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L. J. WAHL

MOUNTING FOR VIBRATORY ELEMENTS OF CLIPPERS

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Fig.1

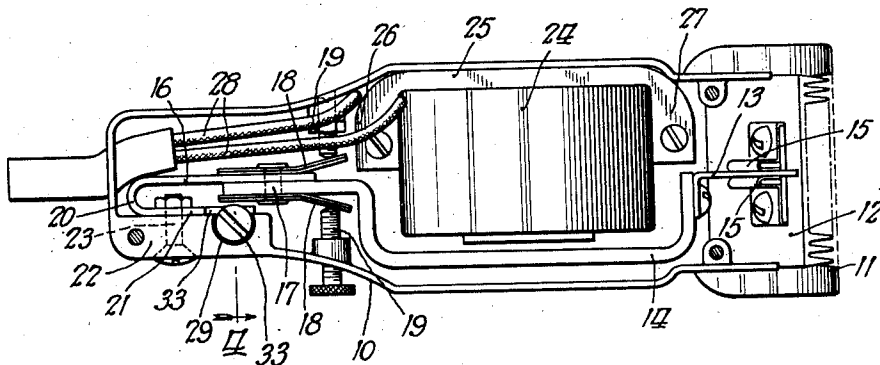


Fig. 2

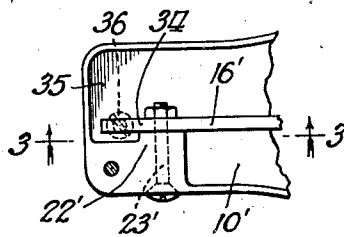
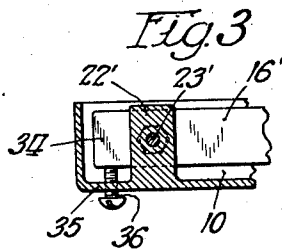


Fig. 4



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MOUNTING FOR VIBRATORY ELEMENTS OF CLIPPERS.

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My invention relates to clippers and more particularly to vibratory clippers and to means for mounting the vibratory elements thereof.

It is a purpose of my invention to provide means for mounting a vibratory element of a clipper having a movable blade and a stationary blade so that the movable blade may be adjusted relative to the stationary blade to vary the tension between the blades without affecting the tuning of the vibratory member or the adjustment thereof in any other respect.

In devices of this character, the vibratory element usually comprises a member of resilient material that is clamped or fixed in position on the casing of the device at or near one end thereof and which carries a vibratory armature at the other end thereof, said vibratory armature carrying the movable clipper blade. The entire device embodying the resilient member, the vibratory armature and the blade have to be moved in order to adjust the tension between the blades and it has been found that such movement frequently throws the other adjustments off after they have been made if this adjusting is done in the usual manner. In the present invention, adjustment of the moving parts of the vibratory clipper is obtained, in the direction for adjusting the tension between the blades, at a point beyond the point of securement thereof to the casing or other support for the vibratory mechanism. In this way, none of the other adjustments of the vibratory system are disturbed by adjusting the tension between the blades and the tension is applied at a point where there is no movement of the spring.

Other objects and advantages of the invention will appear as the description of the drawings proceeds. However, I desire to have it distinctly understood that I do not intend to limit myself to the exact details shown or described, but that I intend to include as part of my invention all such obvious changes and modifications of parts as would occur to a person skilled in this art and as would fall within the scope of the claims.

In the drawings:

Fig. 1 is a plan view of a clipper with the cover removed showing one form of my improved mounting of the vibratory member;

Fig. 2 is a fragmentary plan view of a

portion of a clipper with the cover removed showing another form of my invention;

Fig. 3 is a section thereof taken on the line 3—3 of Fig. 2; and

Fig. 4 is a section taken on the line 4—4 60 of Fig. 1.

Referring in detail to the drawings, in Fig. 1 is shown a clipper having a casing 10 which is provided with a stationary clipper blade 11 at the forward end thereof which is toothed as is customary and with which the movable clipper blade 12 co-operates. The blade 12 is secured to a bracket 13 provided on the armature 14 by means of the clips 15, said armature 14 being secured at the opposite end thereof to a resilient member 16 by means of the securing means 17, said securing means 17 also carrying the lighter springs 18 with which the adjusting screws 19 are adapted to engage. The resilient member 16 is provided with a re-curved portion 20 terminating in the end portion 21 which is clamped to the enlargement 22 provided on the casing 10 by means of a clamping member 23. The vibratory system comprising the armature 14, the resilient member 16 and the blade 12, is vibrated by means of an electro-magnet comprising the coil 24 having a core 25 provided with the laterally extending portions 26 and 27 which extend in close proximity to the offset end portions of the armature 14, current being supplied to said coil 24 by means of the conductors 28.

The adjusting screws 19 are provided for adjusting the tension on the resilient members 18 whereby the period of vibration of the moving system may be adjusted. It will be noted that the member 23 clamps the resilient member 16 along the portion 21 thereof to the enlargement or abutment 22 at some distance from the extreme end portion thereof.

The enlargement or abutment 22 is provided with a cut away portion or recess at 29 within which is seated the head 30 of a screw 31 having screw-threaded engagement with a screw-threaded opening 32 in said member 22. It will be seen that the head of the screw engages with the upper edge of the end portion 21 of the member 16, said end portion being cut away slightly to provide a portion 33 depressed below the armature of the member 21 with which the head 30 of the screw engages. It will be obvious, 110

upon reference to Figs. 1 and 4, that if the screw 30 is tightened or turned downwardly, this will tend to move the blade 12 into firmer engagement with the blade 11 and if the same is moved upwardly, the tension between the blades 11 and 12 will be reduced. This adjustment can be made without having any effect on the adjustment of the screws 19 due to the fact that said adjusting screw is located between the free end of the resilient member and the point at which the same is clamped to the casing.

Instead of providing the adjusting means on a resilient or spring member that has a re-curved portion terminating in an end portion extending substantially parallel to the main body portion thereof, as shown in Fig. 1, the resilient member may be made straight as will be clear from Figs. 2 and 3. In this figure, the resilient member to which the armature is secured is indicated by the numeral 16' and corresponds to the member 16 in Fig. 1. In this construction, the casing 10' is provided with an enlargement or abutment 22' against which the member 16' is clamped by means of the bolt-like member 23' corresponding to the member 23 in Fig. 1. It will be noted that the member 16' has an extension 34 which extends beyond the clamping means 23'. The bottom 35 of the casing 10' is provided with a screw-threaded opening through which the adjusting screw 36 extends which engages with the extension 34 of the member 16' and it will be obvious that if said screw 36 is turned upwardly or into the casing, the resilient member 16' and the armature and blade carried thereby will be tilted downwardly so as to increase the tension between the movable and stationary blades of the same whereas if the screw 36 is turned downwardly or out of the casing, such tension is reduced. It will also be noted that due to the fact that the resilient member 16' is clamped to the casing by means of the member 23' at a point spaced from the end thereof and that said member is engaged by the means for adjusting the tension between the blades between the end thereof and said clamping means, the adjustment of the tension between the blades will not affect the adjustment of the tension on the resilient member carrying the armature.

Having thus described my invention, what I desire to claim and secure by United States Letters Patent is:

1. In a device of the character described, a vibratory member comprising an armature and a mounting therefor and electro-magnetic means for vibrating said member, said mounting comprising a resilient member, means for clamping said resilient member rigidly to a support and means for adjusting said resilient member about the axis of said clamping means, said adjusting means engaging said resilient member on the op-

posite side of said clamping means from said armature.

2. In a device of the character described, a vibratory member comprising an armature and a mounting therefor and electro-magnetic means for vibrating said member, said mounting comprising a resilient member, means for adjustably clamping said resilient member rigidly to a support and means for adjusting said resilient member about the axis of said clamping means, said adjusting means engaging said resilient member on the opposite side of said clamping means from said armature.

3. In a device of the character described, a casing, a vibratory member, electro-magnetic means for vibrating said member, means for mounting said member on said casing comprising a resilient member, means for clamping said resilient member rigidly to said casing at a point spaced from the end thereof and means for adjusting said vibratory member transversely of its direction of vibration engaging said resilient member beyond the point of securement thereof to said casing.

4. In a device of the character described, a casing, a vibratory member, electro-magnetic means for vibrating said member, means for mounting said member on said casing comprising a resilient member, means for clamping said resilient member rigidly to said casing, said resilient member having an end portion projecting beyond said clamping means and means for adjusting said vibratory member transversely of its direction of vibration engaging said end portion of said resilient member.

5. In a device of the character described, a casing, a vibratory member, electro-magnetic means for vibrating said member, means for mounting said member on said casing comprising a resilient member, means for clamping said resilient member rigidly to said casing, means for adjusting the period of vibration of said vibratory member, said resilient member having an end portion projecting beyond said clamping means and means for adjusting said vibratory member transversely of its direction of vibration engaging said end portion of said resilient member whereby said adjustment does not disturb the adjustment of the period of vibration of said vibratory member.

6. In a device of the character described, a casing, a vibratory member therein, electro-magnetic means for vibrating said member, said vibratory member comprising a resilient member, means for rigidly clamping said resilient member to said casing, means yieldably engaging opposite sides of said vibratory member for adjusting the period of vibration thereof and means beyond said clamping means for adjusting said vibratory member transversely of its direction

of vibration without disturbing the adjustment due to said yieldable adjusting means.

7. In a device of the character described, a casing, a vibratory member therein, electro-magnetic means for vibrating said member, said vibratory member comprising a resilient member, means for rigidly clamping said resilient member to said casing spaced from the end thereof, means yieldably engaging opposite sides of said vibratory member for adjusting the period of vibration thereof and means adjacent the end of said vibratory member beyond said clamping means for adjusting said vibratory member transversely of its direction of vibration without disturbing the adjustment thereof due to said yieldable means.

8. In a device of the character described, a casing, a vibratory member therein, electro-magnetic means for vibrating said member, said vibratory member comprising a resilient member, means for rigidly clamping said resilient member to said casing spaced from the end thereof, means yieldably engaging opposite sides of said vibratory member for adjusting the period of vibration thereof comprising a pair of springs carried by said vibratory member on opposite sides thereof, and adjusting means on the casing engaging said springs, and means adjacent the end of said vibratory member

beyond said clamping means for adjusting said vibratory member transversely of its direction of vibration without disturbing the adjustment thereof due to said yieldable means.

9. In a device of the character described, a casing, a vibratory member therein, electro-magnetic means for vibrating said member, said vibratory member comprising a resilient member, means for rigidly clamping said resilient member to said casing spaced from the end thereof, means yieldably engaging opposite sides of said vibratory member for adjusting the period of vibration thereof comprising a pair of springs carried by said vibratory member on opposite sides thereof, and adjusting means on the casing engaging said springs, and means adjacent the end of said vibratory member beyond said clamping means for adjusting said vibratory member transversely of its direction of vibration without disturbing the adjustment thereof due to said yieldable means, said clamping means serving as a pivot for said vibratory member while adjusting the same transversely of its direction of vibration while clamping said member to said casing.

In witness whereof, I hereunto subscribe my name this 28th day of July A. D. 1924.

LEO J. WAHL.