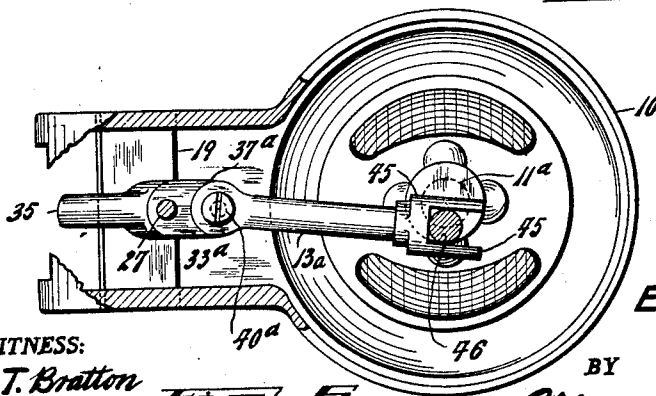
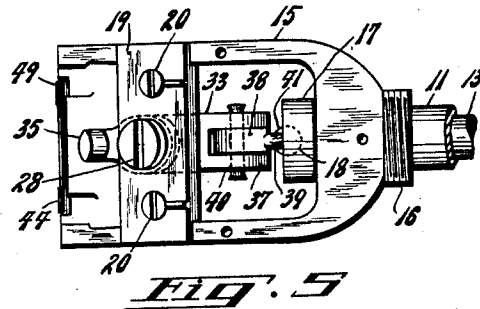
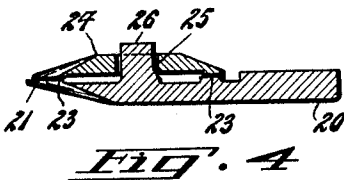
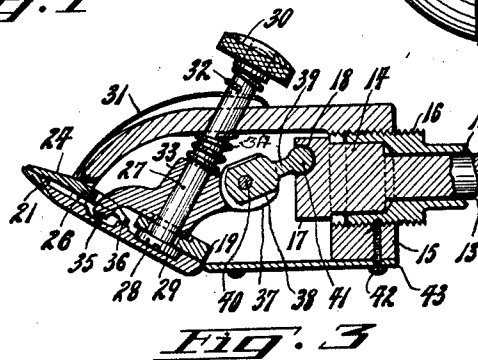
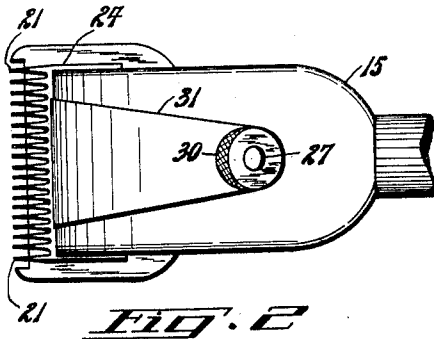
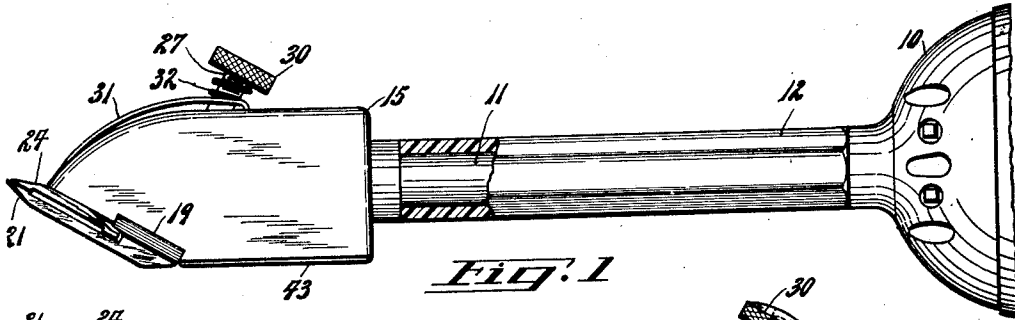


E. E. ZIEGLER.
HAIR CUTTER.
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1,385,938.

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WITNESS:
Alfred T. Bratton

Fig. 6

Edward E. Ziegler
INVENTOR.

BY
Victor J. Evans
ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD E. ZIEGLER, OF PHILADELPHIA, PENNSYLVANIA.

HAIR-CUTTER.

1,385,938.

Specification of Letters Patent.

Patented July 26, 1921.

Application filed August 4, 1919. Serial No. 315,270.

To all whom it may concern:

Be it known that I, EDWARD E. ZIEGLER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Hair-Cutters, of which the following is a specification.

The invention relates to cutting devices and has for an object to provide a hair cutter for cutting the hair.

The invention comprehends among other features, a hair cutter which is preferably operated through the medium of an electric motor and which through suitable mechanism is adapted to have a movable cutter element operate over and in conjunction with a stationary cutter element each of said elements having a series of blades, whereby in the reciprocation of one cutter element over the other, the hair will be cut from the head when the device is applied.

Still further the invention comprehends a novel form of movement in the mechanism interposed between the operating motor and the cutter elements whereby the reciprocation of one of the cutter elements is attained.

Still further the invention comprehends a suitable adjusting device for adjusting the movable reciprocating cutter element relative to the stationary one in order to bring about a fine or coarse cut, as the case may be.

In the further disclosure of the invention, reference is to be had to the accompanying drawings, constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which,—

Figure 1—is a fragmentary side elevation of the device.

Fig. 2—is a fragmentary plan view.

Fig. 3—is a vertical longitudinal sectional view taken through the structure shown in Fig. 2.

Fig. 4 is an enlarged longitudinal sectional view taken through the movable and stationary cutter elements showing the relative arrangement thereof.

Fig. 5—is a bottom plan view of the structure shown in Figs. 2, 3, with the lower plate removed to show the interior mechanism, and

Fig. 6—is a fragmentary plan view of a slightly modified form of my device.

Referring more particularly to the views, the numeral 10 indicates a motor which is

preferably electric and adapted to receive current from any suitable source of power, said motor having a suitable drive shaft 11 which may be encircled by a suitable handle 12, said drive shaft 11 connecting in any desired manner with a second shaft 13 forming a part of an eccentric mechanism 14. The shaft 13 at its forward end extends into and is housed in a casing 15, being journaled in a suitable bearing 16 therein and the forward extremity of the shaft 13 terminates in a circular head 17 having a recess 18 in its surface or face and off set from the longitudinal axis of the shaft. The casing 15 has its front end formed at an angle and seated therein is a cross plate 19 to which is adapted to be secured by suitable screws 20, what I term an angular plate 21 which is in the nature of a cutter element, having a series of cutters 22 formed at its forward end. This cutter element being connected to the plate 19, is of course rigid and is formed with a plurality of bearing surfaces 23 for the support and sliding thereon of a movable cutter element 24, the latter having a plurality of elongated slots 25 through which pass squared pins 26 projecting upwardly from the rigid cutter element 21. It will be apparent that the teeth of the movable cutter element reciprocating back and forth over the teeth of the stationary cutter, will bring about a cutting operation of the hair when the strands thereof are received between the teeth or blades of the cutters.

An angularly disposed stud like support 27 has its head end passing through the plate 19 with the head 28 thereof disposed in a recess 29 in the rigid cutter element, said stud passing upwardly to project through and beyond the upper face of the casing 15 and threaded at this end to receive a nut 30, a spring like tension member 31 being passed loosely over the free end of the stud with an expansible helical spring 32 encircling the free end of the stud between the nut 30 and the tension member 31 to bear against the tension member when the nut is screwed up on the stud, the lower or free end of the tension member in turn bearing against the movable cutter element 24 thereby permitting of an adjustment of the movable cutter element relative to the stationary cutter element as will be clearly seen by referring to the views.

Loosely mounted upon the stud 27 within the casing 15, is an operating member 33.

an expansible helical spring 34 being arranged to encircle the stud within the casing and bear against the top of the member 33 to properly retain the member in position so that its forward end, terminating in a finger 35 will at all times operate in a flared slot 36 formed in the rear end of the movable cutter element. The rear end of the operating member 33 terminates in a pair of spaced ears 37 between which an enlarged portion 38 of a pin 39 is suitably hinged by a cross pin 40, the outer end of the pin 39 terminating in a circular head 41 which loosely operates in the off set recess 18 in the head 17 in the forward end of the shaft 13. The bearing 16 is preferably secured against rotation by a suitable set screw 42 and the under side of the casing 15 is closed by a suitable plate 43 which can be screwed or otherwise secured to the casing.

Now it will be seen that when the motor 10 is operated rotation will be imparted to the shaft 11 which in turn will rotate the shaft 13, and through the medium of the recess 18 and the engagement of the head 41 therewith, an eccentric action will take place which will impart a reciprocating movement to the operating member 33, causing the forward nose or finger 35 thereof to in turn reciprocate the movable cutter element 24, thereby insuring an effective cutting operation when the cutter is applied to the hair.

The extreme forward end of the tension member 31 is preferably formed with a plurality of projections 44 in direct contact with the top face of the movable cutter element and it will be apparent that the further adjustment of the tension member to bring about the desired pressure against the movable cutter element is of vital importance in the further operation of the device.

In Fig. 6 I show a slightly modified form of mechanism providing for the eccentric movement whereby reciprocation of an operating member is obtained, and in this view I have indicated the operating member by the numeral 33^a, said member being mounted upon the stud 27 in the usual manner and having its forward end in loose contact with the movable cutter element. The rear end of the operating member 33^a terminates in a tail 37^a, which through the medium of a vertical pin 40^a provides swinging connection with the forward end of a shaft 13^a, the rear end of which is formed with a plurality of spaced ears 45 which straddle a crank shaft 46 on a vertical shaft 11^a of the motor 10^a. It will be apparent that with this construction, operation of the shaft 11^a of the motor will, through the medium of the crank shaft 46 bring about a reciprocating or

swinging movement of the rear end of the shaft 13^a and the latter being in pivotal connection with the operating member 33^a a reciprocation of the latter must ensue and thus the reciprocation of the movable cutter element is in turn brought about.

From the foregoing description it will be seen that the device described consists of few and simple parts and that the reciprocation of one cutter element relative to another is obtained through the medium of mechanism which although of simple design is of substantial construction, the desired movement being brought about with the least amount of friction or vibration so that the cutter in use will smoothly and efficiently perform its work.

Having described my invention, I claim,—

1. A hair cutter comprising a casing, an operating shaft journaled in the casing, a rigid cutter on the casing, a movable cutter in the casing disposed to operate over the rigid cutter, a stud projecting upwardly from the lower portion of the casing, an operating member mounted on the stud and connected with the operating shaft for imparting an oscillatory movement to the movable cutter when the shaft is actuated, a spring on the stud between the casing and the operating member and serving to hold the latter in connection with the movable cutter, a cutter adjusting member overlying the casing and having one end engaging the movable cutter and the other end fitted over the stud, a nut for the stud and a spring on the stud between the nut and the adjusting member and bearing against the latter.

2. In a hair cutter the combination with a casing having a base providing a horizontal portion and an inclined portion, the latter forming a rigid cutter, of a stud projecting from the inclined portion of the base and extending rearwardly at an angle thereto, an operating shaft extending into the casing, a movable cutter mounted to slide on the rigid cutter and inclined relative to the horizontal portion of the base and a two part operating member having one of the parts centrally mounted to turn on the stud and having its forward end in contact with the movable cutter and its rear end projecting to the rear of the stud and its other part linked to the first mentioned part in direct swiveled engagement with said shaft whereby operation of the shaft will insure an oscillatory movement of the movable cutter in a plane at an angle to the plane of the base of the casing and transversely of the longitudinal axis of the operating member.

In testimony whereof I affix my signature.
EDWARD E. ZIEGLER.