Dec. 16, 1924. 1,519,636

P. SERENE

POWER OPERATED HAIR CLIPPER

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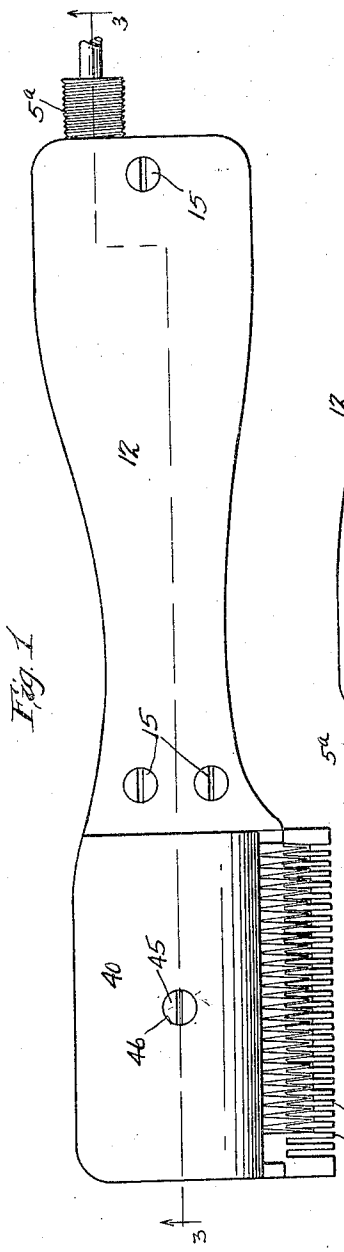


Fig. 1

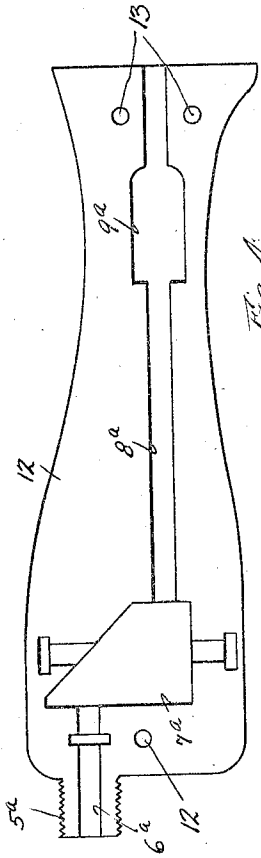


Fig. 4

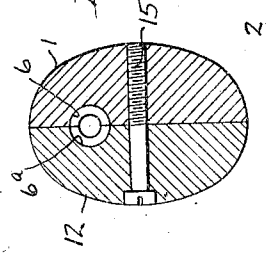


Fig. 11

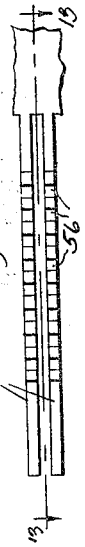


Fig. 12

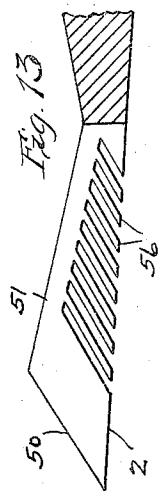


Fig. 13

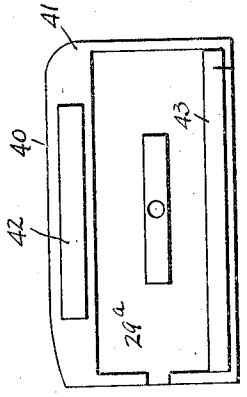


Fig. 5.

INVENTOR.

Paul Serene

BY

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P. SERENE

POWER OPERATED HAIR CLIPPER

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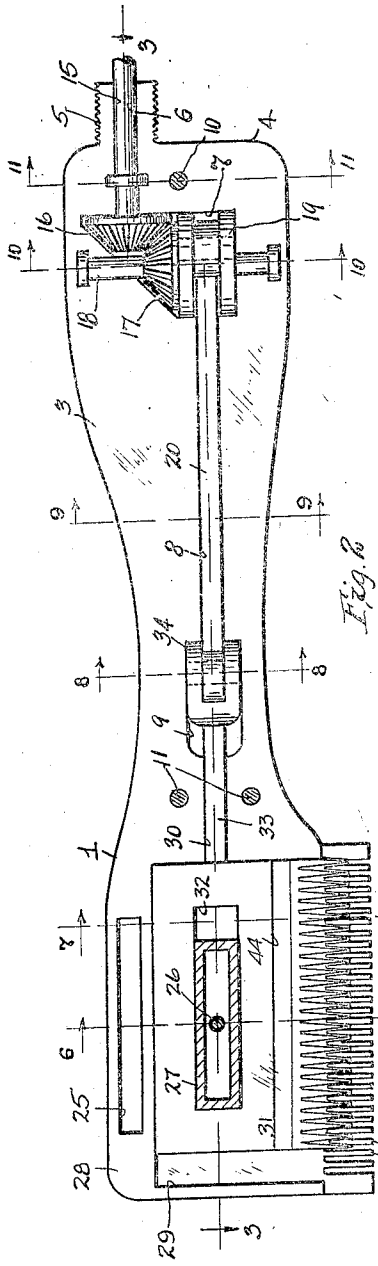


Fig. 2

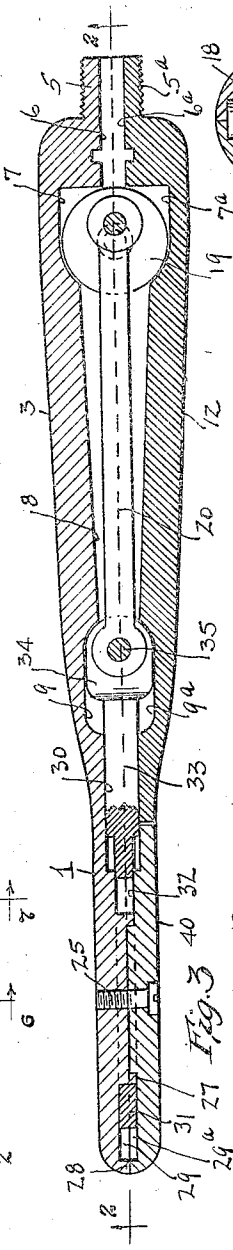


Fig. 3

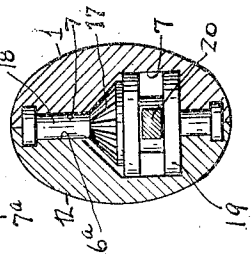


Fig. 10

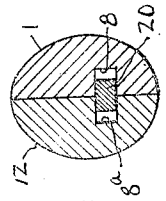


Fig. 9

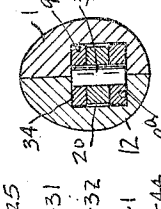


Fig. 8

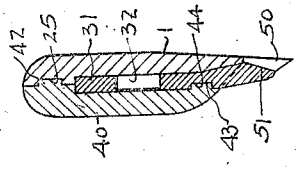


Fig. 7

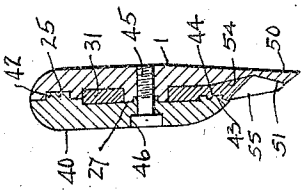


Fig. 6

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BY

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ATTORNEYS

Patented Dec. 16, 1924. 1,519,636

# UNITED STATES PATENT OFFICE.

PAUL SERENE, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-THIRD TO B. P. HIGBY AND ONE-THIRD TO L. F. DONNELL, BOTH OF YOUNGSTOWN, OHIO.

## POWER-OPERATED HAIR CLIPPER.

Application filed July 7, 1922. Serial No. 573,481.

*To all whom it may concern:*

Be it known that I, PAUL SERENE, a citizen of the United States, and a resident of Youngstown, county of Mahoning, and State of Ohio, have invented a new and useful Improvement in Power-Operated Hair Clippers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention relates to power operated hair clippers and particularly to a clipper which is compact and which may be readily handled and operated. In particular the construction of the stationary teeth are important as they are so constructed as to act as a comb so as to hold the hair upright, thus preventing pulling and making the cutting operation easier. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings:—

Fig. 1 is a top plan view of my improved clipper assembled; Fig. 2 is a plan view of my clipper with the covers for handle and blade removed; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is an inside plan view of the cover for the handle; Fig. 5 is an inner plan view of the cover for the blade; Figs. 6 and 7 are sections through the blade end on the lines 6—6 and 7—7 of Fig. 1 respectively; Figs. 8, 9, 10, and 11 are sections through the handle taken on the lines 8—8, 9—9, 10—10 and 11—11 of Fig. 1 respectively and Figs. 12 and 13 are a side elevation and a bottom plan view respectively of one of the stationary teeth.

In the present clipper, there is provided a bottom member or back plate 1 which has the end formed with the stationary clipper teeth 2 while the other end forms the bottom member of the handle 3, having an enlarged outer end 4 which has an extending externally threaded half nipple 5. The handle portion is provided with a recess 6 extending in from the nipple and communicating with a larger cross recess 7, which in turn communicates with a longitudinal groove 8 having an enlarged portion 9 near the blade end of the handle. The upper surface of this handle member is flat and it is provided with a tapped aperture 10 near the end and two tapped apertures 11 near the other end. A cover 12 is provided for the handle having similar aligned tapped apertures 12 and 13, which are countersunk to receive set screws 15 to hold the cover in place.

This cover is provided on the inside with complementary grooves $8^a$ and recesses $6^a$, $7^a$, and $9^a$, as well as with a half nipple $5^a$ to form interior chambers within the handle. As best shown in Fig. 2, a power shaft 15 is mounted in the nipple 5 and recess 6 and this shaft is provided with a bevel gear 16 in the chamber 7—$7^a$, which is in mesh with a bevel gear 17 mounted on the crank shaft 18 within the cross chamber 7—$7^a$. Connected to the crank shaft throw 19 is a connecting rod 20, extending longitudinally along the chamber 8—$8^a$ into the enlarged chamber 9—$9^a$.

The blade carrying portion is provided with a rectangular locking recess 25 near the rear edge. Near the center is a raised rectangular lug 27 which at the center, has a tapped aperture 26. Around the rear edge and the end is a flange 28 having a depressed portion or recess 29 with the lug 27 in the center and this recess 29 communicates with the extending portion 30 of the groove 8 in front of the enlarged portion 9.

The movable blade 31 has a central opening 32 and is wide enough to slidably fit within the recess 29 and about the lug 27 which with the sides of the recess form a guideway in which the blade may reciprocate. This blade has rod 33 extending toward the handle in the groove 8 and this rod is provided at its end with a yoke 34 which carries a cross pin 35 to which the end of the connecting rod 20 is pivotally attached, the yoke fitting snugly within the chamber 9—$9^a$ which forms a sliding bearing for the yoke so as to allow reciprocating movement only.

A cover 40 is provided for the blade which has a flange 41 around the edges and rear but which is recessed along the front

to fit over the blade. This cover is provided with a rectangular lug 42 adapted to engage in the locking recess 25 and also a similar lug 43 near the front edge adapted to be received in a groove 44 in the top of the movable blade. It also has a rectangular interior recess $29^a$ forming with the recess 29 in the blade carrying portion the chamber and guideway for the reciprocable blade. The cover is held in place by means of a set screw 45 passing through a countersunk aperture 46 in the cover, the set screw being received in the tapped aperture 26.

As shown, the bottom member 1 is provided with teeth 2 each of which has an angled end 50, the upper surface 51 of which forms the shearing blade, being at an angle below the horizontal up to the line of coverage by the cover plate. The continuing upper surface 54 then extends at an angle above the horizontal to receive the complementary shaped teeth 55 formed on the movable blade.

These stationary teeth 2 act as a comb and to assist in raising the hair and holding the same vertically so that even cutting may be obtained without pulling, each tooth 2 is formed into a comb with a series of angularly placed teeth 56 spaced apart the slots extending toward the top of the tooth 2 as clearly shown in Figs. 12 and 13. By the use of these comb teeth type of stationary clipper teeth, the hair is brought up straight to the shearing edges of the teeth 2, allowing it to be sheared cleanly and evenly without pulling and thus an even cut can be obtained.

The entire device is simple and may be easily assembled or taken apart for cleaning or replacement. There are but few parts which fit snugly together forming a clipper which can be easily handled and used by a barber just as a comb would be used. The use of the comb teeth on the individual stationary teeth adds greatly to the efficiency and smooth operation of the device inasmuch as they tend to comb the hair and hold it in correct position during the cutting operation.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a power operated clipper, the combination of a back plate having its front edge provided with stationary clipper teeth, said plate having a recess near the rear edge and a raised centrally placed lug, a movable toothed blade having a centrally located slot adapted to fit over said lug, such slot being longer than said lug to allow reciprocating movement of said blade and a cover for said blade and back plate having a lug adapted to fit into such recess in said back plate and resting on said blade and adapted to be secured to said back plate to hold said blade in reciprocating position.

2. In a power operated clipper, the combination of handle and back plate having stationary clipper teeth on its forward edge, said plate having a locking recess near its rear edge, a raised centrally mounted tapped lug, a recess to the rear of said lug forming a guideway, a clipper blade with teeth reciprocably mounted on said back plate, said blade having a slot adapted to receive said lug and having its rear portion adapted to fit in such guideway, said blade having a groove near its toothed edge, a cover for said back plate and blade, said cover being provided with longitudinally extending lugs near its rear and forward edges adapted to fit into such locking recess in said back plate and such groove in said movable blade, said cover having a central aperture, and a set screw adapted to pass through such cover aperture and have threaded engagement in such tapped back plate aperture to secure said cover and blade in position.

3. A stationary tooth for a hair clipper, comprising a tooth portion having an angled end, a slanting upper shearing surface, the lower surface of the tooth being provided with a series of angularly placed teeth to act as a comb to carry the hair up the sides of the main tooth to the shearing surface.

4. A stationary tooth for a hair clipper, comprising a tooth portion having an angled end, a slanting upper shearing surface, the lower surface of the tooth being provided with a series of comb teeth extending toward the upper surface parallel to the angled end to form said stationary tooth into a comb to carry the hair straight up above the shearing surface.

Signed by me this 3rd day of July, 1922.

PAUL SERENE.