June 11, 1929. J. W. ROBERTS 1,716,465

HAIR CLIPPER

Filed May 13, 1927

Fig. 1.

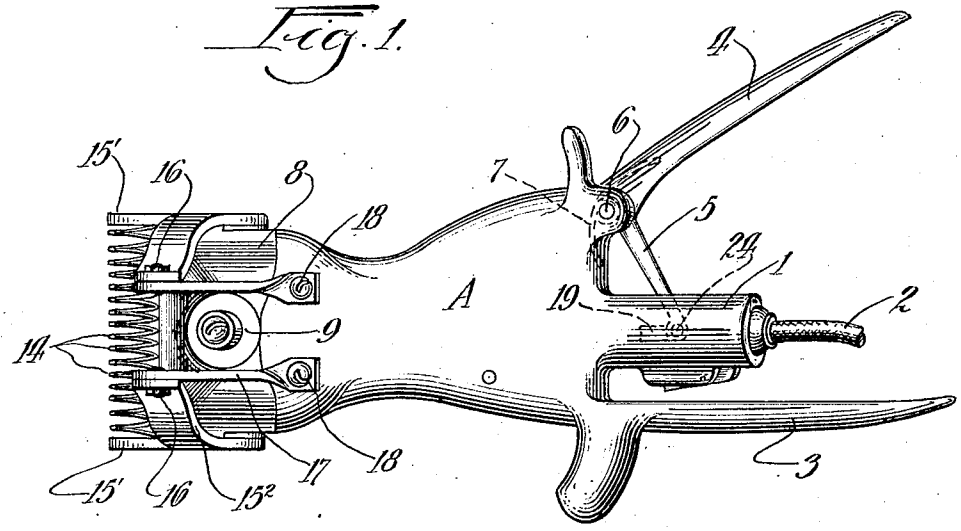



Fig. 2.

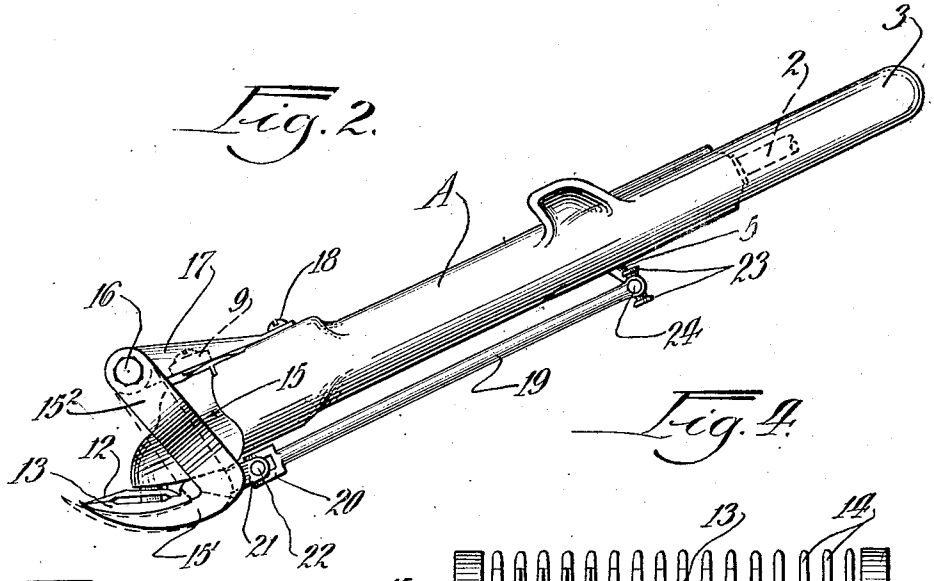



Fig. 4.

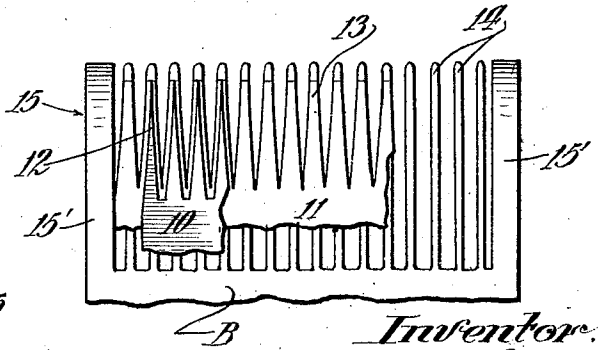
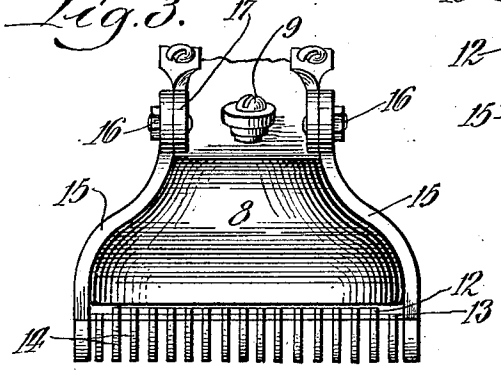



Fig. 3.




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Patented June 11, 1929. 1,716,465

# UNITED STATES PATENT OFFICE.

JOHN WILLIAM ROBERTS, OF CHICAGO, ILLINOIS.

## HAIR CLIPPER.

Application filed May 13, 1927. Serial No. 190,997.

This invention relates to improvements in hair clippers, and as shown, is embodied in a device which is electrically operated, but it may be applied to a hand operated clipper.

One of the objects of the invention is to provide a construction whereby the hair cutting may be accomplished entirely by the use of the clipper device without the aid of scissor work by the operator; and whereby the hair may be graduated as to length, and the "closeness" of the cut may be varied in the progress of the cutting operation without detracting from the smooth appearance of the cut hair.

By my improved construction the operator is enabled to definitely gauge the closeness of the cut, and to vary and control the same, as desired, instead of depending on his ability to manually hold the clipper in proper position with reference to the hair to be cut.

In the drawings:

Figure 1 is a top plan view of the clipper embodying my invention.

Figure 2 is a side elevation of the same.

Figure 3 is a view, broken away, showing the structure of Figure 4 as it would appear if viewed from the front.

Figure 4 is a fragmentary plan view of part of the device.

In that embodiment of the invention shown in the drawings, A indicates the body or housing of a conventional, electrically operated clipper, provided with a tubular extension 1 through which a rotated flexible shaft 2 is passed into the housing to the operating mechanism. The body A has an integral rigid hand-hold member 3, extending at one side thereof. A bell crank lever, having a long arm 4 and a short arm 5, is pivotally mounted at 6 in the body member A, the long arm 4 thereof constituting a hand-hold member which is movable toward the handle 3 against the tension of the spring 7 operatively connected to the pivot pin 6.

The forward end of the body member A constitutes the conventional clipper head comprising a curved plate 8 secured to the body A by a bolt 9. Two cutter blades 10 and 11, respectively, are connected to the operative mechanism within the housing A. The upper cutter blade 10 has teeth 12 and the lower cutter blade 11 has teeth 13. The cutter blade 10 is not as wide transversely of the clipper as the blade 11 and is adapted to have familiar transverse reciprocating motion with respect to said blade 11 whereby the cutting of the hair is accomplished. The operative mechanism forms no part of the invention, per se, and need not be described.

A comb B comprising longitudinally curved teeth 14, is provided with side members 15, and located beneath the cutter 11, so that the comb B will move easily with respect to the under surface of the teeth 13 of the lower cutter blade 11. The side members 15 are best shown in Figures 1 and 2, and comprise an arm $15^1$ similar in shape to the comb teeth 14 but slightly wider, and an upwardly extending arm $15^2$ which stands at an acute angle to the arm $15^1$. This arm $15^2$ is slightly curved or bent, as shown in Figure 1, so that the free end may be connected by bolts and nuts 16 to a bracket 17 at the top of the body or housing A. As shown, I prefer to use two of the brackets 17, which are made of flat metal set on edge or vertically disposed at the point of connection 16 to the arm $15^2$, and given a quarter twist so that the other end of the bracket 17 is horizontally disposed for convenient attachment to the housing A by screws 18.

It is important that the lower surface of the comb B and arm $15^1$ be eccentrically curved with respect to the pivotal point 16, so that the bottom surface of these parts, beginning at the point of the teeth 14 toward the body of the comb B and from the tip of the arm $15^1$ to the point of connection between the arm $15^1$ and $15^2$, shall be increasingly further removed from the pivotal point 16. This shape of the comb B on its lower surface and the fact that it is bodily movable with respect to the cutter blades, cooperates to produce a support for the cutter blades and a means for definitely controlling the position of the blades with respect to the hair to be cut. The teeth 12 and 13 are preferably of equal length and the teeth 14 of the comb B normally project slightly beyond the ends of the cutter teeth. The under surface of the lower cutter teeth 13, near the tips thereof, is curved or tapered so that the ends of the comb teeth 14 may have sliding contact therewith when the comb is moved back and forth.

A link 19 connects the comb B with the arm 5 of the bell crank lever which is pivotally connected with the housing A at 6, as heretofore explained. By this arrangement the comb B may be moved back and forth with respect to the cutter blade teeth 12 and

13. The link 19 is forked, at one end, as indicated at 20, and connected to rearwardly projecting lugs 21 on the comb member B, through cross pins 22. The other end of the link is connected to the forked end 23 of the arm 5 by the pins 24. The connection described provides universal movement, so that when the arm 5 is moved by pressure on the hand-hold 4, the link 19 will be given a forward movement as well as a slight transverse motion by reason of the movement of the arm 5 about the pivotal point 6.

The operation of the device shown in the drawings is as follows: when it is desired to cut the hair short, as is customary near the ears and back of the neck, the operator will grasp the hand-holds 3 and 4 without exerting any particular pressure upon the movable arm 4 against the tension spring 7. The teeth 14 of the comb B will project but slightly beyond the ends of the teeth 12 and 13 of the cutters and the operator will be enabled to cut the hair closely to the head. As the clipping progresses upwardly, to parts where it is desired to cut the hair less closely, the operator will gently press the hand-hold 4 toward the handle 3, thereby moving the arm 5 about the pivot 6, gradually pushing the link 19 and comb B forwardly. When this action takes place, the side members 15 swing about the pivotal point 16 so that the arms $15^1$ and the comb teeth 14 project beyond the ends of the teeth 12 and 13 to a desired extent, as shown in dotted lines in Figure 2. By controlling the position of the comb B the cutters will be prevented from cutting the hair more closely than is desired, and a definite variable support against the head is provided, which the operator may adjust manually, to definitely establish the line of cut desired. This result is accomplished not only by the ability to move the comb back and forth but by the shape of the underside of the comb, as heretofore stated.

I claim as my invention:

1. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb movably connected to the body member, and means for controlling the position of the comb, said means comprising an arm pivotally connected to the housing, and a link rod, one end of the link rod being connected to the pivoted arm and the other end to the comb.

2. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb having teeth normally projecting slightly beyond the ends of the cutter teeth, movably connected to the body member, and means for controlling the position of the comb, said means comprising an arm pivotally connected to the housing, and a link rod, one end of the link rod being connected to the pivoted arm and the other end to the comb.

3. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb pivotally connected to the body member, and means for controlling the position of the comb, said means comprising an arm pivotally connected to the housing, and a link rod, one end of the link rod being connected to the pivoted arm and the other end to the comb.

4. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb pivotally connected to the body member, having an under surface eccentric to said pivotal connection, and means for controlling the position of the comb, said means comprising an arm pivotally connected to the housing, and a link rod, one end of the link rod being connected to the pivoted arm and the other end to the comb.

5. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb movably connected to the body member, and means for controlling the position of the comb, said means comprising a bell crank lever pivotally mounted on the housing and a link rod, one end of which is connected with the bell crank lever and the other end to the comb by universal joints.

6. A hair clipper comprising a body member, a pair of toothed cutter blades mounted thereon, means for operating the cutters, a comb pivotally connected to the body member, having an under surface eccentric to said pivotal connection, and means for controlling the position of the comb, said means comprising a bell crank lever pivotally mounted on the housing and a link rod, one end of which is connected with the bell crank lever and the other end to the comb by universal joints.

7. A hair clipper comprising a body member, a pair of toothed cutter blades mounted therein, means for operating the cutters, a comb located beneath the cutter blades, provided with arms for pivotal attachment to the body member, said comb having longitudinally curved teeth, the lower surface of the comb, from the ends of the teeth toward the body thereof, being increasingly further removed from the point of pivotal connection between the comb arms and the body member, and means connected with the comb for controlling the position thereof.

8. A hair clipper comprising a body member, a pair of toothed cutter blades mounted therein, means for operating the cutters, a comb located beneath the cutter blades, provided with arms for pivotal attachment

to the body member, said comb having longitudinally curved teeth, the lower surface of the comb, from the ends of the teeth toward the body thereof, being increasingly further removed from the point of pivotal connection between the comb arms and the body member, and means connected with the comb for controlling the position thereof, said means comprising a bell crank lever and a link rod connected by universal joints with the bell crank lever and the comb for manually controlling the position of the comb.

9. A hair clipper comprising a body member, a pair of cutter blades having teeth of equal length mounted in a housing, the under surface of the lower cutter teeth being tapered at the ends, means for operating the cutters, a comb located beneath the cutter blades provided with side arms extending at an acute angle to the body of the comb for pivotal adjustment to the body member, said comb having longitudinally curved teeth, the ends of which normally project slightly beyond the ends of the cutter teeth, the lower surface of the comb from the ends of the teeth toward the body thereof being increasingly further removed from the point of pivotal connection of the comb arms and the body member and means for varying the position of the comb with respect to the cutter blades.

In testimony that I claim the foregoing as my invention I affix my signature this 11th day of May, 1927.

JOHN WILLIAM ROBERTS.