **20** so as to form a hinged assembly whereby the comb means **15** rotates or pivots with respect to the outer handle means **13** around the longitudinal axis of the pin means **20** which serves as a fulcrum. The ends **21** and **22** of the helical spring **17** are affixed to, preferrably by imbedding therein, the respective outer handle means **13** and the comb means **15,** the tension in the spring **17** being defined such that the comb means **15** is constantly urged vertically downwards (relative to the plan view shown in FIG. **1**). This arcuate downward reflecton of the comb means **15** is controlled through a relatively small angle, that is, the comb means **15** is designed such that it will only swing through an arcuate path of no more than 30°. Conversely, the outer handle means **11** and the inner handle means **13** during the normal use of the present gauging device would only open relative to each other over an arcuate path of generally not more than 45° deflection. Of course, the maximum angle of deflection defining those members would entirely be governed by the average physical dimensions of the human hand taking into consideration the convenience of use to the user in not having to hold the present gauging device in a very expanded position, which otherwise would make it awkward and clumbsy to use. The extent of downward deflection of the comb means **15** is predetermined and fixed depending upon the other relative dimensions of the present device. Normally, the comb means **15** is operated over a distance from about 3 to 6 inches away from the guide portion **12** of the inner handle means **11.** Accordingly, the outward deflection of the comb means **15** is predetermined such that over the arcuate path defined by those spaced apart dimensions, it would thereby be set such that the comb means **15** and the guide portion **12** remain essentially parallel. It is to be further noted that the desired operating distance between these members for a given angle of deflection between the handle portions **11** and **13** can be regulated by making the handle portions between the springs **14** and **17** either shorter or longer. Thus, for a very wide spacing desired between the comb means **15** and the guide portion **12,** without vastly increasing the angle of deflection between the handles **11** and **13** so as to make it difficult for the user to grasp the present gauging device, the handle portions **11** and **13** would be made relatively long. For easy use, it is envisioned that a barber or hair stylist would probably have on hand two or three of the present devices, each having different handle lengths whereby a wide range of hair lengths can be gauged without destroying the convenience and effectiveness of the present device.

The extent of downward deflection of the comb means **15** is fixed by virtue of the beveled abutment portion or boss **23** provided on the underside of the extended portions **19.** Thus, the comb means **15** will be urged downwards by virtue of the helical spring means **17** until such time that the edge **24** comes into contact and rests upon the surface of the beveled portion or abutment **23** of the support portions **19.** Consequently, the comb means **15** will be allowed to move between the surface of the beveled portion **23** and the bottom surface **25** of the extended portions **19** as shown in FIG. **2.**

FIGS. **3** and **4** in the drawings depicts an especially preferred embodiment of the present invention, the guaging device **30** comprising the outer elongated handle means **31** which is provided with the grip portion **32** adapted to receive the first two or three fingers of the hand of the user. The elongated handle means **33** in turn is provided with the grip portion **34** which is generally adapted to receive the thumb of the hand of the user. The inner handle means **33** is provided with the guide portion **35** which is slightly curved so as to conform to the normal curvature of the head of the person whose hair is being cut. Additionally, the guide portion **35** is oriented in a skew position relative to the handle portion **33.** Generally, the guide portion **35** is positioned inwards toward the opposing portion **31** so as to define an angle of up to about 30° taken with respect to the longitudinal axis of the inner handle means **33.** This is accomplished by bending the handle portion **35** about the point **36** of the inner handle portion **33,** such relationship being salient for the reasons set forth below.

The comb means **37** is attached to the elongated outer handle **31** by virtue of the parallel motion linkage assembly **40** as described in detail below.

Referring simultaneously to FIGS. **3, 7, 8, 9,** and **10,** the parallel linkage assembly **40** comprises the elongated reciprocating linkage **41** which extends on the inner side of the elongated outer handle member **31** being pivoted at its inner end to the opposing inner handle means **33** and at its outer end to the comb means **37,** as particularly shown in FIGS. **7** and **8,** respectively. The comb means **37** as shown in FIG. **8,** for example, is provided with the lateral connecting portion or saddle **42** which is positioned essentially perpendicular to the center line of the longitudinal center line of the comb means **37.** The saddle portion **42** is provided with the two spaced apart pin members **43** and **44,** the common center line connecting said pin members being essentially perpendicular to the axis of said comb means **37.** The outer handle means **31** is pivotally connected to the outer pin member **43** which serves as a fulcrum and conversely, the elongated reciprocating parallel link or rod **41** is pivotally connected to the inner pin member or pintle **44** by virtue of the parallel link **41** being provided with the arcuate portion or gudgeon **45** at its outer end which also allows the central portion of the member **41** to nestle within the outer handle member **31.** Referring to FIGS. **8** and **9,** it can thus be visualized that as the parallel link **41** is moved outward from its position shown in FIG. **8** towards the comb means **37,** the latter is caused to move in a counterclockwise direction relative to the outer handle member **31.** However, since the inner end of the parellel link **41** is in reality restrained by virtue of its connection to the inner handle means **33,** in effect, the outer handle means **31** actually reciprocates relative to the connecting link **41.** That is, as the handle **31** is rotated downwards, the enlarged end portion **41** of the handle means **31** is caused to nestle within the concave side of the curved portion **35** of the parallel link **41.** In such fashion, as the members **31** and **41** are deflected through an arcuate path and allowed to reciprocate relative to each other, the net result is the constant maintainance of the comb means **37** in a plane which would be parallel to any of its previous planes of repose, specifically to that of the guide portion **35** of the inner handle member **33** as explained in further detail hereinafter.

The inner end of the connecting parallel link **41** is also provided with the offset portion **48** which is bored

at its end to receive the connecting pin **49**. The pin **49** is rigidly fixed to the enlarged portion or boss **50** of the inner handle means **33**. As further shown in FIG. **7**, the inner handle means **33** is pivotedly connected to the outer handle means **31** by virtue of the anchor pin member **51** which is rigidly fixed to the inner handle means **33**. The outer handle means **31** in turn is provided with the journalled portion **52** bored to receive said pin member **51** whereby the handle members **31** and **33** can be made to pivot relative to each other about the longitudinal axis of the pin **51**. It can now be appreciated that from the structural arrangements depicted in FIGS. **7**, **8** and **9** of the drawings, that as the handle members **31** and **33** are pivoted relative to each other about the common restraining pin member **51** which serves as a fulcrum, that the parallel linkage **41** and the outer handle member **31** are caused to reciprocate relative to each other by virtue of the fact that as, for example, the handles are opened or spread apart, the pin **49** fixed to the handle **33** is caused to rotate relative to the pin member **51** in a clockwise direction thereby moving the connecting link **41** downward (see FIG. **7**). As the link **41** moves or reciprocates inwards away from the comb member **37**, the latter is maintained in a parallel spaced apart relationship relative to the guide portion **35** pursuant to the mode of operation as described supra relative to FIGS. **8** and **9**.

The preferred embodiment of FIGS. **3** and **4** further comprises the guage width indicator **60**. The indicator **60** further comprises the dial face **61** which in turn is provided with the series of indices **62** which are positioned over the arcuate edge **63** of the dial face **61** to indicate the width between the guide **35** and the comb means **37**, that is, their relative spacing apart in terms of inches. The dial face **61** is rigidly attached to or made integral with the inner handle member **3**.

The guage width indicating means **60** further comprises the latch plate or member **64** which is pivotally connected to the rear dial face **61** by virtue of the connecting pin means **65**, the latch member **64** being provided with the extended portion **66** bored to receive the pin member **65**. The inner elongated handle member **33** is also provided with the cut out portion **67** which is of sufficient length to allow the latch member **64** to reciprocate forward or backward about the longitudinal axis of the connecting pin member **65**. The latch member is also provided with the series of grooves or notches **68**. The outer elongated handle member **31** in turn is provided with the anchor pin member **69** which is rigidly attached to the handle **31** and which serves as a means of fixing the elongated handle members **31** and **33** in a predetermined desired spaced apart relationship as indicated by the reading on the dial face upon matching the indicator portion **70** therewith, the indicator portion **70** being made integral with the latch member **64**. The space indices or readings **62** provided on the face dial **61** are positioned relative to the positions of the notches **68** provided in the latch **64**, the position of which in turn is dependent upon the specific opening between the guide **35** and the comb means **37** at a specific setting. For a given size of hair guage, the relative dimensions of those components are fixed when once determined.

As shown in FIGS. **3** and **5**, the pin means **51** shown in detail in FIGS. **7** and **10** is operably attached or anchored to the guage width indicating means **60**, specifically the dial face **61** thereof.

FIG. **5** in the drawing depicts an isolated view of the preferred embodiment of FIGS. **3**, **4**, **7**, **8**, **9** and **10**, and it can be appreciated therefrom that as the handle members **31** and **33**, for example, are moved toward each other then the guide member **35** and comb **37** will remain essentially parallel to each other by virtue of the parallel linkage mechanism described above and after being spaced in a predetermined desired spaced apart relationship, then locked into position by virtue of the guage width latching assembly **60**.

It will be apparent to one skilled in the art that various changes and modifications can be made in the above device as well as in its mode of operation without departing from the true scope and spirit of the present invention. For example, the tubular construction as shown in FIG. **6** can be employed instead of the conformed shaped members as described above relative to the preferred embodiments of FIG. **3** and **4**. Moreover, the latching mechanism **60** can be varied considerably in detail without changing its basic function. The shape of the comb member and the guide means **35** can also be varied to achieve various different advantages in the specific present device. The relative length and proportions of the various members can be varied considerably, as well as its materials of construction. The various spring means and other means by which the various components of the present invention are operated relative to each other can be varied as well as the specific construction of the present hair gauging device as illustrated without changing the essence of the present invention. In light of the above, it is thus apparent to one skilled in the art that many modifications can be made in the instant invention and that what I intend to incompass within the ambit of my invention is that as set forth and particularly pointed out in the appended claims.

I claim:

1. Hair styling means comprising in combination:

a. elongated inner handle means having an extended guide portion;

b. elongated outer handle means pivotally connected to said inner handle means; and

c. comb means having a plurality of teeth pivotally connected to said outer handle means such that both of said means are disposed in an essentially horizontal plane when the teeth of said comb means are vertically oriented, said comb means being further defined as comprising comb positioning means whereby said comb means is maintained in an essentially parallel relationship with the guide portion of said inner handle means.

2. The hair styling means of claim **1** further characterized in that:

d. said elongated outer handle means is pivotally connected to said inner handle means by spring means rigidly affixed to both of said handle means whereby said handle means are constantly urged apart from each other; and

said comb means having a plurality of teeth is pivotally connected to said outer handle by connector means comprising spring means whereby said comb means is constantly urged toward said extended guide portion of said elongated inner handle means, said elongated outer handle means and said comb means being further defined in that the arcuate path of travel of said comb means is restricted through a relatively narrow angle whereby when said elongated outer handle means is pivoted

away from said elongated inner handle means, said comb means will be maintained in an essentially parallel relationship to the guide portion of said elongated inner handle means when said handle means are moved apart relative to each other over an arcuate distance of up to about 60° as defined and manipulated by the hand of the user.

3. The hair styling means of claim **1** further characterized in that:

said elongated inner handle means and said elongated outer handle means are pivotally connected to each other by pin means, said handle means being journaled to receive said pin means so as to form in combination a hinge means assembly whereby said members are allowed to arcuately move relative to each other in a horizontal plane and such that said comb means is maintained in an essentially vertical position;

said elongated outer handle means also being further defined in that its end connected to said inner handle means is provided with an extended journaled portion extending in a direction essentially perpendicular to the longitudinal center line of said elongated outer handle means along essentially the same center line of said pin means;

said comb means also being further defined in that it is pivotally connected to said outer handle means by pin means, said outer handle means and said comb means being bored to receive said pin means so as to form a hinge assembly whereby said outer handle means and said comb means can arcuately rotate relative to each other in a horizontal plane when the teeth of said comb means are oriented in an essentially vertical direction, said comb means also being further defined in that it is provided with an extended portion at its end pivotally connected to said outer handle means and which extends in an essentially perpendicular direction to the longitudinal axis of said comb means along esssentially the same common center line of said pin means connected to said comb means and said outer handle means, the extended portion of said comb means being located on the same side of the extended portion of said outer handle means whereby the center line distance between the bored extended portion of said comb means and the bored extended portion of said outer handle means is essentially equal to the center line distance between the pin bore hole provided in said outer handle means for connecting said handle means together and the pin bore hole provided in the outer handle means where it is pivotally connected to said handle means together and the pin bore hole provided in the outer handle means where it is pivotally connected to said comb means; and

elongated connecting link means adapted to be pivotally connected to the extended portion of said outer handle means and the extended portion of said comb means so as to form in combination with said outer handle means and said comb means a parallel motion linkage such that said comb means when moved in a horizontal plante to and fro from the extended guide portion of said inner handle means will accordingly be maintained in an essentially parallel spaced apart relationship as said outer handle means and said handle means are arcuately manipulated relative to each other in the course of cutting hair extending through said comb means which is to be cut a pre-determined length as regulated by the operator in the manner set forth above.

4. The hair styling means of claim **1** further characterized in that the extended guide portion of said elongated inner handle means is slightly curved so as to somewhat conform to the head of the person whose hair is to be styled; and

said comb means having a plurality of teeth is also slightly curved so as to mate with the extended guide portion of said elongated inner handle means when said members are operably positioned adjacent each other in a closed relationship.

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