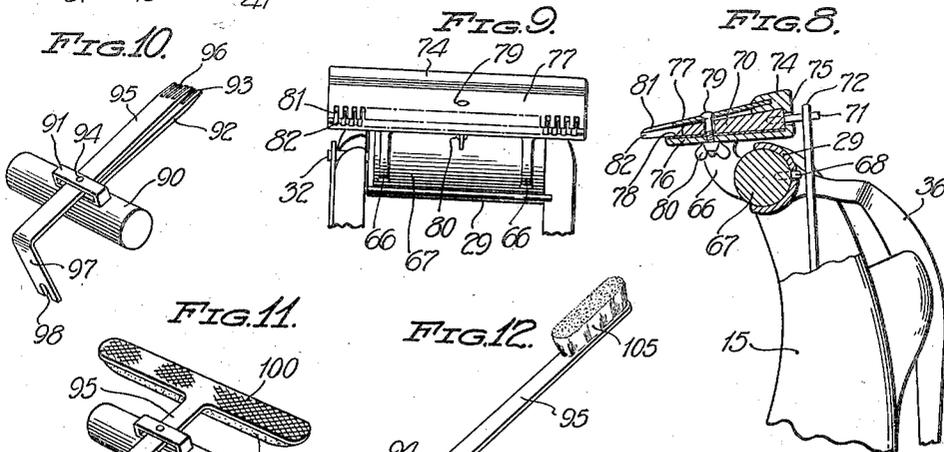
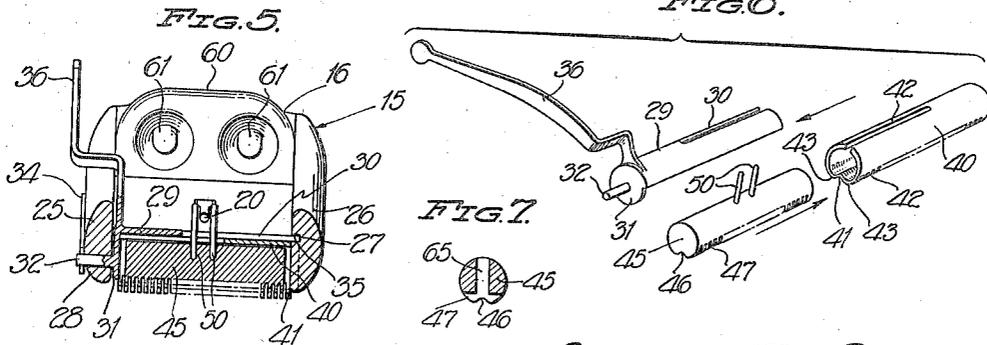
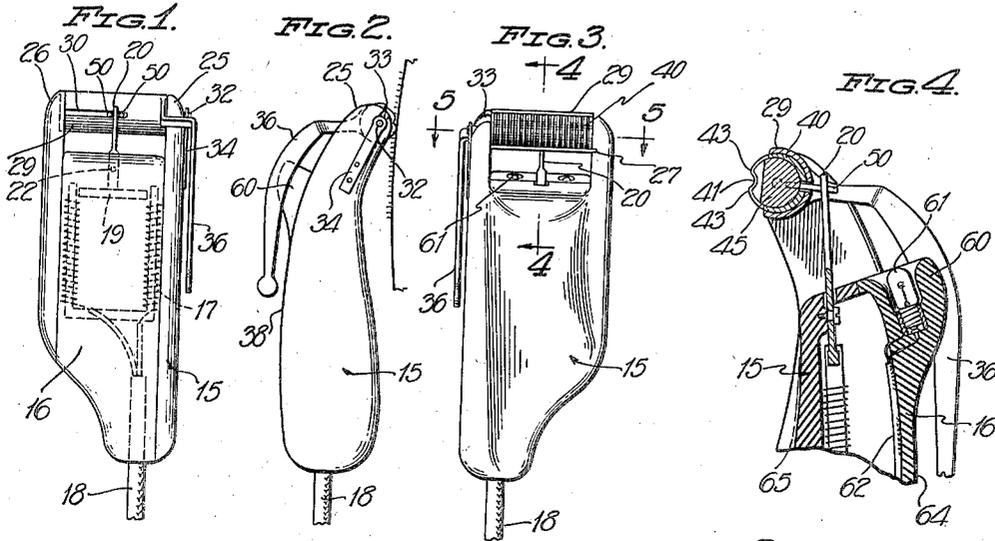


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I. KULIK  
POWER RAZOR

2,246,523

Filed April 30, 1937



WITNESS:  
*[Signature]*

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# UNITED STATES PATENT OFFICE

2,246,523

## POWER RAZOR

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3 Claims. (Cl. 30-43)

This invention relates to new and useful improvements in razors and more particularly it pertains to razors of the power driven type.

One of the objects of the present invention resides in a new and improved type of power razor having the cutting head offset with respect to the main body portion whereby more effective operation with less effort on the part of the operator is obtained.

All such razors with which I am familiar require an awkward position of the arm of the operator, and it is a further object of the invention so to construct a razor of this type that, during use, the arm may be held closely pressed against the body, the most comfortable and practical position during the shaving operation.

A further object of the invention resides in a new and improved construction whereby the cutting edge of the razor may be adjusted with relation to the surface over which it is moved in order that a more effective and complete shaving operation may be accomplished by the instrument.

Still a further object of the invention resides in the provision of means whereby the surface being operated upon may be illuminated while the device is in use.

Still a further object of the invention resides in a new and novel construction and arrangement of parts whereby the short lengths of hair clipped or cut by the instrument will be collected and will not be showered or allowed to fall upon the person of the operator.

Still a further object of the invention resides in a novel construction of removable cutting element which is of such construction as to render the cutting element readily replaceable at any desired time.

Still a further object of the invention resides in the provision of means for rolling or distorting the surface over which the razor is operating in order to more effectively perform a shaving operation.

Still a further object of the invention resides in the provision of a novel construction whereby implements other than cutting implements may be supported by the device and removably connected therewith at will.

In my instrument, the main body portion or housing constitutes the grip or means by which the instrument is manipulated, and a further object of the invention resides in a new and improved form of grip whereby more effective manipulation of the instrument is had.

Other objects of the invention will appear as

the nature thereof is better understood, for which purpose reference will be had to the following specification and claims and the accompanying drawing, wherein:

5 Figure 1 is a plan view illustrating my new and improved instrument in the form of a razor of the power driven type,

Figure 2 is a view in side elevation thereof,

10 Figure 3 is a plan view showing the reverse side of the instrument to that which is illustrated in Figure 1,

Figure 4 is an enlarged detail sectional view taken substantially on the line 4-4 of Figure 3,

15 Figure 5 is an enlarged detail sectional view taken substantially on the line 5-5 of Figure 3,

Figure 6 is a distended perspective view illustrating the cutting element and its various associated parts,

20 Figure 7 is a transverse sectional view of one of the shearing elements of the device of the instrument,

Figure 8 is a detail transverse sectional view showing a modified form of the invention,

25 Figure 9 is a fragmentary plan view of the form illustrated in Figure 8,

Figure 10 is a detail perspective view illustrating a slightly modified form of the invention,

30 Figure 11 is a detail perspective view illustrating a still further modified form of the invention, and

Figure 12 is a perspective view illustrating another modified form of said invention.

Referring to the drawing by reference character, the device comprises a main body portion 15. This main body portion is in the form of a housing having a removable cover plate 16 by which access may be obtained to the interior of said housing. Mounted within the main body portion and herein conventionally shown, there is an electric motor 17, the power for which is supplied by means of a suitable conductor 18. The armature of the motor is designated 19 and includes a projecting power arm 20 which, in Figure 1, moves right and left about a pivotal point 22.

By reference to Figures 2 and 4, it will be noted that the body portion has two arms 25 and 26 projecting therefrom and these arms extend at an angle to the longitudinal axis of the body portion 15. The arms 25 and 26, by reason of their position with respect to the main body portion, constitute an angularly disposed implement supporting means. The arm 26, see Figure 5, is provided with a curved groove or channel 27, while the arm 25 is provided with a bearing open-

ing 29. The reference numeral 29 designates a shell which is a little more than semi-circular in cross sectional form and, as best illustrated in Figure 6, this shell 29 has a longitudinally extending slot 30 extending from its free end inwardly of the body portion of the shell. One end of the shell is closed as at 31 and projecting from the closed end 31 there is a stub shaft or pintle 32 for reception in the bearing portion 28 of the arm 25, it being understood that the arm 25 may be slotted as at 33 to permit of insertion of this stub shaft or pintle 32. A spring or similar resilient member 34 is carried by the main body portion and has an opening for the reception of the stub shaft or pintle 32 to retain it in position in the slot 33. The opposite end of the shell 29 is received in the curved groove 27, as best illustrated at 35 in Figure 5. This construction provides means for mounting the shell 29 in such a manner that it may be oscillated within the implement supporting means and, as a means for oscillating this sleeve as above described, a lever 36 may be rigidly secured to the shell and extend rearwardly thereof, as best illustrated in Figure 2. This lever is preferably curved or angularly formed so that when in its normal position it will be parallel with the face 38 of the main body portion and in such position that when the implement is gripped by the operator the free end of the lever 36 will be in a convenient position to permit of adjustment of the shell 29 during a shaving operation.

Mounted within the shell 29 is the cutting element of the razor. This cutting element comprises a tubular member 40 having an inwardly disposed portion 41 and a longitudinally extending slot 42. That area of the tubular member 40 which lies closely adjacent the depressed portion 41 on opposite sides thereof, together with the depressed portion 41, is provided with a plurality of fine slits 42. The depressed portion 41 provides two shoulder-like portions 43 on opposite sides of the depressed portion, the purpose of which will be hereinafter described.

The other element of the cutting means comprises a solid cylindrical member 45 which is provided with a longitudinally extending groove 46. The portions on opposite sides of the longitudinally extending groove 46 are formed with a plurality of fine slits 47. The member 45 is adapted to be received within the tubular member 40 with the depressed portion 41 of the tubular member 40 occupying a position in the longitudinal groove 46 of the member 45.

This construction provides a cutting element which operates in the following manner. As the device is moved over the face or surface operated upon, the hair projects through the slits 42 of the tubular member 40 and is sheared off by the elements formed by the grooves 47 of the member 45, as the member 45 is reciprocated within the tubular member 40. It is to be understood that the member 45 is positioned within the tubular member 40 and that both members, when so assembled, are positioned within the shell member 29 to form the cutting element which is positioned in the angularly disposed implement supporting portion of the tool.

Means is provided to connect the member 45 with the power arm 20 of the motor, and this means comprises a pair of pins 59 which are carried by the member 45 and extend therefrom. In the assembled position of the cutter, the pins 50 occupy a position in the slot 42 of the tubular member and the slot 30 of the shell 29, and the

parts are so proportioned that in this position the free end of the power arm 20 will lie between the pins 50, as best illustrated in Figures 1 and 4, in such a manner that as the power arm 20 is moved in a right and left direction, as heretofore described, the member 45 will be reciprocated to effect a shearing operation, as above described.

In moving of the implement over the face, the shoulders 45, heretofore mentioned, tend to distort the skin causing it to roll upwardly into the depressed portion 41 of the tubular member 40, thus providing for a closer clipping of the hair than is obtainable with such devices as ordinarily constructed.

During the shaving operation, the cutting element may be adjusted to a proper cutting relation with the surface operated upon merely by operation of the lever 36. As heretofore stated, the lever 36 is curved and is of such shape that if maintained in a position in which it is substantially parallel with the surface being operated upon, the proper cutting angle will be had. Thus, it will be apparent that by this construction, if it appears at any time during the operation that the cutting element is not properly adjusted with respect to the surface operated upon, the proper adjustment may be made merely by rocking the lever to the proper position.

The reference numeral 60 designates a housing carried preferably by the top wall of the main body portion and this housing forms means for supporting one or more illuminating lamps 61, which are so positioned in the housing as to throw their beams directly upon the surface operated upon at the point where the operation is taking place. Current may be supplied to this illuminating means by a suitable conductor 62.

It will be noted by examination of Figures 3 and 4 that the outer surface 64 of the main body portion is convex while the inner surface designated 65 is concaved, which construction provides a free, easy and comfortable grip of the instrument by the operator.

As illustrated in Figure 7, the member 45 of the cutting element is provided with a passage 65 extending therethrough, and this passage provides a compartment into which the clipped ends of hair are received to prevent showering thereof over the person of the operator. As the clipped ends accumulate they may be removed merely by disassembling the cutting element and cleaning thereof.

In Figures 8 and 9 I have illustrated a slightly modified form of razor. In this form of the invention the shell 29 constitutes a holder and the razor is carried by a rigid arm 66 projecting from a member 67 which is circular in cross section and which is adapted to be received within the shell member 29, as illustrated in Figure 8. A pin 68 receivable in the slot 30 of the shell member 29 prevents rocking movement of the member 67 within the shell and forms the operative connection between the shell 29 and the member 67, whereby the member 67 may be rocked by the lever 36. In this form of the invention the razor comprises a reciprocating blade 70 from the rear edge of which project two pins 71 which embrace the power lever 72 of the motor, which in this instance may be slightly longer than in the heretofore described form of the invention. The blade 70 is reciprocated in the housing 74, which comprises a rear wall 75, a bottom wall 76 and a removable top wall 77. Interposed between the blade 70 and the bottom wall 76 there

is a bushing plate to provide for more free and easy reciprocation of the blade 70. The entire device may be held in assembled relation by means of a bolt 79 having a wing nut 80 thereon which passes through the member 77, the bottom wall 76 of the housing and the blade 70. The member 77 preferably consists of a very thin plate of highly tempered resilient metal and by adjustment of the wing nut 80 the tension which this member exerts upon the razor blade 70 may be adjusted. The member 77 is also formed with guard teeth 81 while the blade 70 is formed with cutting teeth 82 which cooperate with the guard teeth 81 when the blade is reciprocated to effect a shearing operation. The member 77 may have that face which contacts the razor blade plated and the adjacent contacting face of the razor blade may likewise be plated.

In Figure 10 I have illustrated a device for clipping hair in inaccessible locations, of which the nostrils of the nose are one very good example. In this device a solid member 90 is provided which is adapted to be received within the shell 29. A yoke 91 is rigidly carried by the solid member 90, and projecting therefrom there is an element 92 having guard teeth 93. The element 92 is relatively narrow and the number of guard teeth projecting from the end thereof is reduced to a minimum. The member 92 is rigidly carried by the yoke 91 and pivotally mounted as at 94 in the yoke there is a cutting element 95 the forward end of which is provided with cutting teeth 96 which cooperate with the guard teeth 93 of the member 92 to effect a shearing operation when the member 95 is rocked about its pivotal point 94. Means is provided to rock the member 95 about its pivotal point 94, and this means includes a right angular extension 97 which is notched as at 98 to receive the power arm 72 of the motor.

In Figures 11 and 12 the device is of substantially the same construction as that illustrated in Figure 10. Instead, however, of the implement in Figure 11 being a cutting implement, the arm 95 may be provided on its outer end with an abrading element 100 which is preferably in the form of a nail file and a buffing element 101, while in Figure 12, the arm 95 may be provided with a brush 105 upon its outer end which may be in the form of a tooth brush or a brush of any other description.

From the foregoing it will be apparent that the present invention provides a new and novel instrument in which the several objects above mentioned are accomplished.

It is to be understood that this invention is not to be limited to the specific constructions herein shown but that it may be practiced in other forms without departing from the scope of the appended claims.

Having thus described the invention, what is claimed as new is:

1. In a razor of the type described, a handle or body, a pair of arms projecting angularly from one end of said body, a cylindrical member having an open side, means for mounting said cylindrical member for rocking movement between said arms, manually operable means adjacent said handle or body for rocking said cylindrical member, and a cutting mechanism carried by said cylindrical member and having its operative portion projected through the open side of the cylindrical member.

2. In a razor of the type described, a handle or body, a pair of arms projecting angularly from one end of said body, a cylindrical member having an open side, means for mounting said cylindrical member for rocking movement between said arms, means for rocking said cylindrical member, and a cutting mechanism carried by said cylindrical member and having its operative portion projected through the open side of the cylindrical member, said cutting mechanism including a cylindrical member having a longitudinally extending depression and a plurality of closely spaced slits extending transversely of the depressed portion, and a bar-like cutting element mounted for reciprocation in said second mentioned cylindrical member, said cutting element having a longitudinally extending groove to receive the longitudinally extending depression of the second mentioned cylindrical member.

3. In a razor of the type described, a body or handle having a pair of spaced bearings, a cylindrical member mounted for rocking movement in said bearings, a cutting mechanism carried by said cylindrical member and including a cylindrical member having a longitudinally extending depressed portion, said second mentioned cylindrical member being arranged within the first mentioned cylindrical member with the depressed portion within the open side thereof, a plurality of slits extending across the depressed portion of the first mentioned cylindrical member, a bar-like cutting element mounted within the second mentioned cylindrical member and having a longitudinally extending groove for the reception of the depressed portion of the second mentioned cylindrical member, cutting teeth upon said bar-like cutting element cooperating with the slits in the second mentioned cylindrical member, means for reciprocating said bar-like cutting element within the second mentioned cylindrical member, and means for rocking the first mentioned cylindrical member relatively to the body or handle, to vary the angular position of the cutting mechanism.

IRVING KULIK.