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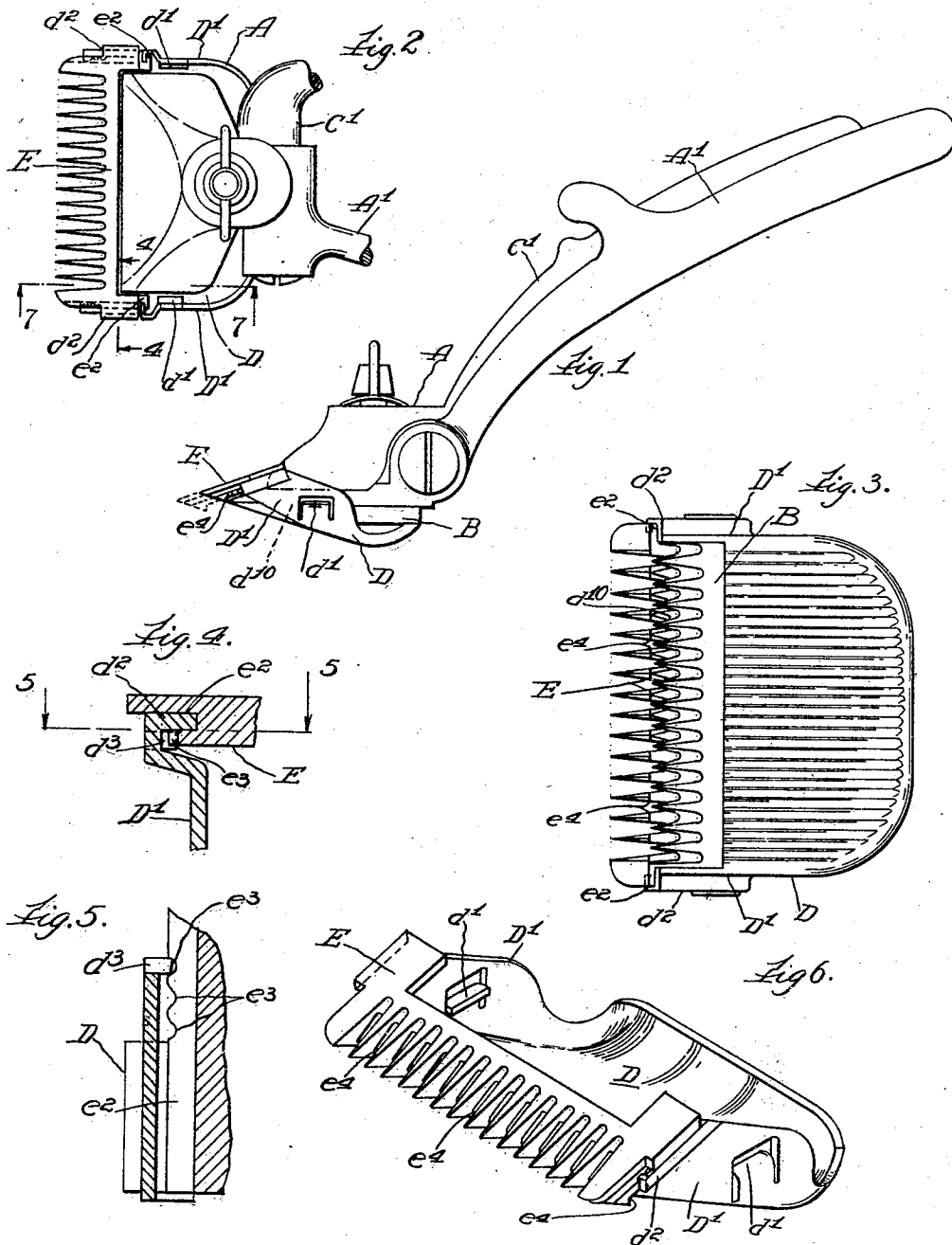
M. W. McARDLE ET AL

1,753,750

HAIR CLIPPER

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2 Sheets-Sheet 1



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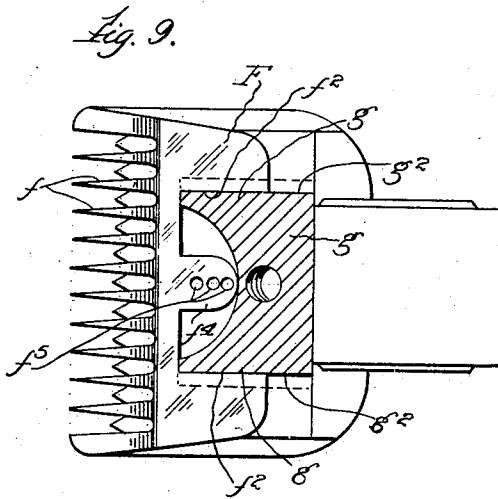
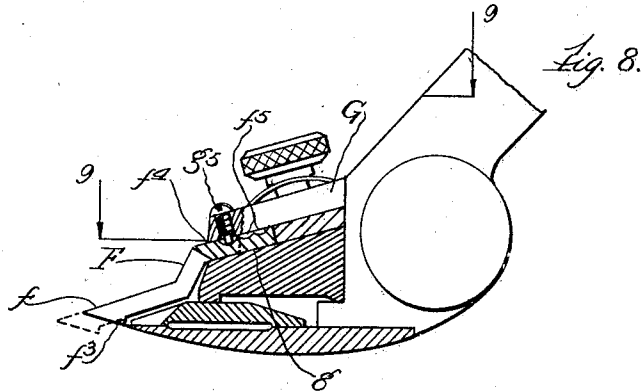
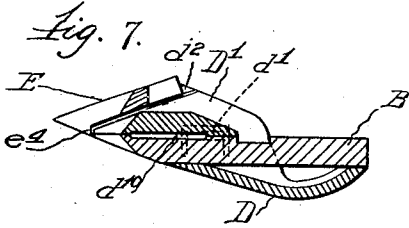
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HAIR CLIPPER

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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HAIR CLIPPER

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The purpose of this invention is to provide an improved device for barbers' use in trimming customers' hair particularly adapted for graduating the closeness of the cut, from the shortest possible to a substantial length, without the necessity for using comb and shears, but by varying the tilt of the clipper as it is advanced over the head. The invention consists in the elements and features of construction shown and described as indicated in the claims.

In the drawings:

Figure 1 is a side elevation of a hair clipper equipped with this invention.

Figure 2 is a top plan view of the same.

Figure 3 is a bottom plan view.

Figure 4 is a section at the line 4—4 on Figure 2 on an enlarged scale.

Figure 5 is a detail section at the line 5—5 on Figure 4.

Figure 6 is a perspective view of the attachment which is applied to a common form of clipper.

Figure 7 is a section at the plane indicated by the line 7—7 on Figure 2.

Figure 8 is a view similar to Figure 1 showing the invention in a modified form suited for attachment to a clipper of slightly different structure from that shown in the previous figures.

Figure 9 is a section on the line 9—9 of Figure 8.

In the drawings, A is the body member of a hair clipper of common type having a rigid handle, A¹, and having fixedly secured to its under side the fixed cutter and comb, B, the clipper comprising, according to common construction, the reciprocating cutter blade, C, mounted upon the upper side of the fixed cutter and comb, B, said reciprocating blade being connected for operation in any familiar manner as by the pivoted operating handle, C¹. The bottom side of the member, A, with the fixed cutter and comb, B, in place thereon, is shown as having the usual flat face from the heel forward to what may be considered as the tooth zone at which it is beveled sloping upward to the points of the teeth at an oblique angle of about 160° to the rear flat part. The reciprocating cutter is also shown

in the usual form,—flat on the under side for mating properly with the flat upper face of the fixed cutter and comb, and tapered thickening from the points of the teeth rearward slightly beyond the roots of the teeth. For adapting the clipper to the mode of use indicated above,—making a graduated cut without lifting it from the head and carrying it without support,—there is provided what is termed a "rocker" shown at D, which is applied to the flat bottom of the fixed cutter and comb, B, and is curved fore-and-aft, convex downwardly under the heel of the body, with the forward part of its fore-and-aft contour continuing in direction tangential to the convex curve of the rear part forwardly to the angle at which the under side bevel of the fixed cutter begins. This rocker, D, is shown as a sheet metal stamping formed with upstanding flanges, D¹—D¹, at its opposite sides spaced apart suitably for embracing the body of the clipper and the fixed cutter and comb, B, thereon, snugly and so as to be secure against displacement; and for such security there is struck from each of the flanges, D¹—D¹, a lug d¹, which is clinched over the end of the fixed cutter just back of the tooth zone, as seen at d¹⁰.

A characteristic feature of this invention is the provision of an upper comb, that is, a comb whose comb teeth extend above the reciprocating cutter in vertical registration respectively with teeth of the fixed cutter and comb which extends below the reciprocating cutter blade. This upper comb as seen at E, is mounted on the upper forward end portion of the flanges, D¹—D¹, as seen at d²—d², which represent inwardly flexed lips or tongues engaging grooves, e²—e², which are formed in the end edges of the upper comb, E, which is thereby slidably engaged with and supported by the flanges, D¹—D¹, of the rocker, D. It will be noted that the upper forward ends of the flanges, D¹—D¹, which are folded as described to form the lips, d², engaging the grooves, e², of the upper comb, are inclined at an angle of about 30° to the plane of the cut; and that thereby the upper cutter is rendered adjustable downward forwardly from its rearmost and uppermost

position, at the angle mentioned to the plane of the cut, thereby carrying the points of the teeth of said upper comb to a greater or less degree forward of the line of the cut and below the plane of the cut. The teeth of the upper comb are preferably spaced apart to register in vertical planes with the alternate teeth of the lower fixed comb, B; and extending from above the reciprocating comb forward and downwardly as indicated, their overhanging ends projecting beyond the lower fixed comb teeth with which they respectively register; and said upper comb teeth are preferably formed each with a slight shoulder at the under side, as seen at e^4 , which at the rearmost adjustment of the upper comb are in touch with the points of the lower comb teeth respectively, which as usual project slightly beyond the points of the teeth of the reciprocating cutter. For holding the upper comb at any position to which it may be adjusted by sliding at the tongue and groove engagement described, the edges of the lips, e^2 , are provided with a succession of rounded indentations seen at e^3 , and a slight lug or tooth, d^3 , is struck and folded inwardly from the bottom of each of the grooves, d^2 , for engaging the serrations, e^3 , the flanges, d^1 , being sufficiently resilient to permit their yielding outwardly as the teeth, d^2 , ride up over the slight up raise between the indentations. The distance occupied by the entire series of indentations is designed to permit a range of adjustment of the upper comb down forwardly from the position at which the shoulders, e^4 , of the teeth are in touch with the points of the teeth of the lower fixed comb, to a plane tangent to the curve of the rocker as far below the line of cut as the maximum length of the shortest stubble to be left by the clipper, that is, the length to be produced at the beginning of the stroke or advance movement over the head, as, from the back of the neck up over the back of the head.

It may be understood from the foregoing description that in the use of a clipper equipped with this invention the barber will first adjust the upper comb in its slideways according to the closeness of the clip which he intends to make, and it will be seen that when adjusted to the rearmost and the uppermost position, with the points of the lower comb teeth in touch with the shoulders, e^4 , of the upper comb teeth, the clip will be as close as can possibly be made, the length of the stubble being only the thickness of the teeth of the lower fixed cutter and comb at the line of cut; and that the adjustment of the upper comb from this position forward and downward will lengthen the stubble according to the adjustment. And it will be understood that in advancing the clipper over the head by gradually tilting it over the rocker for lifting the forward points from the scalp, the teeth

of the upper comb will pick up the hair in little sheaves between the teeth, holding it lifted in advance of the line of cut in the manner in which the barber using comb and shears lifts the hair with the comb in advance of the shears, that is, clipping the hair behind the comb; and that in similar manner the reciprocating blade with its line of cut back of the sheath of hairs uplifted by the upper comb with its teeth extending forwardly of the line of cut, severs the uplifted hairs just as the shears sever the uplifted hairs behind the comb carried by the barber's left hand while he manipulates the shears with his right hand. To facilitate the lifting of the hair in little sheaves, as described, by the upper comb teeth, said teeth are beveled on both lateral edges narrowing the teeth upwardly and widening upwardly the gaps between them, so that the group of hairs picked up between any two consecutive teeth naturally tend to fan out in the widening gap between the teeth, thereby giving the teeth a slight under hold on the hairs by which the hairs will be lifted further than they would otherwise be before they drop back in the gap between the comb teeth and into the grasp of the teeth of the reciprocating cutter.

In Figure 8 there is shown a clipper of slightly different form,—formed with convex or rocker bottom instead of the flat bottom of the forms shown in the previous figures, this form, therefore, not requiring the application of the rocker to adapt it to the mode of action above described. For this type of clipper the upper comb, F, is conveniently mounted directly upon the upper side of the comb body, as, on the cap or cover, G, as seen at g^1 , which represents a slight boss formed on the cover for receiving grooves, g^2 , in its lateral edges, the upper comb, F, being formed with a deep recess in its rear edge rendering it forked, the edges of the fork members, f^3 , fitting slidably in the grooves, g^2 , which are inclined down forwardly at substantially the inclination shown with respect to the tongue and groove engagement of the upper comb of the form shown in the preceding figures. In this form (Figure 8) the upper comb has its comb teeth, f , extending above the teeth of the reciprocating cutter and forwardly thereof with a slight shoulder, f^3 , at the under side which at the rearmost adjustment of said upper comb, F, is in touch with the points of the teeth of the fixed cutter, as in the form shown in the preceding figures. For holding the upper comb, F, in adjusted position, a tongue, f^4 , is extended rearward between the fork arms, f^2 , into an undercut adapted to receive it in the boss, g^1 , and this tongue is provided upon its upper face with a series of indentations, f^5 , adapted to be engaged with a small set screw, g^5 , set through the upper side of the boss, g^1 , over said undercut.

We claim:

1. A hair clipper and the like comprising in combination with a lower fixed cutter and comb and a reciprocating cutter blade mounted above the same and cooperating therewith for the cutting action, an upper comb mounted above the reciprocating blade and having comb teeth extending forwardly above and coinciding in vertical plane with teeth of the lower comb, and extending respectively with downward inclination over the corresponding teeth of the lower comb forwardly past the vertical plane of the points of the teeth of the lower comb, and means by which said upper comb is rendered adjustable longitudinally of the comb teeth with range of adjustment suitable for carrying the points of said upper comb teeth forwardly of the points of the teeth of the lower fixed comb and below the plane of the cut.

2. A clipper and the like comprising in combination with a lower fixed cutter and comb and a reciprocating cutter blade above and cooperating therewith, a detachable comb carrier arranged to be applied to the under side of the fixed cutter and comb, and having for that purpose lateral wings extending up at the opposite sides of the fixed cutter and comb for engagement therewith, and an upper comb carried by said lateral wings above the reciprocating cutter.

3. A clipper and the like comprising the combination with a lower fixed cutter and comb and a reciprocating cutter blade above and cooperating therewith, a detachable comb carrier arranged to be applied to the under side of the fixed cutter and comb and having for that purpose lateral wings extending up at the opposite sides of the fixed cutter and comb for engagement therewith, and an upper comb carried by said lateral wings above the reciprocating cutter, and adjustable thereon in inclined direction down forwardly.

4. A hair clipper and the like comprising in combination with a lower fixed cutter and comb and a reciprocating cutter blade mounted above the same and cooperating therewith for the cutting action, an upper comb mounted above the reciprocating blade and having comb teeth extending forwardly above and coinciding in vertical plane with teeth of the lower comb, the upper comb having its teeth extending with downward inclination over the corresponding teeth of the lower comb forwardly past the vertical plane of the points of the teeth of the lower comb, means by which said upper comb is rendered adjustable longitudinally of the comb teeth with range of adjustment for carrying the points of said upper comb teeth forwardly of the points of the teeth of the lower fixed comb and below the plane of the cut, and means for holding said upper comb yieldingly at each of a plurality of positions in the range of adjustability.

5. A clipper and the like comprising in

combination with a lower fixed cutter and comb and a reciprocating cutter blade above and cooperating therewith, a detachable member arranged to be applied to the under side of the fixed cutter and comb and having for that purpose lateral wings extending up at the opposite sides of the fixed cutter and comb for engagement therewith, an upper comb carried by said lateral wings above the reciprocating cutter, and means for holding said upper comb yieldingly at each of a plurality of spaced apart positions in the range of said adjustability.

6. A hair clipper and the like comprising in combination with a lower fixed cutter and comb and a reciprocating cutter blade mounted above the same and cooperating therewith for the cutting action, an upper comb mounted above the reciprocating blade and having comb teeth extending forwardly above and coinciding in vertical plane with teeth of the lower comb, and extending respectively with downward inclination over the corresponding teeth of the lower comb forwardly past the vertical plane of the point of teeth of the fixed cutter and comb and past the plane of the cut, the teeth of said upper comb having their lateral edges beveled for narrowing upwardly the teeth and widening upwardly the gap between them to adapt the comb to pick up the hair in little sheaves tending to fan out in the upwardly widening gaps between said teeth.

7. An attachment for a hair clipper consisting of a base member in rocker form adapted to fit on the under side of the fixed cutter and comb of a standard type of clipper back of the teeth of said fixed cutter, and having lateral wings extending up past the side edges of the fixed cutter and comb, and an upper comb member carried by said lateral wings spaced upwardly from the rocker base member to admit the clipper including the fixed cutter and comb and the vibrating cutter thereon between said rocker and upper comb, and means for securing said attachment removably on the clipper.

8. In the construction defined in claim 7, the upper comb member of said attachment being carried by the rocker member adjustably in inclined direction down forwardly, and means for securing it in each of a plurality of spaced apart positions within the range of said adjustment.

In testimony whereof, we have hereunto set our hands at Chicago, Illinois, this 31st day of October, 1927.

MICHAEL W. McARDLE.
JOHN H. DONNELLON.