Jan. 17, 1928. 1,656,626

N. V. GHETIA ET AL

HAIR CLIPPER

Filed Oct. 28. 1926 2 Sheets-Sheet 1

Fig. 1.

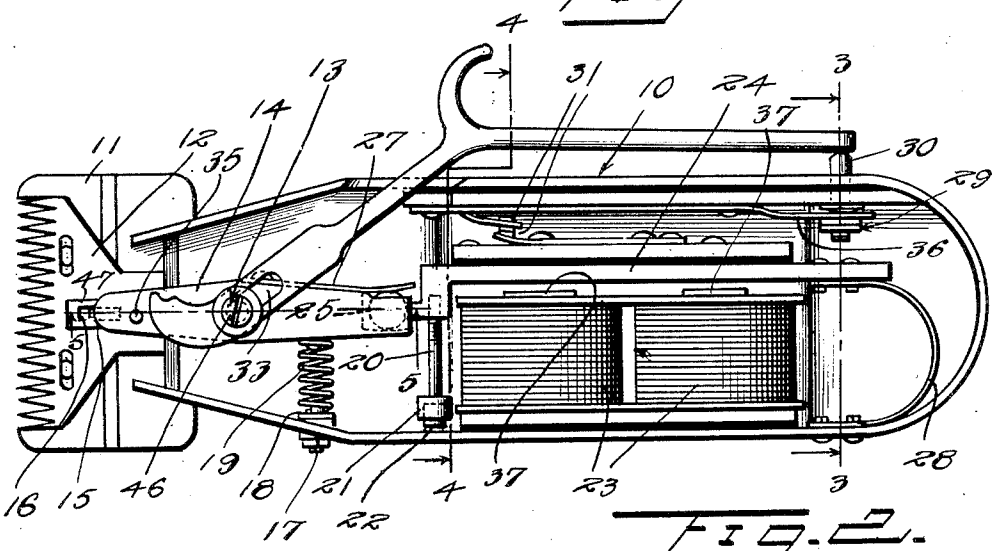
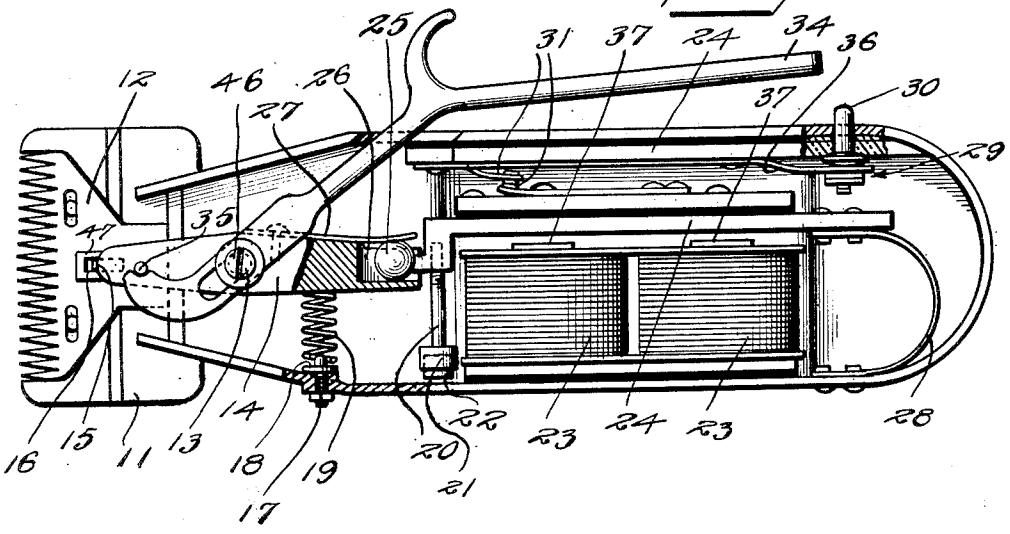


Fig. 2.



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Fig. 3.

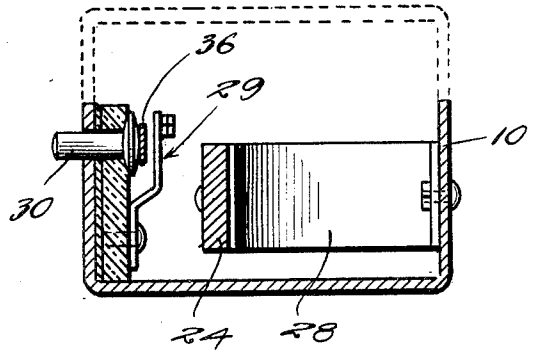


Fig. 4.

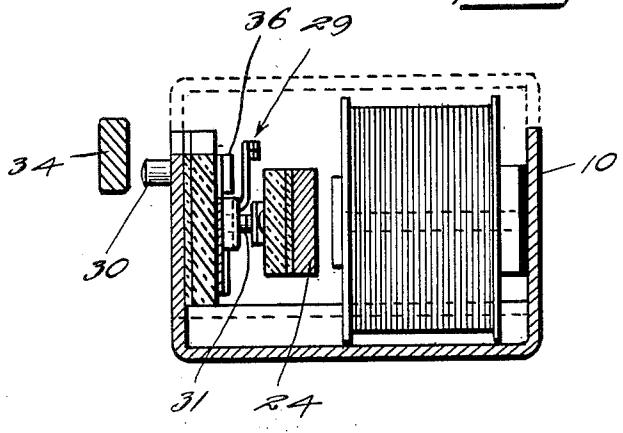
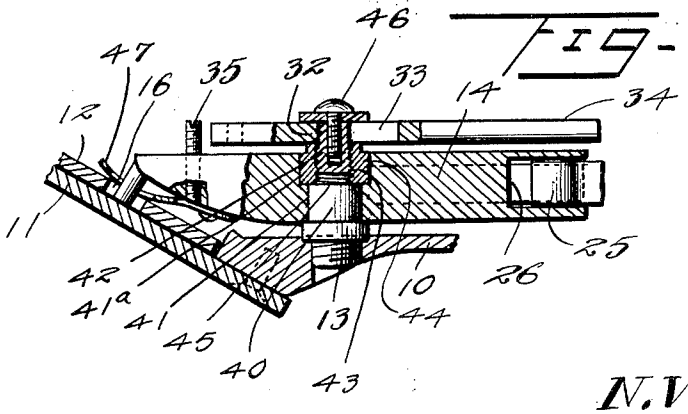


Fig. 5.



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UNITED STATES PATENT OFFICE.

NICHITU V. GHETIA AND PIERINO DETTORRE, OF CLEVELAND, OHIO.

HAIR CLIPPER.

Application filed October 28, 1926. Serial No. 144,766.

This invention relates to hair clippers and more particularly to hair clippers of the combined manually and electrically or mechanically operated type.

An important object of the invention is to provide a construction rendering the operation of the clipper substantially noiseless when electrically or mechanically actuated.

A further object of the invention is to provide a construction such that the difference in operating strokes between those periods when the clipper is electrically and manually operated may be compensated for.

A further and more specific object of the invention is to improve the construction of prior Patent, No. 1,422,352, granted July 11, 1922, for hair clippers, to enable the same to be practically produced and generally improve the operation thereof.

These and other objects we attain by the construction shown in the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of our invention and wherein:—

Figure 1 is a top plan view of our improved hair clippers;

Figure 2 is a similar view with parts in section and in different position from that shown in Figure 1;

Figures 3, 4 and 5 are sectional views on the lines 3—3, 4—4 and 5—5 respectively of Figure 1.

Referring now more particularly to the drawings, the numeral 10 generally designates a casing, preferably formed of non-magnetic material. This casing has one end thereof open and at this end has secured a stationary clipper blade 11 upon which is mounted a shiftable clipper blade 12. The blades 11 and 12 may be of any usual or preferred construction, but the mounting of these blades is such that the blade 12 shifts transversely of the open end of the casing 10. Pivoted within the casing, adjacent the open end thereof upon a pivot 13 is a lever 14, one end of which has a tongue 15 operating within a slot 16 formed in the blade, so that as the lever is oscillated, the blade will be reciprocated.

Through one wall of the casing is directed an adjustable screw 17, the inner end of which is in the form of a spring seat 18 with which is engaged one end of a spring 19, the opposite end of which engages the inner end of the lever 14 to normally maintain the same at one limit of its movement.

This same wall of the casing provides a mounting for a longitudinally extending series of electro-magnets 23, the armature 24 of which has a head 25 engaging in a recess 26 formed in the inner end of the lever 14. This recess is preferably produced by forming in the inner end of the lever 14 a notch opening through one side wall and the end of the lever. The opening through the side wall is then closed by a flat steel spring 27. The head 25 is of greater width than the recess, so that the spring 27 constantly bears thereagainst to maintain the head in proper position within the recess. It will be noted that the spring 20, which engages the lever 14, tends to shift the lever in a direction moving the head end of the armature 24 away from the electro-magnets 23.

This end of the armature has adjustably directed therethrough a threaded screw 20, the outer end of which has a cup 21 in which is located a rubber stop 22 which will engage against the wall of the casing when the armature moves against the action of the spring 19 and limit the movement of the armature before it actually comes in contact with the cores of the electro-magnets, thus silencing the operation.

The opposite end of the armature 24 may be mounted in any suitable manner, but is preferably connected with one wall of the casing by a bowed steel spring 28. A switch 29 embodying a shiftable element 30 directed through the wall of the casing is provided for controlling the circuit of the electro-magnet. These electro-magnets and the armature thereof have associated therewith the usual contacts 31 for making and breaking the circuit to produce a vibratory motion of the armature 24 when the circuit is established.

The pivot 13 of the lever 14 has a reduced extension 32 directed through a longitudinally extending slot 33 formed in a control member or handle 34. The outer end of the lever 14 has a pin 35 with which the extremity of this control member is engageable when the control member is at one end of its movement, as defined by the slot 33. When at the opposite end of its movement, the outer end or handle portion of the control member overlies the outer end of the movable member 30 of the switch 29, so that when the instrument is to be used and electrically actuated, by simply grasping this handle, the operator closes the circuit

to the electro-magnets 23. By releasing the pressure applied by the fingers, the handle will be forced outwardly by a spring 36 forming one contact of the switch 29, so that the circuit is broken, thus permitting very ready control of the clipper as electrically actuated. In manual actuation, the control member is engaged with the pin 35, after which it may be operated in the usual manner. At this time, the outer end of the control member clears the movable member of the switch 30, so that there is no actuation thereof.

It is pointed out that the bumper 22 will engage against the lever 14 limiting its movement and preventing the armature 24 from coming into engagement with the cores 37 of electro-magnets 23. This prevents the clicking noise ordinarily accompanying the operation of electrically operated clippers. Under manual operation, it will, of course, be obvious that the power applied to move the movable blade 12 will be considerably greater than that ordinarily applied by the electro-magnets, with the result that the bumper 22 will be more greatly compressed than it is under actuation by the electro-magnets. Under these conditions, the armature bar 24 may contact with the cores 37 and at this time, the spring 27 will yield to permit the necessary additional movement which could not take place with the head fitted within a recess, the walls of which are rigid. This construction additionally permits a longer working stroke when the device is employed manually.

In order that the manual control handle may be removed and the device simply employed as an electrically operated clipper whenever this is found desirable, the pivot 13 is made in the form of a stud engaging the lower wall of the casing and having a reduced upper end 40 extending through a bore 41 formed in the lever 14. The upper end of the bore 41 of the lever 14 is enlarged and the reduced upper end 40 of the stud is provided with a reduced extension 42, the lower portion of which is exteriorly threaded, as at 43. With this exteriorly threaded portion is engaged a nut 44 fitting the enlarged portion 41^a of the bore of the lever and seating in its lower end upon the shoulder 45 formed at the junction of the reduced extension 42 with the reduced upper end 40 of the stud. The upper face of the nut 44 extends slightly above the upper face of the lever 14 and has seated thereon the operating handle 34. This operating handle is kept in position by a screw 46 threaded into the upper end of the reduced extension 42, about which the operating handle pivots.

It will, of course, be obvious that the movable blade 12 must be pressed against the stationary blade 11 in the operation of the clippers. In order to provide for this, we secure to the under surface of the lever 14 at the forward end thereof a spring 47, the free end of which bears against the blade 12 and urges the same toward the blade 11. The pin 35 is in the form of a screw adjustable through the lever 14 and engages the spring 45 with its lower end, so that the tension of this spring and accordingly the engagement of the blades 11 and 12 may be regulated.

It will, of course, be obvious that the construction hereinbefore set forth is capable of a certain range of change and modification without materially departing from the spirit of the invention and we accordingly do not limit ourselves to such specific structure except as hereinafter claimed.

We claim:—

1. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction and a control member engageable with the lever to permit manual oscillation thereof, the connection between the armature and lever permitting relative movement of the armature and lever while yieldably maintaining the armature in one position with respect to the lever.

2. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction and a control member engageable with the lever to permit manual oscillation thereof, the lever having in its end a socket, the member having a head engaging in the socket, one wall of the socket being resiliently yieldable to thereby permit relative movement of the armature and lever while yieldably maintaining the armature in one position with relation to the lever.

3. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction and a control member engageable with the lever to permit manual oscillation thereof, the connection between the armature and lever permitting relative movement of the

armature and lever while yieldably maintaining the armature in one position with respect to the lever, the electromagnetically vibrated member being the armature of an electro-magnet and a cushioned stop for preventing engagement of the armature with the core of the magnet, said stop being adjustable toward and away from the lever.

4. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction and a control member engageable with the lever to permit manual oscillation thereof, the connection between the armature and lever permitting relative movement of the armature and lever while yieldably maintaining the armature in one position with respect to the lever, said means yieldably resisting movement of the lever being adjustable to regulate the degree of resistance.

5. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction, a control member engageable with the lever to permit manual oscillation thereof and a spring carried by the lever and engaging the movable blade to urge the movable blade into engagement with the stationary blade.

6. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction, a control member engageable with the lever to permit manual oscillation thereof, a spring carried by the lever and engaging the movable blade to urge the movable blade into engagement with the stationary blade and a member adjustable through the lever to engage the spring and thereby adjust the pressure applied to the movable blade.

7. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction, a control member engageable with the lever to permit manual oscillation thereof, a spring carried by the lever and engaging the movable blade to urge the movable blade into engagement with the stationary blade and a member adjustable through the lever to engage the spring and thereby adjust the pressure applied to the movable blade, said member comprising a pin with which the control member engages when positioned for manual operation of the lever.

8. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction, the pivot of the lever including a reduced upwardly extending portion, a control member having a slot receiving said extension, removable means at the upper end of the extension for maintaining the control member in position thereon and a pin carried by one end of the lever with which one end of the control member is engageable when the extension of the pivot is at one edge of the slot.

9. In a combined electrically and manually operated hair clipper, stationary and movable blades, a pivoted lever having engagement with the movable blade whereby the movable blade is reciprocated as the lever is oscillated, an electromagnetically vibrated member engaged with the lever to oscillate the same, means yieldably resisting movement of the lever in one direction, the pivot of the lever including a reduced upwardly extending portion, a control member having a slot receiving said extension, removable means at the upper end of the extension for maintaining the control member in position thereon, a pin carried by one end of the lever with which one end of the control member is engageable when the extension of the pivot is at one end of the slot and a spring carried by the lever compressing the movable blade toward the stationary blade, the end of said pin engaging said spring to thereby adjust the pressure with which the movable blade engages the stationary blade.

In testimony whereof we hereunto affix our signatures.

NICHITU V. GHETIA.
PIERINO DETTORRE.