L. M. BOWMAN.

ELECTRIC CLIPPER.

APPLICATION FILED JULY 8, 1919.

1,383,977. Patented July 5, 1921.

Fig. 1.

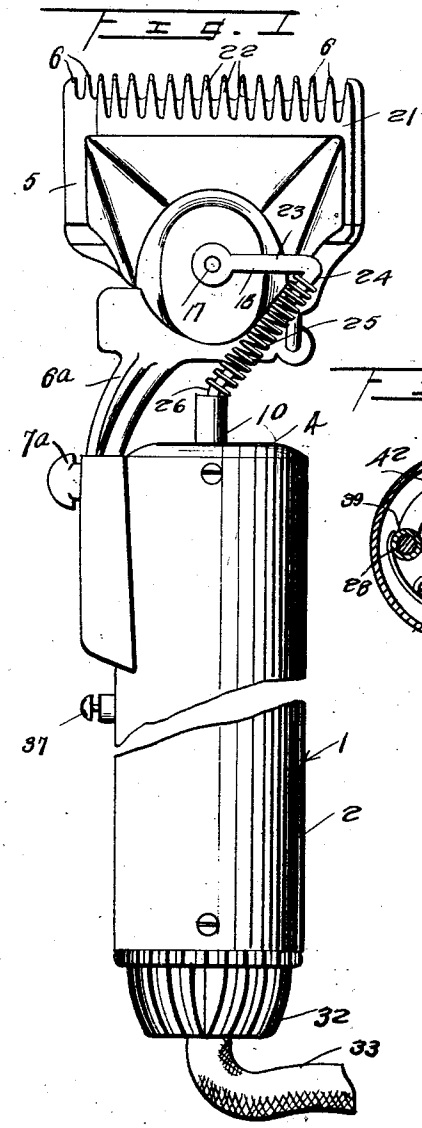


Fig. 3.

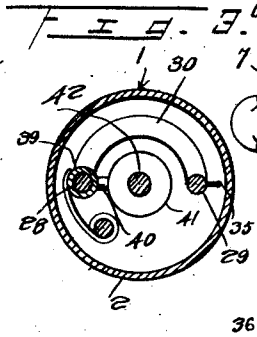


Fig. 2.

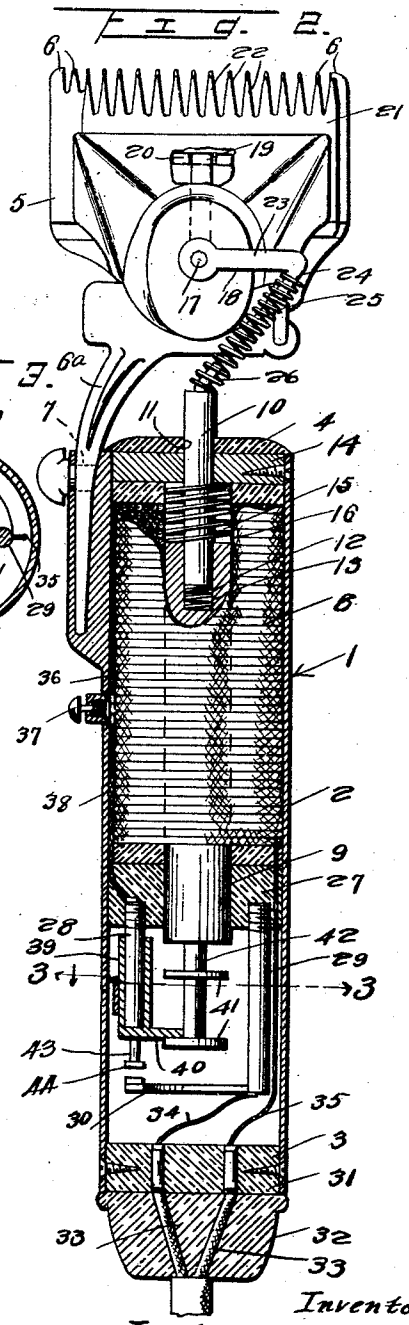
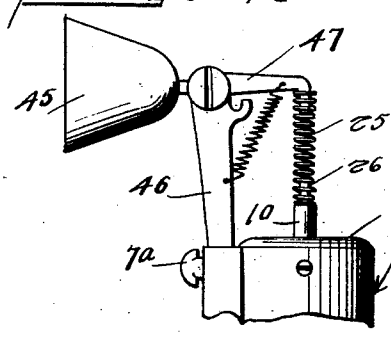


Fig. 4.



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By

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UNITED STATES PATENT OFFICE.

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ELECTRIC CLIPPER.

1,383,977. Specification of Letters Patent. Patented July 5, 1921.

Application filed July 8, 1919. Serial No. 309,323.

To all whom it may concern:

Be it known that I, LEVI M. BOWMAN, a citizen of the United States, residing at Tulsa, in the county of Tulsa, and State of Oklahoma, have invented certain new and useful Improvements in Electric Clippers; 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 clippers and the primary object of the invention is to provide an improved means for automatically operating the clippers so as to eliminate the necessity of operating the same by hand.

A further object of the invention is to provide an improved pair of clippers which can be effectively used for cutting hair or shearing animals, such as sheep and the like.

A further object of the invention is to provide an improved pair of clippers electrically operated, which is light in weight and easy to handle and which eliminates the necessity of employing an electric motor.

A further object of the invention is to provide an improved clipper embodying the usual stationary and movable blades and having a hollow handle carried by the stationary blade containing a solenoid, the core of which is operatively connected to the movable blade.

A further object of the invention is to provide an improved electric driven device of the above character, in which the clippers can be readily removed and other instruments attached thereto, such as scissors, massages or the like.

A still further object of the invention is to provide an improved device of the above character, which is durable and efficient in use, one that is simple and easy to manufacture, and one that can be placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings, forming a part thereof, in which:

Figure 1 is a side elevation of the improved clippers.

Fig. 2 is a vertical longitudinal section through the same.

Fig. 3 is a cross section taken on the line 3—3 of Fig. 2.

Fig. 4 is a detail fragmentary view showing the massager attached thereto.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the numeral 1 generally indicates the improved device which includes the hollow cylindrical handle 2, having the removable insulating end caps 3 and 4 secured thereto.

The casing 2 has detachably secured thereto at the forward end thereof a forwardly projecting stationary blade 5 provided with a plurality of teeth 6 forming a cutting comb. The blade 5 is provided with a reduced shank 6^a, which is provided with an aperture 7 which is adapted to register with an aperture formed in the end of the casing and the registering apertures are adapted to receive a suitable fastening element such as screws 7^a or the like to hold the same in position. A solenoid 8 is fitted in the forward end of the casing and is provided with a reciprocatory soft iron plunger 9 which carries a brass operating bar 10 which is slidably fitted in a guide opening 11 formed in the end cap 4 and the operating rod extends outwardly and exteriorly of the cap. A coiled spring 12 is mounted in the bore 13 formed in the outer end of the soft iron core 9 which receives the operating bar 10 and the spring forms a resilient rebound seat for the same. A brass washer 14 is secured to the forward end of the handle 2 in abutting relation with the end cap 4 and the same receives the tubular guide 16 in which is fitted the expansion spring 15, which is coiled around the operating rod 10. The spring 15 has its outer end bearing against the washer 14 and its inner end against the core 9 and normally tends to move the core 9 rearwardly in the solenoid 8. A pivot pin 17 is carried by the blade 5 and pivotally supports the bell crank 18, which has one arm thereof provided with a knob 19, which engages a socket 20 carried by the movable blade 21. The movable blade 21 is provided with a plurality of cutting teeth 22, which are adapted to cooperate with the cutting comb teeth 6 of the stationary blade 5 to sever the hair, as is usual in the ordinary construction of clippers. The other arm 23 of

the bell crank 18 is provided with a rearwardly projecting lug 24, which receives the outer end of a coil spring 25, which has its inner end secured to the operating rod 10. The outer end of the operating rod 10 is reduced as at 26, which enters the inner end of the coil spring 25.

From this construction it can be seen that when the core 9 is reciprocated, the movable blade 21 will be operated. The casing 2 is provided intermediate its ends with an annular insulating block 27 which receives the inner end of the core 9 and forms a guide for the same. The insulating block 27 has detachably secured thereto rearwardly extending posts 28 and 29 formed of suitable electrical conducting material. The post 29 has secured thereto the arcuate spring member 30, the free terminal of which extends below the free end of the post 28 and when the same is forced into contact with the post 28 an electrical contact is made. The cap 3 forms the female part of an electric socket 31 and the same is adapted to receive the male portion 32 of the socket which carries the ordinary line wires 33 leading to a suitable electric source. One terminal of the female portion of the socket is connected by means of a wire 34 to the post 29 and the opposite contact is connected by a wire 35 to one terminal of the coil on the solenoid 8. The opposite terminal of the coil on the solenoid 8 is connected by means of a wire 36 to one terminal of a switch 37 and the opposite terminal of the switch is connected by a wire 38 to the post 28. The switch 37 is adapted to be operated by hand and is of any preferred construction. The post 28 has slidably mounted thereon a sleeve 39 carrying an outstanding arm 40 which is arranged in the path of and intermediate the spaced plates 41 carried by the reduced extension 42 formed on the inner end of the core 9. The sleeve 39 also carries the depending arm 43 having the angularly extending foot 44 which extends below the arcuate spring 30 and the foot 44 is adapted, as the core completes its rearward or inward movement, to throw the terminal of the spring 30 into engagement with the post 28, so as to close the circuit and permit the core to be forced outwardly. As the core completes its forward or outward movement, the sleeve 39 will be moved upwardly or forwardly on the post 28 so as to withdraw the contact foot 44 from engagement with the spring 30, thereby breaking the circuit and permitting the core 9 to be thrown back by means of the expansion spring 15.

It will be understood, particularly by reference to Fig. 2 of the drawings, that while the outward movement of the core 9 results in an operative or cutting movement of the movable blade in one direction, this blade is returned to normal position by means of a suitable spring connected therewith and with a stationary portion of the clippers, the spring being extended around the pivot pin 17. This spring is conventional and not shown on the drawings. This return movement of the cutting blade 21 to its normal position will also serve to force the operating rod 10 inwardly to its normal or innermost position, ready for the near outward movement thereof together with the core 9. It is, therefore, evident that the movable cutting blade 21 has an operating or cutting movement both on the inward and outward movement of the core 9.

From the foregoing description, it can be seen that it is merely necessary to close the switch 37 when it is desired to operate the clippers.

In Fig. 4 is illustrated the device in use in connection with a massager 45 and in this instance a bracket 46 is secured to the casing in lieu of the stationary blade 5 and pivotally supports the arm 47 of the massager which has its inner end connected to the spring 25. Thus it will be seen that the core 9 will vibrate the massager in a very efficient manner.

In practice, I have found that the form of my invention illustrated in the accompanying drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet realizing the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required without sacrificing any of the advantages of my invention as set forth.

What I claim as new is:

In a device of the class described, an insulated hollow handle having a tapered socket formed thereon and opening toward one end of said handle, a stationary tool member, a tapered supporting member including a curved portion and a straight portion removably engaged in said tapered socket, means for securing said straight portion within said socket, a movable tool member mounted on said stationary tool member, an arm carried by said movable tool member and having a transversely extended portion with a turned free end, a movable operating means projecting from said handle and directed toward and spaced from the turned end of said arm, and resilient connections between said turned end of said arm and the said operating member.

In testimony whereof I affix my signature in presence of a witness.

LEVI M. BOWMAN.

Witness:
D. A. SMITH.