United States Patent

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[54] HAIR COMB WITH ADJUSTABLY TAPERED TEETH

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[52] **U.S. Cl.** .....**132/129**, 132/11, 132/45 A

[51] **Int. Cl.** **A45d 24/36**

[58] **Field of Search**.....132/129, 142, 11, 45 A, 45 R

[56] **References Cited**

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Primary Examiner—Russell R. Kinsey

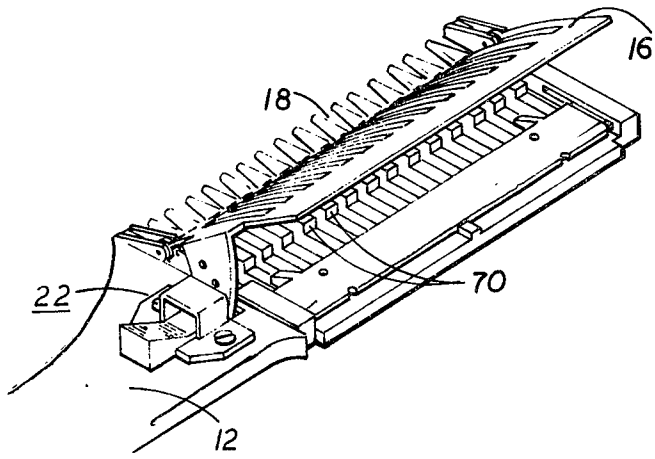
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[57] **ABSTRACT**

A comb having combination teeth in which two sets of teeth are congruently pivoted adjacent their free ends to swing angularly about said pivot to adjustably vary the taper of said combination teeth, and a bar slidably mounted intermediate said sets of teeth for varying the effective lengths of said teeth directly with said adjustable taper.

7 Claims, 8 Drawing Figures



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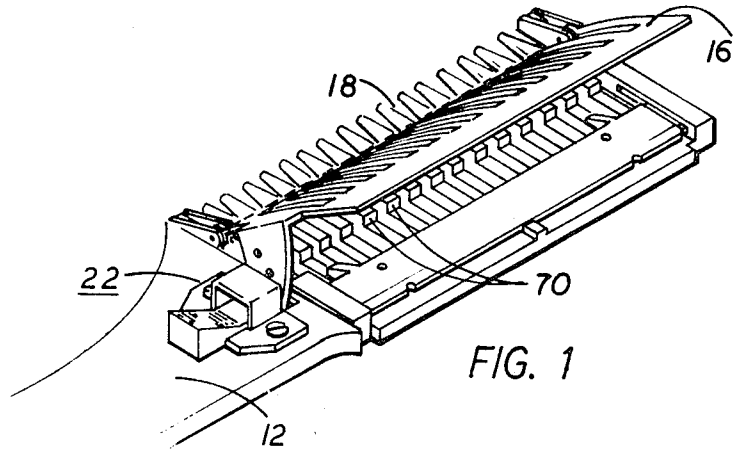


FIG. 1

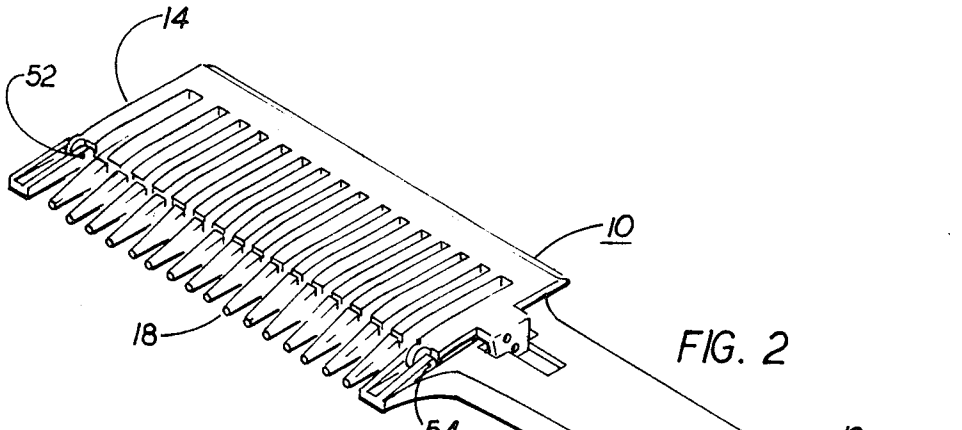


FIG. 2

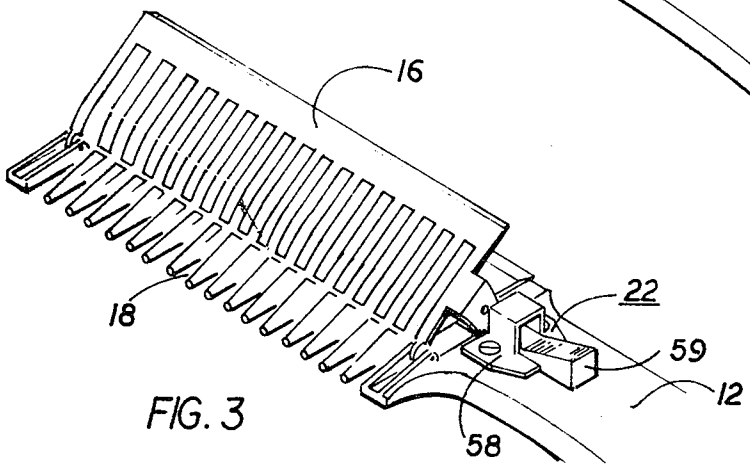


FIG. 3

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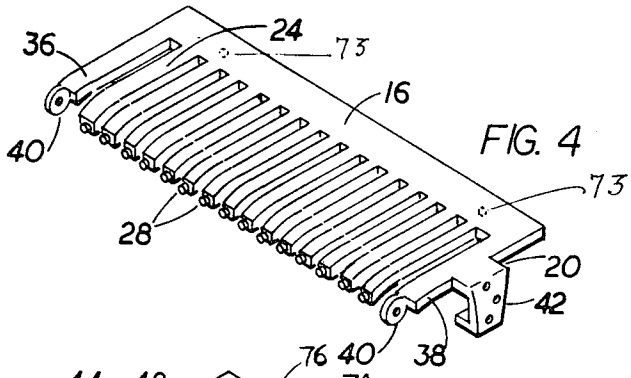


FIG. 4

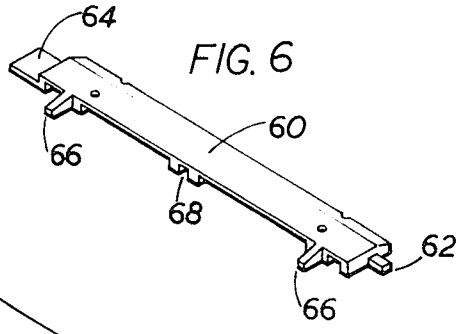


FIG. 6

FIG. 5

FIG. 7

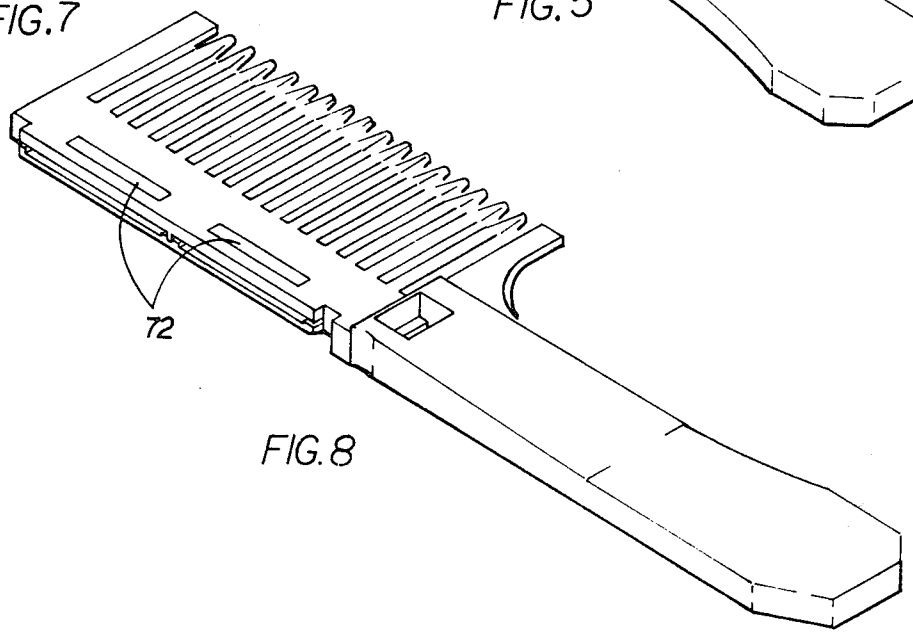


FIG. 8

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HAIR COMB WITH ADJUSTABLY TAPERED TEETH

The invention relates to a comb for cutting hair and more particularly to a comb having tapered teeth that can be adjustably varied in taper and effective length.

Combs with tapered teeth are used as a gauge to cut hair to certain lengths. Heretofore, a plurality of combs, each with a different taper for a different length were required.

It is an object of the invention to provide a comb with teeth, the taper of which can be varied in accordance with the length to which the hair is to be cut, and the effective length of said teeth can be varied with the taper.

Other objects and a fuller understanding of the invention can be had by referring to the following description and claims, and the drawings in which:

FIG. 1 is an isometric view of the invention showing position of combination teeth pivoted to full taper position,

FIG. 2 is an isometric view of the pivoted side of the invention in position of least taper,

FIG. 3 is similar to FIG. 1 from another point of view,

FIG. 4 is an isometric view of the pivoting set of teeth,

FIG. 5 is an isometric view of the other set of teeth with sliding bar,

FIG. 6 is an isometric view of the sliding bar,

FIG. 7 is an isometric view of a section taken along section line 6—6 of FIG. 5, and

FIG. 8 is an isometric view of the reverse side of matter shown in FIG. 5.

Referring to FIGS. 1–3, the invention comprises a comb **10** having a handle **12** and a combination set of teeth **14**. The combination set of teeth comprises a first set **16** that is pivoted to a second set **18** that is integral with the handle **12**. The sets of teeth are pivoted near the free ends of the teeth and are arranged congruently to pivot to increase and decrease the taper of combination **14**. An arm **20**, integral with the first set of teeth **16**, is adjustably engaged by a catch **22** fixed to the handle **12** and secures the relative positions of the respective sets for the desired combination taper.

Referring to FIGS. 4–8, the teeth **24** are shorter than the teeth **26** of the first and second sets respectively. Teeth **24** terminate at their free ends in rounded projections **28** respectively. Teeth **26** taper outwardly from pointed free ends **30** and are cut back adjacent said free ends to from first abutments **32**. Holes **34** are defined in the first abutments **32** that are adapted to loosely receive projections **28**. The first tooth **36** and the last tooth **38** of the first set **16** are different in designation and structure from each other and the teeth **24**. Both terminate in annular projections **40** having the same longitudinal axis, and last tooth **38** is integal with the arm **20** that extends normal thereto but longitudinally offset therefrom. The normal element **42** of the arm **20** defines three holes in arcuate relation for registering with the catch **22**.

The first tooth **44** and the last tooth **46** of the second set **18** are also different in designation and structure from the other teeth **30**. They are wider and have spaced-apart side flanges **48** that are tapered outwardly similar to the taper of teeth **30**, the flanges **48** defining holes **50** having centers on the same longitudinal axis. The first tooth **36** and the last tooth **38** of the first set of teeth **16** are adapted to respectively abut the spaced-apart flanges **48** of the first tooth **44** and the last tooth **46** of the second set of teeth **18**, and with the annular projections **40** extending between said flanges for the annular holes to register with the flange holes **50**. Pins **52** and **54** (see FIG. **2**) secure the two sets of teeth pivotally together in congruent relationship, since the depth of the abutments **32** are the same as the thickness of the teeth of the first set **16** and tooth alignment is maintained by the cooperation of the projections **28** and holes **34** in addition to the pivotal attachment. The arm **20** projects through a hole **56** defined in the handle **12**. The catch **22** comprises a housing **58** which is secured to the handle adjacent the hole **56**. A finger-operated sliding element **59** is operatively mounted in the housing and has a projection (not shown) for engaging in any one of the arcuately arranged holes in the normal element **42** of the arm **20**. A spring (not shown) biases the sliding element in the direction of engagement.

Referring to FIGS. **5** and **6** a bar **60** having end flanges **62** and **64** and male guide flanges **66**, and female guide flanges **68** is slidably mounted between the two sets of teeth **16** and **18**. First tooth **44** and last tooth **46** of second set **18** are recessed adjacent the closed end of the teeth to receive the end flanges **62** and **64**. Teeth **30** are cut back to form second abutments **70** between the first abutments **32** and the closed end of the second set of teeth **18**. The bar **60** is free to slide toward the free ends of the combination teeth **14** as far as the second abutments **70**, guided by the spaced-apart guides **66** and **68** over and between portions of teeth **30** between the abutments to prevent jamming, the bar sliding to its limit downward toward the teeth when the taper is least to reduce the effective length of the teeth of the combination. The bar is made of magnetic material or has magnetic inserts to cooperate with magnetic inserts **72** mounted adjacent the closed ends of teeth **30**. When the first set of teeth **16** is pivoted to the position of greatest taper, a slight upward flip of the comb cause the bar **60** to slide upward and held magnetically beyond the closed ends of the teeth **30** to increase the effective length of the teeth **30** to a maximum for use with the greatest taper.

To keep the hair from pushing the bar **60** back from its forward position, two projections **73** (FIG. **4**) on the underside of the first set of teeth **16** register with notches **74** in the bar **60**. When the bar **60** is in its upper position and the two sets of teeth are closed in the position of least taper of the teeth, the projections extend into holes **76** to allow full closure of the sets of teeth. However in use, when the two sets of teeth are closed the bar **60** is held in its lower or forward position as just explained.

What is claimed is:

1. A hair comb with teeth adjustable in taper and length for cutting hair selected lengths comprising: a first comb set of teeth having closed and free ends; a second comb set of teeth having closed and free ends, said second comb set of teeth being similar in number, spacing and width to the teeth of said first comb set, but defining first abutments facing oppositely from its said free ends on all said teeth; reciprocal pivotally engaging means integral with the free ends of said first comb set of teeth and communicable with said first abutments of said second comb set of teeth and adapted to cooperate to pivot the first comb set with respect to the second with the teeth of both sets congruent for changing the taper of the combination comb teeth; and means for locking the first and second comb sets of teeth in pivotal relationship at the desired taper of the combination comb.

2. A hair comb as described in claim **1** wherein means for varying the effective length of the combination comb teeth is slidably mounted between said first and second comb sets and intermediate the reciprocal pivotally engaging means and the closed ends of the respective comb sets of teeth.

3. A hair comb as described in claim **1** wherein said reciprocal pivotally engaging means comprises: rounded projects extending longitudinally from the free ends of the first set of teeth between the first and last teeth of said first comb set of teeth, and projecting annular members on the respective free ends of said first and last teeth, and said first abutments of the second comb set of teeth defining holes adapted to receive said rounded projections on the congruent teeth of said first comb set; flanges integral with the first and last teeth of said second comb set of teeth and respectively adapted to receive said projecting annular members therebetween, said flanges defining holes adapted to register with the annular holes of said annular members, said holes being normal to the holes defined in said first abutments; and pivot pins adapted to engage in said flange and annular member holes for securing the first and second comb sets of teeth in operational relation.

4. A hair comb as described in claim **1** wherein said means for locking the first and second comb sets comprise: an arm integral with and normal to said first comb set of teeth; and a catch means adapted to releasably engage said arm mounted on said second comb set of teeth.

5. A hair comb as described in claim **2** wherein said means for varying the effective length of the combination comb teeth

comprises: a bar having side flanges for slidably engaging the first and last teeth of said second comb set of teeth and guide means for engaging with and between teeth intermediate said first and last teeth; and a second abutment defined in said second comb set of teeth intermediate said first abutment and the closed ends of said teeth behind which said bar is slidable; means for holding said bar clear of said teeth mounted on the closed ends of said second comb set of teeth; and means for holding said bar in the forward position against the pull of hair.

6. A hair comb as described in claim 5 wherein said means for holding the bar clear of said teeth comprises: magnetic inserts in the bar and in the closed ends of said second comb set of teeth whereby a slight upward flip of the hair comb magnetically holds the bar clear of the teeth when the taper of the combination teeth is greatest.

7. A hair comb as described in claim 5 wherein said means for holding said bar in forward position comprises: inwardly extending projections positioned on the closed ends of said first set of teeth adjacent their respective ends; said bar defining notches adapted to register with said inwardly extending projects when said bar is in said forward position, said bar also defining holes adapted to receive said projections when said bar is in alignment with the closed ends of the restive comb sets of teeth thereby allowing the closing of said comb sets of teeth to minimum taper.

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