June 6, 1933. J. W. SIMMONS 1,913,250

MASSAGING DEVICE AND RAZOR SHARPENER

Filed Nov. 25, 1932

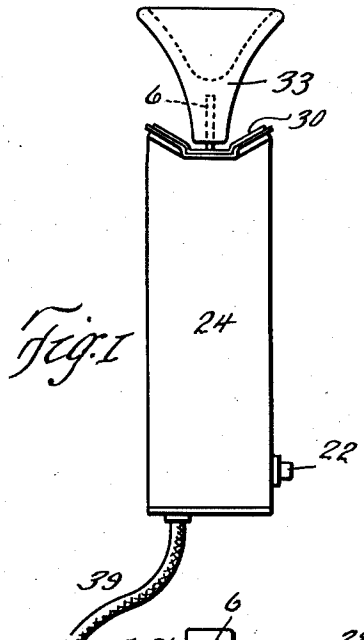


Fig. 1

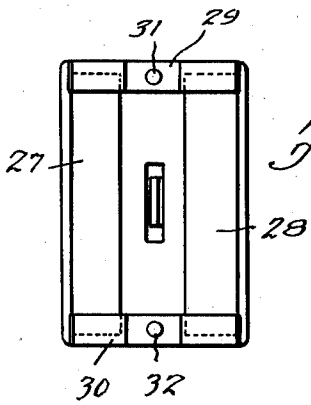


Fig. 2

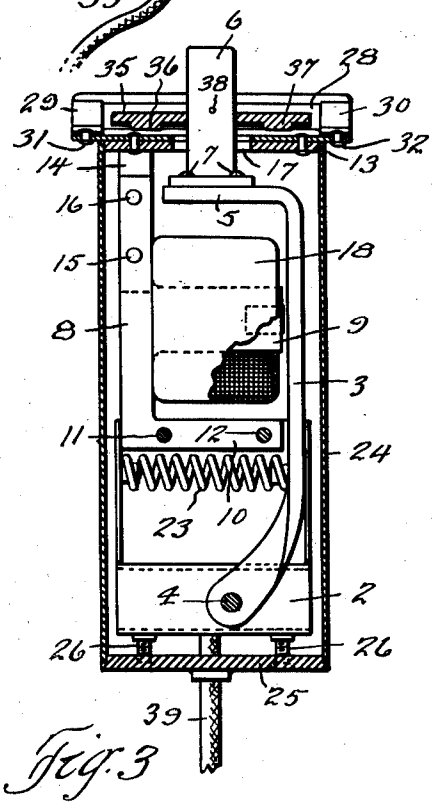


Fig. 3

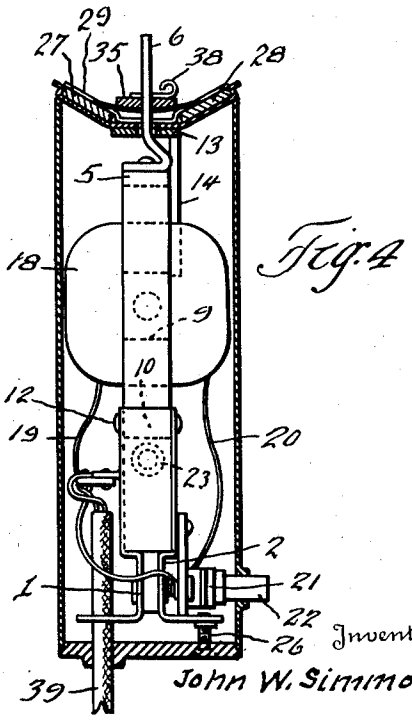


Fig. 4

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MASSAGING DEVICE AND RAZOR SHARPENER

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This invention relates to a combination razor blade sharpener and vibrator or massaging device.

One of the objects of the invention is to provide a combination implement of the character described which is simple in construction, efficient in operation and comprises few parts which are readily assembled and disassembled and can be produced at comparatively low cost.

A further object of the invention is to provide an article of manufacture of the character described which will be quite efficient as a massaging device or vibrator and as a razor blade sharpener.

Another object of the invention is to provide a device of the character described which will efficiently and effectively sharpen a razor blade.

Further and more limited objects of the invention will appear as the description proceeds and by reference to the accompanying drawing in which Fig. 1 is a view in side elevation of my combination massaging device and razor blade sharpener; Fig. 2 is a top plan view on a slightly enlarged scale with the applicator or massaging device removed; Fig. 3 is a vertical sectional view through the device and Fig. 4 is a similar view taken at right angles to Fig. 3.

Referring now to the drawing the device consists essentially of a pair of casings or shells 1 and 2 which are shaped in section as most clearly shown in Fig. 4. The reference character 3 designates an angular bar of the shape shown most clearly in Figs. 3 and 4, the lower end of which is pivotally secured between the casings 1 and 2 by means of a pin or screw 4. The upper end of the bar 3 is provided with an angular portion 5 to which is fixed a stud 6 which is held in place by suitable screws 7. The reference character 8 designates a stationary core in the form of an angular bar or member which is provided with spaced projecting portions 9 and 10. The bar 8 and the projections 9 and 10 are made up of a plurality of laminated pieces of iron or steel which are secured together by any suitable means. The lower end of the bar 8 is rigidly secured to the shells 1 and 2 by means of screws 11 and 12. Secured to the upper end of the bar 8 is a top member 13 having a downwardly projecting portion 14 which is secured to the upper end of the bar 8 by means of screws or rivets 15 and 16. The top member 13 is provided with a slot 17 through which the stud 6 projects. Carried by the bar 8 and surrounding the projecting portion 9 is a coil 18 which is connected with a source of alternating current by means of wires 19 and 20. Carried by the shell 2 is a switch 21 which is controlled by a push button 22.

Disposed between the shells 1 and 2 is a coil spring 23, one end of which bears against the angular bar 3 and the other end of which bears against the casing. Enclosing the parts just described is a shell or casing 24 which is preferably circular or oval in shape. The lower end of the casing 24 is closed by a cover plate 25 which is held in place by means of screws 26 which engage in suitable apertures provided in the shells 1 and 2. Secured over the top of the casing 24 is a frame member to which are secured a pair of hones 27 and 28 which are held in place by means of clips 29 and 30 and screws 31 and 32. The hones 27 and 28 are made of glass, porcelain, bakelite or any other suitable abrasive material which would serve as a hone.

The upper end of the stud 6 is shaped to detachably receive thereover an applicator 33 of the shape shown most clearly in Fig. 1 and is preferably frictionally held thereon. The applicator 33 may be of any suitable size or shape. Fitting over the stud 6 is a guard plate 35 provided with a pair of projections 36 and 37 of such shape and size as to engage and fit within the notches provided in the usual or standard double edged safety razor blade. The stud 6 is also provided with an opening adapted to receive therein a pin 38 which serves to hold the plate 35 in place.

The device is provided with a connector 39 which is adapted to be connected to the usual light socket. When it is desired to use the apparatus as a vibrator or massaging device, the instrument is grasped in the hand and the push button 22 depressed which closes

the circuit to the coil 18. The coil 18 and its associated parts acts as a vibrator and a very rapid vibratory or oscillatory motion is imparted to the pivotally mounted bar 3 which in turn is transmitted to the applicator 33 through the stud 6. The coil spring 23 moves the bar 3 toward the right when the magnetic pull thereon is sufficiently diminished. Due to the somewhat loose connections between the pivotally mounted bar 3 and the shells 1 and 2, there is some lost motion and the motion imparted to the vibrator will be somewhat irregular, that is to say, it will be given a slight oscillatory motion rather than a reciprocatory motion. As long as the push button 22 is grasped in the hand the vibrations are imparted to the stud 6.

When it is desired to use the device as a razor blade sharpener, the applicator 33 is removed. The pin 38 is removed which permits removal of the guard 35. A razor blade is then positioned over the end of the stud 6 which is of such size as to fit freely through the central opening provided in the usual double edged razor blade. The guard 35 is then replaced in such a position that the studs 36 and 37 engage in the notches usually provided in the double edged razor blade. The pin 38 is then replaced which holds the guard and razor blade in place. When a razor blade B is secured in place, it will occupy the position shown most clearly in Fig. 4 and the guard 35 will tend to flex the blade slightly as illustrated in Fig. 4. Now if the instrument is grasped in the hand and the push button 22 depressed, the motor will be energized and will impart very rapid vibrations to the razor blade. The edges of the razor blade contact with the hones 27 and 28. The rapid vibration of the razor blade over the hones sharpens the blade.

My apparatus is designed to be used with an alternating current of 60 cycles and a voltage of from 110 to 125 volts. The number of vibrations imparted to the stud 6 with a 60 cycle current will be 7200 per minute. The parts are of such size and so proportioned that the razor blade is moved approximately $\frac{1}{16}$ inch in each direction or $\frac{1}{8}$ inch per full stroke per complete cycle. It will therefore be seen that the razor blade will be moved over the hones at the rate of about 75 ft. per minute. I have found that a razor blade may be effectively sharpened by honing only one side. However, the razor blade may be removed and the opposite side sharpened when and if desired. I have also found that a razor blade may be effectively sharpened with my device in a small fraction of a minute.

Attention is particularly called to the fact that the hones extend in a plane parallel to the direction of movement of the blade and also parallel to the cutting edges of the blade. I have found that a razor blade will be more effectively sharpened than would be the case were it honed with a rotary hone which would engage the blade and move at right angles to the longitudinal axis of the blade. It is of course well known that a razor blade when viewed under the microscope contains a large number of teeth or projections which become disaligned causing dullness of the blade. The motion imparted to the blade, together with the arrangement of the hones as described, effectively aligns these teeth or projections and sharpens the razor blade very quickly and effectively.

The apparatus herein described has been designed especially for use with an alternating current. However, my principle may be used with a direct current motor or with a direct current vibrator. In the case of a direct current motor, it is necessary to provide a cam or eccentric which will impart a very rapid oscillatory movement to the blade. The embodiment of the invention herein disclosed is therefore to be considered merely illustrative and not in a limiting sense as various changes in construction and arrangement of parts may be resorted to without departing from the spirit of my invention. For example, it may be desirable to oscillate the hones instead of the blade and the hone may be made in one piece, if desired. My apparatus is also adaptable for use in sharpening a single edged razor blade in which case I provide an adapter which fits over the stud and is adapted to receive and position the blade. It is therefore to be understood that the invention is limited only in accordance with the scope of the appended claims.

Having thus described my invention, what I claim is:

1. An article of manufacture comprising a reciprocatory member, electro-magnetic means connected with said reciprocatory member for imparting an oscillatory motion thereto, means for securing a massaging implement to said reciprocatory member, means for securing a razor blade to said reciprocatory member, and a honing member disposed adjacent said reciprocatory member and positioned so as to be engaged by a razor blade secured thereon.

2. An article of manufacture comprising a reciprocatory member, electro-magnetic means connected with said reciprocatory member for imparting an oscillatory motion thereto, means for securing a massaging implement to said reciprocatory member, means for securing a razor blade to said reciprocatory member, and a honing member disposed adjacent said reciprocatory member and positioned so as to be engaged by a razor blade secured thereon, said honing member extending in a direction parallel with the cutting edge of said blade.

3. An article of manufacture comprising a reciprocatory member, electro-magnetic means connected with said reciprocatory

member for imparting an oscillatory motion thereto, means for securing a massaging implement to said reciprocatory member, means for securing a razor blade to said reciprocatory member, a pair of hones extending along opposite sides of said reciprocatory member and positioned so as to be engaged by a double edged razor blade secured on said reciprocatory member, and means detachably securing said hones in place.

4. An article of manufacture comprising a combination massaging device and razor sharpener and including a reciprocatory member and electro-magnetic means for imparting an oscillatory motion to said reciprocatory member, means for securing a razor blade to said reciprocatory member, means for securing an applicator to said reciprocatory member, and a pair of hones extending along opposite sides of said reciprocatory member and disposed at an angle to a razor blade secured thereto.

5. A razor blade sharpener for use with double edge blades comprising a head portion, a reciprocatory member adapted to receive and position a razor blade, a hone carried by said head portion and positioned so as to be engaged by said blade, and means for producing a relative reciprocatory movement between said hone and blade, the direction of said reciprocatory motion being substantially parallel with the cutting edge of the blade.

6. A combination vibrator and razor sharpener comprising a head portion and a handle portion, a reciprocatory member extending beyond said head portion and adapted to receive a vibrator thereover, means for securing a double edged razor blade in operative relation to said reciprocatory member, a pair of hones carried by said head portion and positioned so as to be engaged by a razor blade secured to said reciprocatory member, and an alternating current electric vibrator arranged within said handle portion and operatively connected with said reciprocatory member so as to oscillate the same.

7. In a razor blade sharpener, the combination of a casing having a slotted top, an oscillating bar pivoted in the casing and provided with a stud projecting through the slot, a hone mounted on the top, beside the slot, a reciprocating guard plate through which the stud extends, said plate having means to engage a blade and hold the edge thereof against the hone, means to clamp the plate against the blade, and electromagnetic means in the casing to oscillate the bar.

In testimony whereof, I hereunto affix my signature.

JOHN W. SIMMONS.