Sept. 23, 1924. 1,509,787

H. O. SMITH

CLIPPER

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Fig. 1.

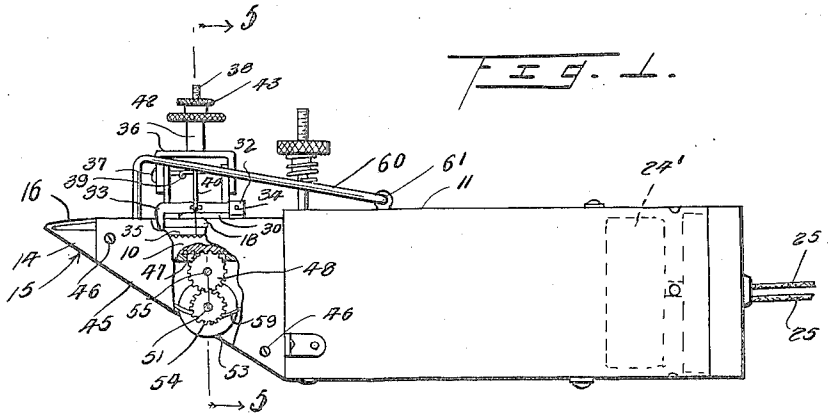


Fig. 2.

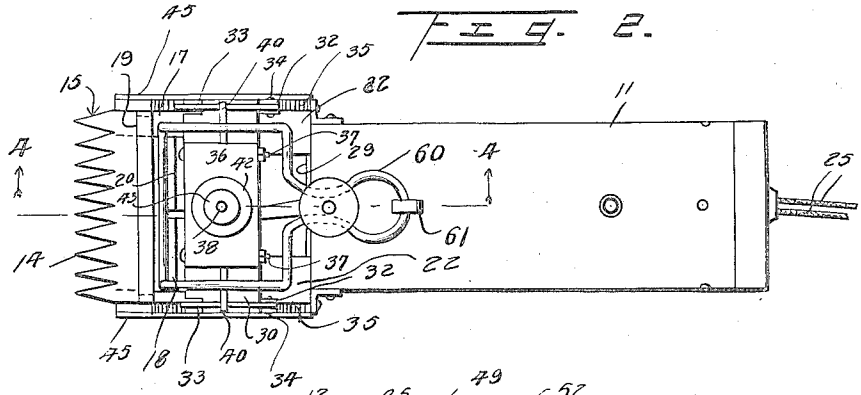
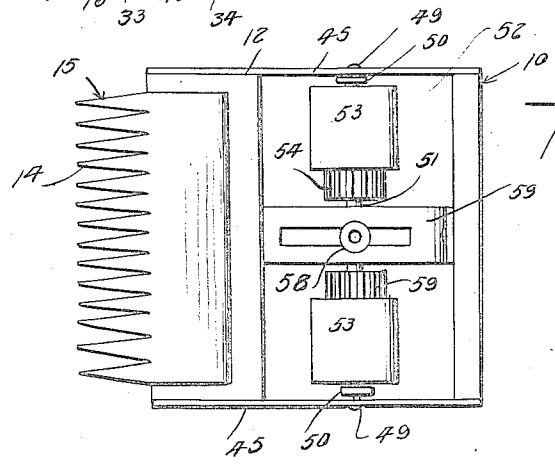


Fig. 3.



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Fig. 4.

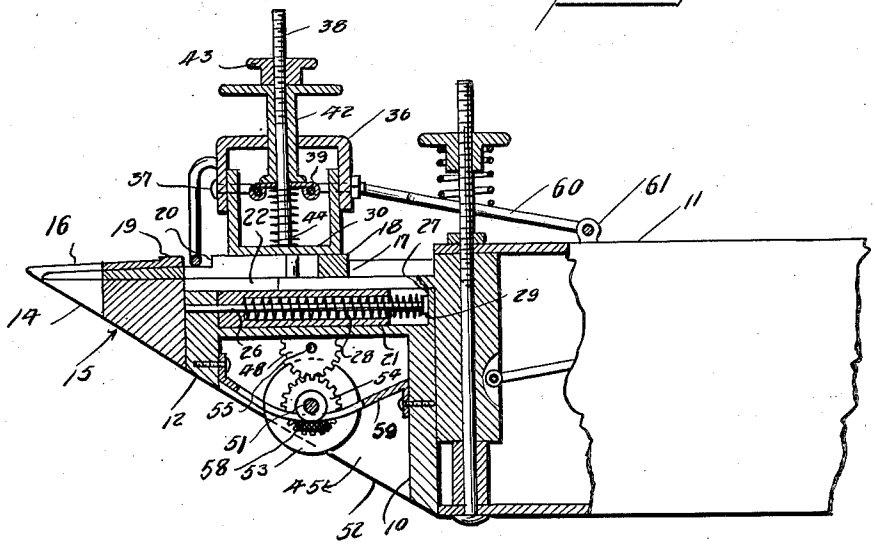
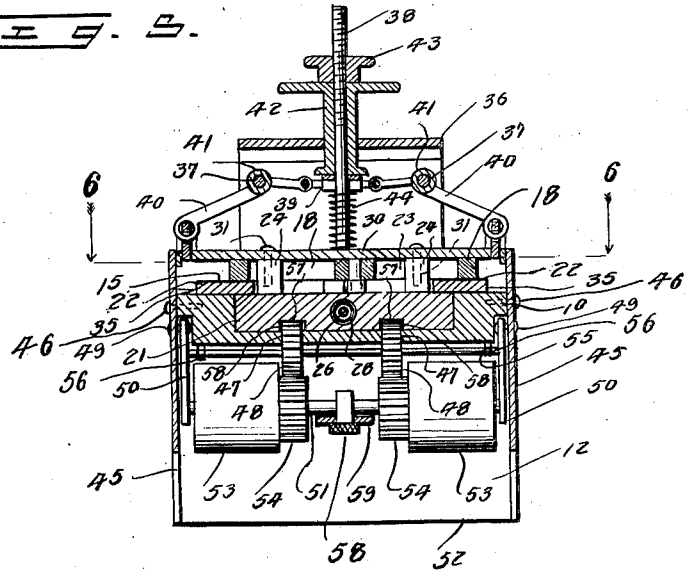


Fig. 5.



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CLIPPER

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Fig. 6.

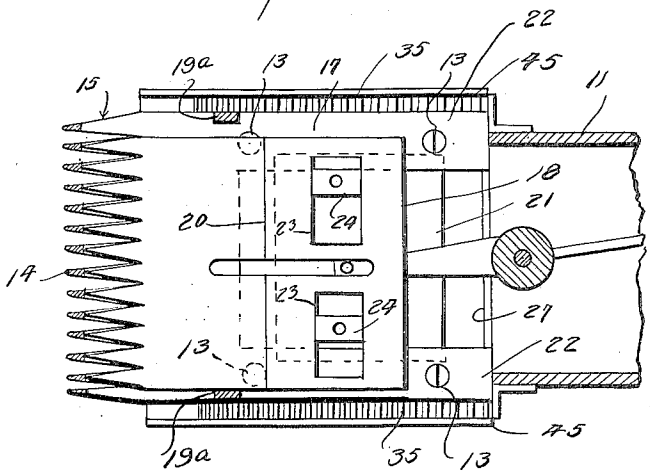


Fig. 7.

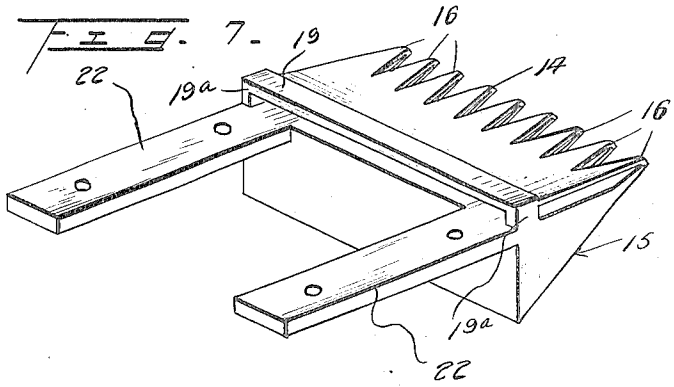
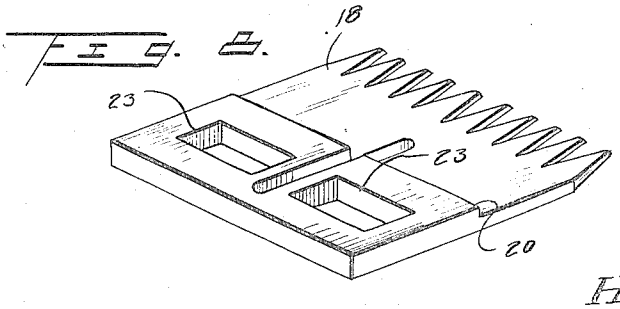


Fig. 8.



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Patented Sept. 23, 1924. 1,509,787

UNITED STATES PATENT OFFICE.

HARRY O. SMITH, OF LOS ANGELES, CALIFORNIA.

CLIPPER.

Application filed August 25, 1923. Serial No. 659,286.

To all whom it may concern:

Be it known that I, HARRY O. SMITH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in a Clipper; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a clipper primarily designed for use by barbers.

The object of the present invention is to improve the clipper structure disclosed in my copending application filed May 1, 1923 and serially numbered 635,917.

Another object of the present invention is to provide a clipper of the type disclosed in my application above referred to, in which there is included a novel form of stationary cutter blade.

A still further object of the invention is to provide a small and compact clipper embodying a substantially direct operating means for shifting a sliding block carrying the top or movable cutter blade to move the same longitudinally of the clipper to provide for the tapering of the edges of the hair.

While the following description and accompanying drawings disclosed the preferred embodiment of my invention, it is to be understood that changes in the details of construction and arrangement of parts may be resorted to provided they fall within the scope of what is claimed.

Referring to the accompanying drawings illustrating an operative embodiment of the invention:

Figure 1 is a side elevational view of the clipper constructed in accordance with my invention, parts being broken away to illustrate the means for adjusting the movable cutter blade,

Figure 2 is a top plan view of the same,

Figure 3 is a bottom plan view of the clipper, the handle being omitted,

Figure 4 is a sectional view on the line 4—4 of Figure 2,

Figure 5 is a sectional view on the line 5—5 of Figure 1,

Figure 6 is a sectional view taken on the plane indicated by the line 6—6 of Figure 5,

Figure 7 is a detail perspective view of the stationary cutter blade,

Figure 8 is a detailed perspective of the movable cutter blade.

Referring specifically to the drawings, a head or block is provided at 10 from which a handle 11 extends rearwardly. The head 10 at the under or head-engaging surface is inclined as at 12. Detachably secured to the head by means of screws or fastening means 13 is a stationary cutter blade 15 having a plurality of slits or incisions to provide the hair separating fingers 14. This general structure is disclosed in my copending application above referred to, but the stationary cutter blade 15 of the present application embodies features not contained in the stationary cutter blade of my copending application.

Wing extensions 16 are formed integral with the stationary cutter blade 15, and the wings are spaced apart and a wing is arranged above each of the teeth of the stationary cutter blade. The upper surfaces of the wings are made oval so as not to become entangled in the hair as the clipper is moved therethrough. The space 17 between the upper surface of the cutter blade 15 and the winged extensions 16 is of such dimensions as to receive a reciprocating cutter blade 18 and to allow free movement thereof and also to provide enough space to prevent hair from clogging between the winged extensions 16 and the top of the movable or reciprocating cutter blade 18. The rear end of the winged extensions 16 are all formed integral with a cross bar or rib 19, and as clearly shown in Figure 7 the ends of the rib or bar 19 are connected with the body of the stationary cutter blade by side walls 19^a.

The movable cutter blade 18 has its forward or active end reduced to provide a shoulder at 20 which when the movable cutter blade is in its extreme forward position, will contact with the rib or bar 19 and prevent the teeth of the movable cutter blade from catching in the forward end of the stationary cutter blade at the point where the winged extensions connect with the forward end of the stationary cutter blade.

Slidable within the head 10 and longitudinally thereof is the positioning block 21 carrying the movable cutter blade 18. The block 21 is overlapped by the arms 22 form-

ing the attaching portions of the stationary or bottom blade 15 of the clipper. The movable cutter blade 18 is slidable both longitudinally and laterally of the clipper in both directions.

The cutter 18 has slots 23 therethrough and through which extensions or bosses 24 integral with the block 21 extend. The slots 23 are enlarged with respect to the bosses so as to permit the cutter 18 to move laterally over the head 10. The cutter 18 is adapted to be laterally reciprocated in any improved manner. To this end, it will be noted that I am employing the same structure which is disclosed in my copending application, and which includes an electric motor 24' located within the handle 11, and to which feed wires 25 are connected and which lead from any suitable source.

In order that the clippers may be adjusted or set to cut hair at different lengths, the block 21 slides on a pin 26 which at its rear end abuts the end wall 27 of the head 10. The pin 26 is surrounded by an expansive coil spring 28 that engages the head 29 of the pin and also engages the block 21. The spring 28 will therefore urge the block 21 forwardly and the cutter 18 will be moved forwardly as it is carried by the sliding block through the medium of the bosses 24.

As in my former structure, a bracket 30 extends over the cutter 18 and the bosses 24 and may be fastened to the latter by means of set screws 31. The bracket 30 has ears 32 integral therewith to which pawls 33 are pivoted by horizontal pins 34. Said pawls at their free ends are adapted to engage teeth 35 provided on the head 10, in order to hold the cutter 18 and block 21 in its adjusted position against the tension of the spring 28. The bracket 30 may have a cover 36 removably fastened thereto by bolts or the like at 37. A vertical bolt 38 rises from the bracket 30 to the cover 36 and has a follower 39 loosely slidable along the same. Levers 40 are pivoted to the follower 39 and the pawls 33 and have enlarged eyes 41 through which the bolts pass and on which bolts said levers fulcrum. A depressible sleeve or operating member 42 is slidable along the bolt 38 having its lower end in engagement with the follower 39 and its upper end disposed exteriorly of the bracket and engaged by a nut 43 threaded on the bolt 38. An expansive coil spring 44 surrounds the bolt 38 and at one end engages bracket 30 and at its other end engages the lower surface of the follower 39. With the parts properly adjusted the spring 44 by its urging the follower 39 upwardly to the extent permitted by the operating member 42 and nut 43, maintains the pawls 33 in engagement with the proper teeth 35. When quick detachment of said teeth is desired the sleeve 42 is depressed in order to slide the follower 39 against the tension of the spring 44 thereby tilting the levers 40 and raising and disengaging the pawls 33 from the teeth 35.

Side plates 45 are attached to the head 10 by means of screws or like fastenings 46 and extend slightly above the upper surface of the head 10 and with the extensions or attaching portions 22 of the stationary cutter blade 15 provide walls at each side of the teeth 35. Thus it will be seen that the pawls slide between walls formed by the extensions 22 and the plates 45.

To the end that the operator may control the depth of cut at the edges of the hair, the head 10 is provided with a pair of spaced parallel slots 47 through which gear wheels 48 operate. Pivoted to the plates 45 as at 49 are arms 50. Carried by these arms at their lower ends is a shaft 51 which is disposed in a recess 52 in the inclined wall of the head 10. Journaled on the shaft 51 are a plurality of rollers 53 which preferably have peripheries of rubber in order that they may have tractive effect on the head of the person whose hair is being cut so as to rotate the rollers. Rotatable with each of the rollers 53 is a gear wheel or pinion 54. The pinion 54 drives the pinions 48 which are journaled on a shaft 55 which is secured to the head 10 by means of fastenings 56. The upper pinions or gears 48 mesh with racks 57 which are provided in grooves 58 on the under surface of the sliding block 21. With the upper pinions 48 in engagement with the teeth 57 and the rollers 53 engaging the head of the person, the rollers will be rotated as the clipper is pushed over the head so as to thereby control the position of the cutter plate 18. As will be understood forward pushing movement of the clipper will cause retraction of the cutter 18 against the tension of the spring 28 and the cutter may be restored to normal position or toward normal position by expansion of the spring 28 when the rollers are rotating in the reverse direction.

When this feature of the invention is not desired, the rollers 53 may be moved to inoperative position, by swinging them within the opening or recess 52 in the head 10, and they may be secure in operative position by tightening the nut 58 so as to clamp the shaft 51 to an arcuate strip 59 which is secured within the recess 52. The rollers may all be secured in their operative positions by moving them into their operative positions and clamping them in that position by turning the nut 58.

A presser frame 60 is pivoted to a lug 61 on the handle 11, and this frame directly engages the upper surface of the cutter 18

with which it coacts. The presser frame is designed to assist in holding the upper cutter blade against vertical movement.

Having thus claimed the invention, what I claim is:—

1. In a clipper, a head, a stationary cutter blade carried by said head, a block slidable in said head and having upstanding bosses, a cutter plate having recesses enlarged with respect to said bosses and receiving them, said cutter plate coacting with said stationary cutter blade, said head having a recess, a roller journaled to rotate in said recess, a gear rotatable with said roller, teeth formed on the under side of said block, and a gear meshing with said first named gear and said teeth and adapted to move said block when said roller is rotated.

2. In a clipper, a head, a stationary cutter blade carried by said head, a block slidable in said head and having upstanding bosses, said block having a groove in its under surface, teeth formed on said block at the bottom of said groove, a cutter plate having recesses enlarged with respect to said bosses and receiving them, said cutter plate coacting with the stationary cutter blade and movable with said block, said head having a recess, a slot in said head and connecting said recess with the groove in the under side of said block, a roller journaled to rotate in said recess, a gear rotatable with said roller, teeth formed on the under side of said block and at the bottom of said groove, and a gear meshing with said first named gear and extending through said slot in the head and into the groove in the block, and said second named gear meshing with the teeth and adapted to move the block when the roller is rotated.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY O. SMITH.

Witnesses:

DUNCAN GARDNER,

ELSIE OLSEN.