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Brenneman et al.

[11] **3,909,938**

[45] **Oct. 7, 1975**

[54] **COMBINED CLOSE SHAVING AND LONG HAIR TRIMMING HEAD ASSEMBLY FOR AN ELECTRIC SHAVER**

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[73] Assignee: **Schick Incorporated,** Lancaster, Pa.

[22] Filed: **July 15, 1974**

[21] Appl. No.: **488,740**

[52] **U.S. Cl.** **30/34.1**

[51] **Int. Cl.²** **B26B 19/10**

[58] **Field of Search** 30/34.1, 223, 224, 43.92, 30/346.51

[56] **References Cited**

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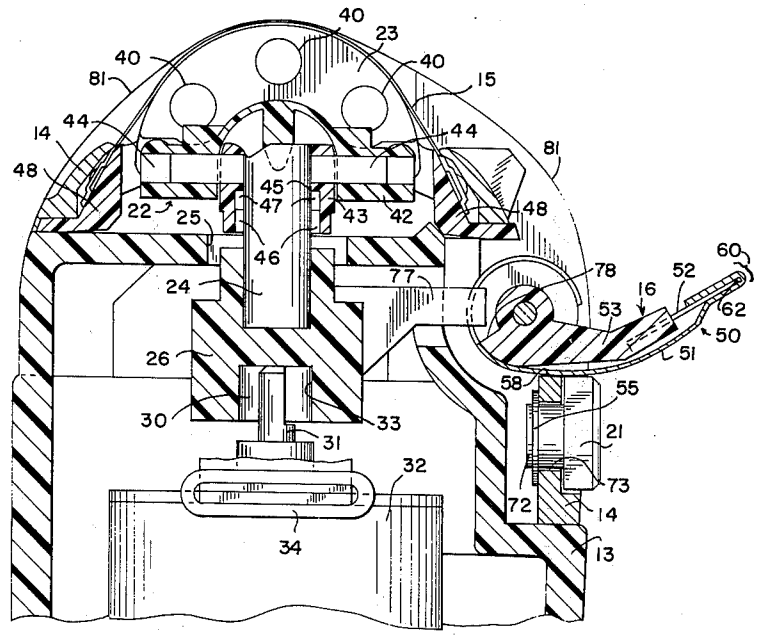
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Primary Examiner—Al Lawrence Smith
Assistant Examiner—Gary L. Smith

[57] **ABSTRACT**

A combined close shaving and long hair trimming head assembly for an electric shaver comprises a housing removable from the body of the shaver, a rounded multi-apertured close-shaving comb mounted in a window in the housing, and a pair of trimmer blades arranged for side-by-side reciprocation. The upper margins of the trimmer blades are notched to form a precision cutting surface for long hair, and the lower margins are pivotally attached to the housing to enable the precision cutting surface to be positioned close to the comb to assist in cutting occasional long hairs, or away from the comb to provide for precision trimming of sideburns and moustaches. A slide button and cam linkage are provided on the housing to enable a user to conveniently position the precision cutting surface without coming into contact with the trimmer blades.

8 Claims, 8 Drawing Figures



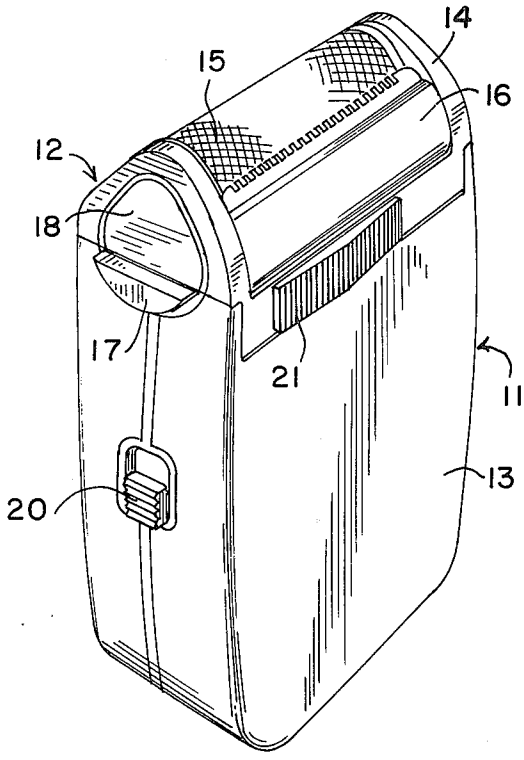


FIG. 1

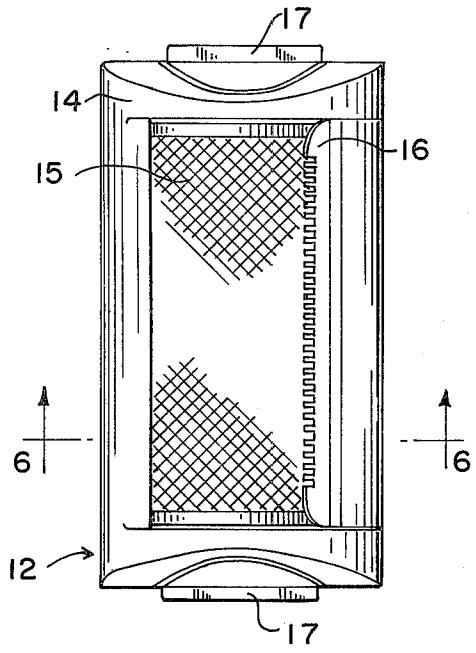


FIG. 2

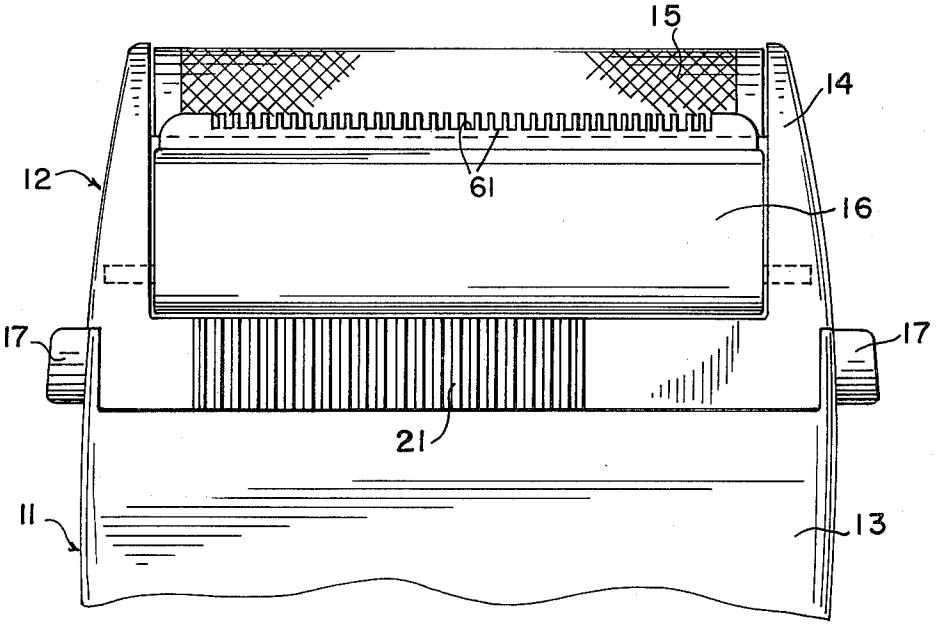


FIG. 3

FIG. 4

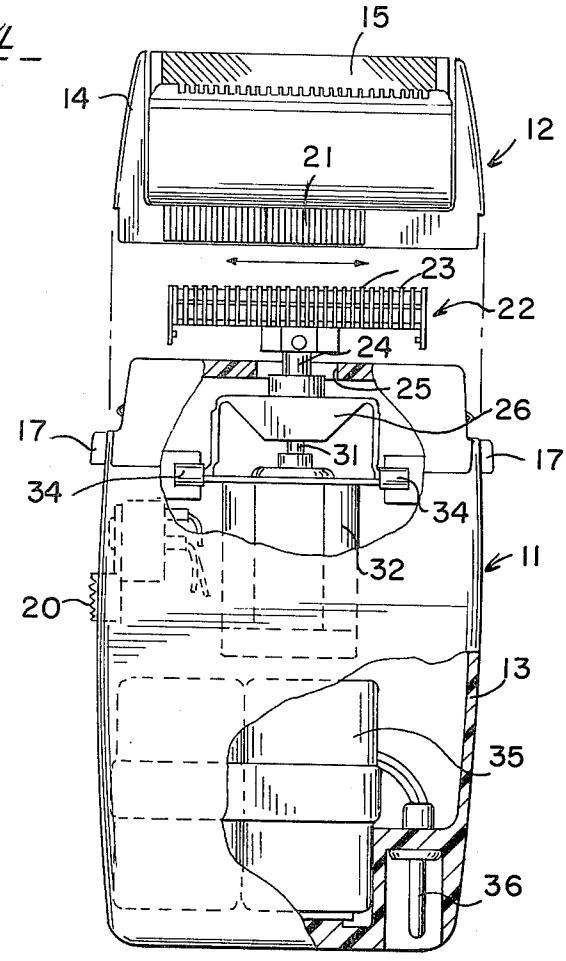
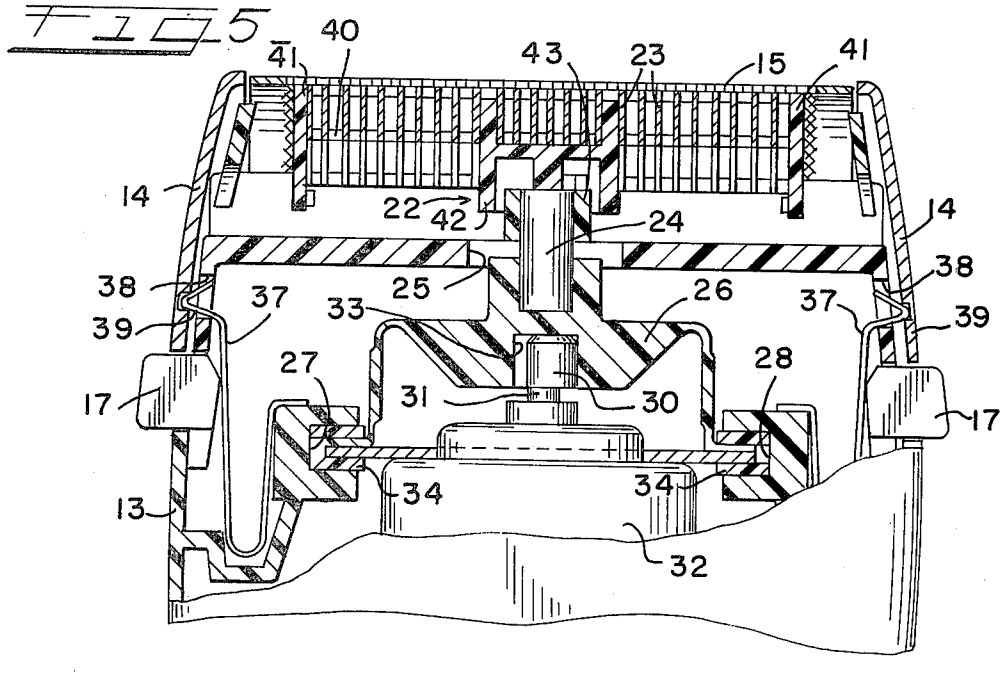

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FIG. 5


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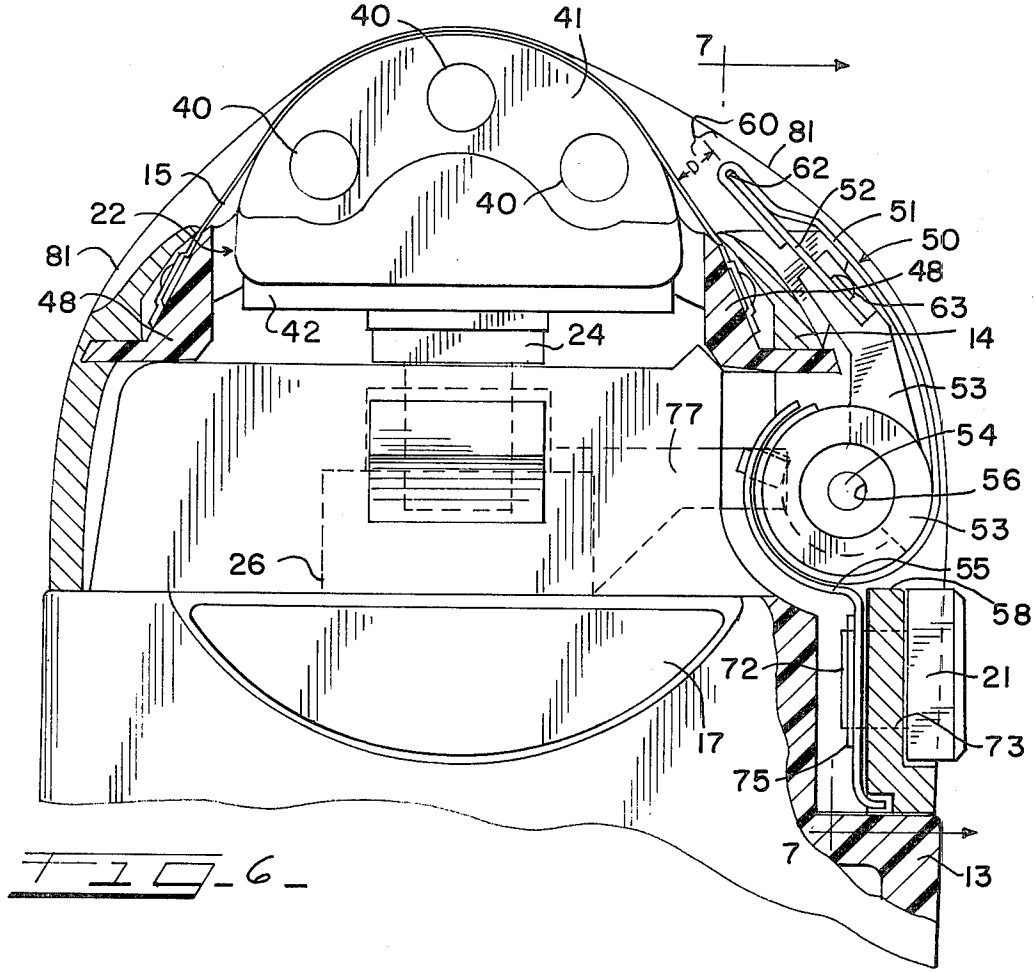

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FIG. 6

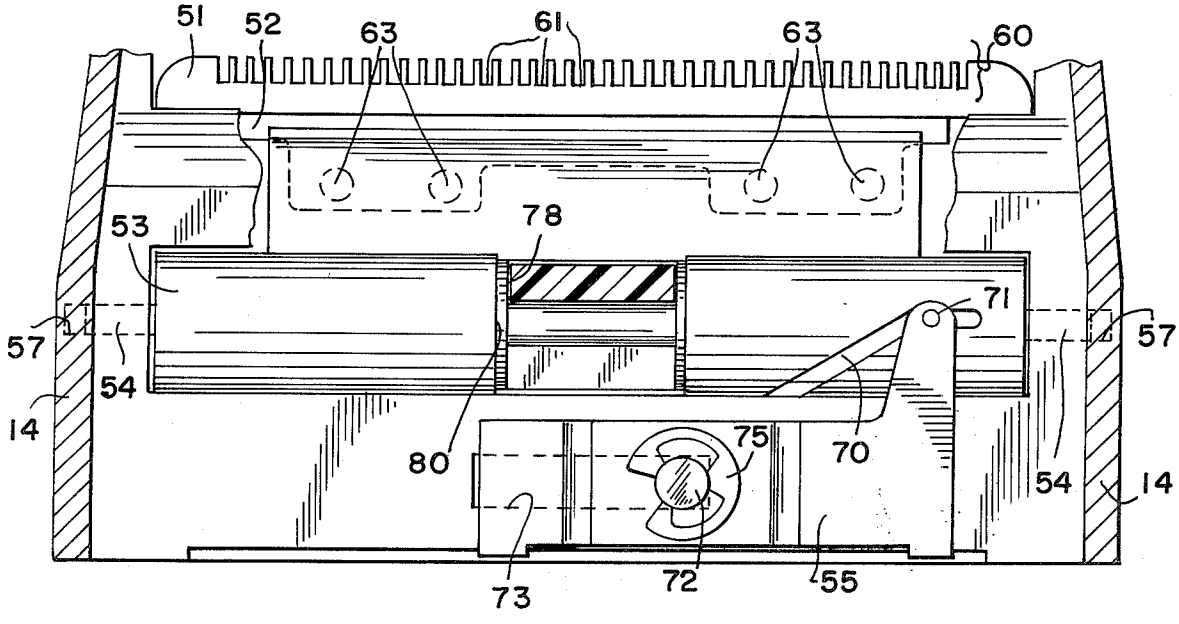

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FIG. 7

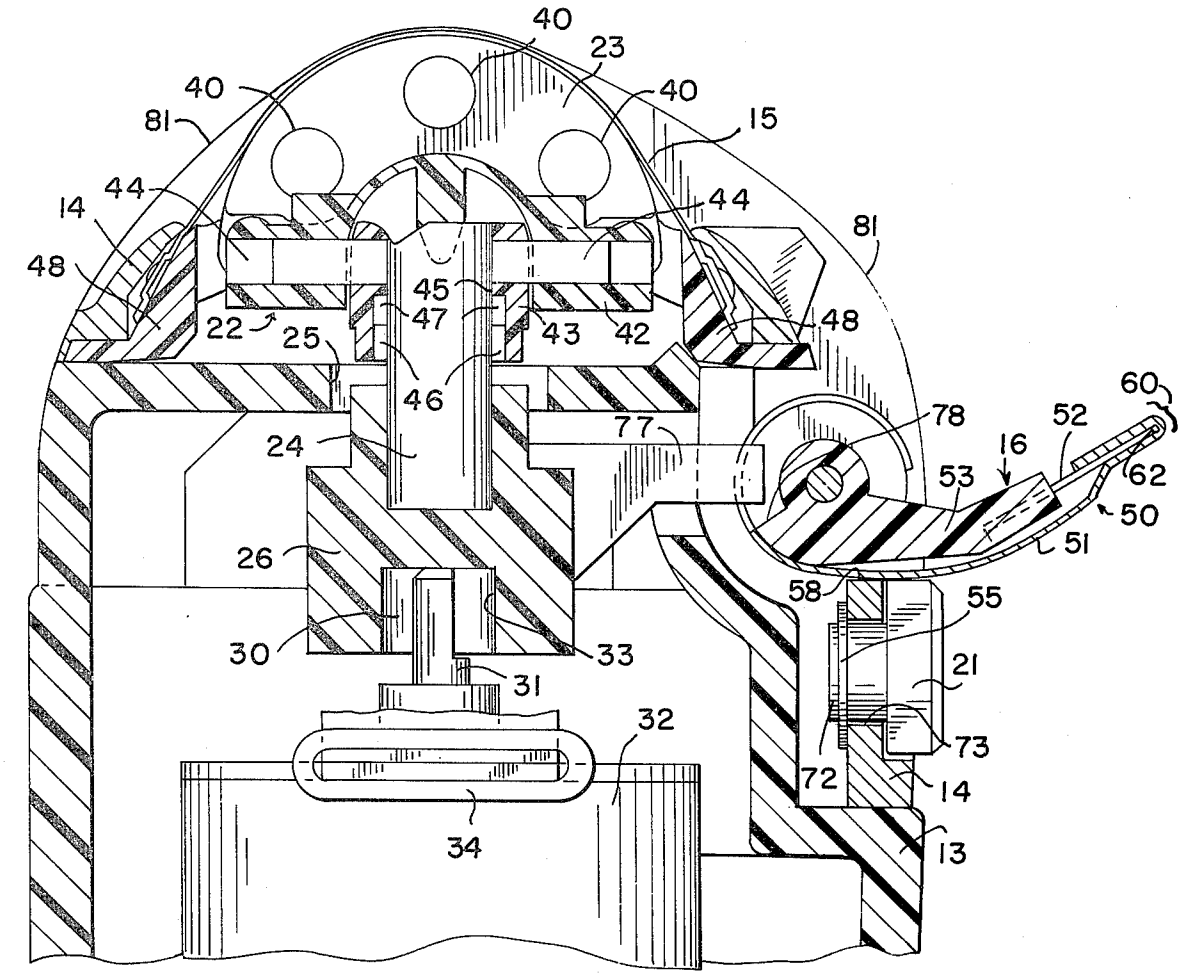

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FIG. 8

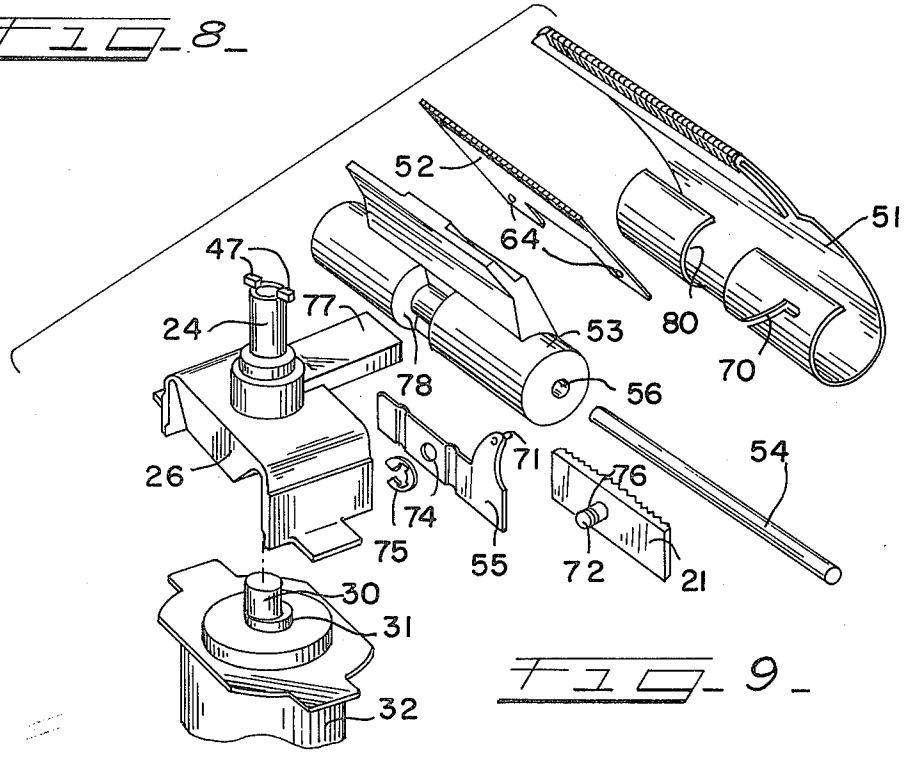

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FIG. 9

COMBINED CLOSE SHAVING AND LONG HAIR TRIMMING HEAD ASSEMBLY FOR AN ELECTRIC SHAVER

BACKGROUND OF THE INVENTION

The invention is directed in general to electric shavers, and more particularly to a shaver head assembly which is more convenient to use and which provides improved close shaving and long hair trimming performance for such shavers.

As explained in the co-pending application of Robert S. Waters et al., Ser. No. 477,021, filed on June 6, **1974,** and assigned to the present assignee, men's electric shavers, in addition to having a close shaving head for shaving short hairs, are often equipped with an auxiliary trimmer head specifically intended for long hair trimming. Prior to the aforementioned Waters et al application such trimmer heads typically comprised a pair of elongated reciprocatively-driven cutter blades attached to the shaver housing at one end so as to be selectively extendable and retractable. As set of comb-like cutting teeth were provided in shearing engagement at the projecting end of the cutter blades to provide a narrow well-defined long-hair cutting surface. While these cutter blades when extended could be manipulated with precision around sideburns and moustaches for trimming purposes, they were generally ineffective in aiding the close shaving head in cutting occasional long hairs found on closely shaved portions of the face and neck. To cut such occasional long hairs it was necessary to extend the trimmer blades and individually trim each hair, which was a tedious time-consuming operation.

The Waters et al application discloses and claims an auxiliary trimmer head assembly for an electric shaver which efficiently performs the dual functions of aiding the close shaving head in cutting occasional long hairs, and of accurately trimming sideburns and moustaches. It is to an improvement in this assembly which enables the auxiliary trimmer blades to be more conveniently extended and retracted by the user without the need for touching the blades, and to an improved combined long-hair trimming and close-shaving head assembly which can be conveniently removed from the shaver for cleaning or replacement, that the present invention is directed.

Accordingly, it is a general object of the present invention to provide a new and improved auxiliary trimmer assembly for an electric shaver or the like.

It is a more specific object of the present invention to provide a new and improved auxiliary trimmer assembly for an electric shaver which assists the close shaving head of the shaver in cutting occasional long hairs and in trimming sideburns and moustaches.

It is another object of the present invention to provide a new and improved auxiliary trimmer assembly which can be more conveniently positioned for either assisting the close shaving head of the shaver in cutting short hairs or for trimming long hair areas such as moustaches and sideburns.

It is another object of the present invention to provide a new and improved trimmer assembly for an electric shaver which can be conveniently positioned in close proximity to the close shaving head of the shaver for assisting this head in cutting occasional long hairs, or in an outwardly projecting position from the shaver

housing for maximum convenience and precision in trimming sideburns and moustaches.

It is another object of the present invention to provide a new and improved combined close-shaving and long hair trimming head assembly for an electric shaver.

It is another object of the present invention to provide a combined close-shaving and long hair trimming head for an electric shaver which can be conveniently removed from the shaver for cleaning and/or replacement.

SUMMARY OF THE INVENTION

The invention is directed, in an electric shaver of the type having a housing, a power driven actuating member contained within the housing, and a cutter head of the close-shaving type including a multi-apertured comb member and a cutter blade reciprocatively driven by the actuating member, to an auxiliary trimmer head assembly comprising a trimmer blade assembly including first and second trimmer blades having spaced cutting teeth at one end and arranged for relative reciprocation, means for pivotally mounting the trimmer blade assembly to the housing whereby the blade assembly is free to pivot between a retracted position, wherein the cutting teeth are disposed in close proximity to the comb member, and an extended position, wherein the cutter teeth project away from the housing, and actuator means comprising a user-actuable actuator button mounted on the wall of the housing for actuating the trimmer blade assembly to either of the positions.

The invention is further directed, in an electric shaver of the type having a body housing and a power driven actuating member contained within the body housing, to a combined close shaving and trimmer type head assembly comprising a head assembly housing, a multi-apertured close-shaving comb assembly mounted to the head assembly housing, a close-shaving cutter blade assembly disposed within the head assembly housing in shearing engagement with the inside surface of the comb assembly, the cutter blade being operatively coupled to the actuating member, and a trimmer blade assembly comprising first and second trimmer blades having spaced cutting teeth at one end and arranged for relative reciprocation. Means are provided for pivotally mounting the trimmer blade assembly to the head assembly housing whereby the blade assembly is free to pivot between a retracted position, wherein the cutting teeth are disposed in close proximity to the comb member, and an extended position, wherein the cutter teeth project away from the housing. Actuator means comprising a user-actuable actuator button mounted on the wall of the housing are provided for actuating the trimmer blade assembly to either of the positions, and latching means are provided for removably mounting the head assembly housing to the body housing whereby in a closed position the cutter blade assembly is brought into shearing engagement with the inside surface of the comb assembly, and in an open position the cutter blade assembly is accessible for cleaning.

BRIEF DESCRIPTION OF THE DRAWINGS

The features of the present invention, which are believed to be novel, are set forth with particularity in the appended claims. The invention, together with the further objects and advantages thereof, may best be un-

derstood by reference to the following description taken in conjunction with the accompanying drawings, in the several figures of which like reference numerals identify like elements, and in which:

FIG. 1 is a perspective view of an electric shaver incorporating a combined close shaving and long hair trimming head constructed in accordance with the invention.

FIG. 2 is a top plan view of the electric shaver of FIG. 1.

FIG. 3 is an enlarged side elevational view of the head portion of the electric shaver of FIG. 1.

FIG. 4 is a side elevational view of the elctric shaver of FIG. 1 showing electric combined close shaving and long hair trimming head removed to expose the close shaving cutter blade assembly, and partly broken away to show the principal components of the head drive assembly in the body of the shaver.

FIG. 5 is an enlarged side elevational view, partially in cross-section, of the removable head and head drive assembly of the electric shaver of FIG. 1.

FIG. 6 is a cross-sectional view taken along lines 6—6 of FIG. 2.

FIG. 7 is an enlarged cross-sectional view taken along lines 7—7 of FIG. 6 showing the principal elements of the slide button and cam linkage utilized to position the auxiliary trimmer assembly between its extended and retracted positions.

FIG. 8 is an enlarged cross-sectional view of the shaver head and its associated drive components with the auxiliary trimmer blade assembly in its extended position.

FIG. 9 is an exploded view of the principal components of the auxiliary trimmer assembly.

DESCRIPTION OF THE PREFERRED EMBODIMENT

While the trimmer head of the present invention can be fabricated with close shaving and trimmer blades of various shapes and sizes for use in conjunction with various types of electric shavers, it finds particular utility in connection with an electric shaver of the type having a close shaving head consisting of a reciprocatively driven inner cutter blade urged into contact with the under surface of a rounded perforated stationary comb, such as the electric shaver **10** shown in FIG. **1.**

Referring to the FIGS. in greater detail, and particularly to FIGS. **1–3,** the electric shaver **10** is seen to comprise a body **11** of generally rectangular dimensions and a shaving head **12** removably mounted to the body at one end. The shaver body is formed by a housing **13** which consists of two half sections of electrically non-conductive impact-resistant plastic or the like. The shaving head assembly **12** comprises a rounded housing **14** removably mounted to the body housing **13,** a stationary comb **15** formed of a thin perforated foil, and a long-hair trimmer blade assembly **16** pivotally mounted to housing **14.** The perforated comb **15** provides a close-shaving surface for cutting short hairs. To this end, the perforated comb **15,** which may be fabricated from thin perforated metal foil or other suitable material, is seated in a rectangular window provided in the rounded top portion of housing **14** so that it assumes the rounded shape of the housing for optimum contact with the skin surface being shaved. The trimmer blade assembly **16** provides, when extended as shown in FIG. **8,** a precision trimmer for cutting sideburns, moustaches and other long hair areas. In its retracted position, as shown in FIGS. **1–3,** the trimmer blade assembly assists the close-shaving head in trimming long hairs occasionally encountered in skin areas being closely shaved.

The shaving head **12** can be detached from the shaver body **11** for cleaning or replacement by actuating a pair of head release buttons **17** located on the side walls of the body housing **13.** To provide a more aesthetically pleasing appearance, the head release buttons **17** may be rounded and a complementarily shaped decorative section **18** may be provided on opposite ends of housing **14.** By depressing the two release buttons **17,** the user can remove the entire shaving head **12** from the shaver body **11** as a single unitary assembly for cleaning or for repair or replacement.

The body **11** of shaver **10** includes an ON-OFF power switch **20** for controlling the application of electrical power to the shaver. A slide button **21** is included on the housing **14** of the shaving head to facilitate extension and retraction of trimmer blade assembly **16** without the necessity of having to come into direct contact with the blade assembly. The novel linkage employed within shaving head **12** for accomplishing this operation will be covered in detail presently.

Referring to FIG. **4,** wherein the shaving head **12** is shown removed from the body of the shaver, shaver **10** is seen to include a cutter blade assembly **22** consisting of a plurality of individual crescent-shaped cutter blades **23** arranged in a vertical spaced-apart relationship with their cutting edges facing upwardly. When the shaving head **12** is locked in position on the shaver body **11,** as shown in FIGS. **1–3,** the cutting edges of these blades bear against the underside of the stationary comb **15** to achieve a shearing action with respect to hairs extending through the apertures in the comb.

The blade assembly **22** is mounted on a stem **24** which extends through a transversely elongated slot **25** in the body housing. Stem **24** is press-fit into a complementarily dimensioned bore on the top of a reciprocatively-driven inverted U-shaped actuator member **26.** An annular raised portion is provided on the top of member **26** for the purpose of extending the depth of this bore, it being desirable to provide a secure torsion-free engagement between the two members.

Actuator **26** is formed of a resilient plastic capable of surviving repeated bending moments, and as can be seen in FIG. **5,** the two side members or legs of actuator **26** are joined to the horizontal top or cross member of actuator **26** by portions of reduced thickness, and outwardly extending flange portions on the bottom ends of the legs are firmly seated in opposed inwardly facing channels **27** and **28** provided on the inside of housing **13.** Since the side members of actuator **26** are of reduced thickness at the points where they join the flange and horizontal portions, member **26** bends at these locations to form a parallelogram-type linkage for imparting a horizontal reciprocative drive action to blade assembly **22.**

Actuator **26** is reciprocatively driven by means of an eccentric cam **30** which is carried on the shaft **31** of a drive motor **32.** Cam **30** operatively engages the walls of a drive slot **33** molded into the bottom of the cross member of actuator **26** so that when the cam is rotated by motor **32** the top portion of the actuator is forced to reciprocate back and forth. Since actuator **26** is coupled by stem **24** to the cutter blade assembly **22,** the re-

ciprocative motion of actuator **26** is also imparted to cutter blades **23**, which reciprocate against the underside of comb **15**. Drive motor **32**, like actuator member **26**, is mounted within housing **13** by means of opposed outwardly extending flanges which extend into channels **27** and **28**. A pair of elongated rubber grommets **34** are press-fit into the channels to secure a tight but resilient fit.

Power for drive motor **32**, which may be a conventional permanent-magnetic type DC motor, is obtained by means of an electrical circuit which may include one or more rechargeable batteries **35** (FIG. 4), ON-OFF control switch **20**, and a recessed connector **36** for establishing a connection to a power cord (not shown). Suitable internal ribbing for supporting the various electrical and mechanical drive components of the shaver may be molded into the body housing **13**.

Housing **14** is secured to housing **13** by means of a pair of spring wire clips **37** (FIG. 5). These springs are formed into an elongated U-shaped configuration and are inserted within housing **13** so that one end of each spring bears against the ribs which form channels **27** and **28**, and the other end extends through apertures **38** provided in the sides of housing **13** and into detents **39** provided in head frame **14**. When it is desired to release the head assembly **12** for cleaning, repair or replacement, it is merely necessary to depress the two head release buttons **17**, which force the sides of the two springs together and disengage the ends of the springs from detents **39** in housing **14**. By reason of the continuous outward bias exerted by the springs the head release buttons **17** are held in place so as to extend through respective apertures in housing **13**.

Referring to FIGS. **5**, **6**, and **8**, the individual cutter blades **23** of blade assembly **22** are held in position by three transversely extending tubular support members **40**. These support members are joined at their ends to side plates **41** and at transversely-spaced locations near their midpoints to a central journal block **42**. Journal block **42** is mounted on stem **24** by means of a collar **43** which is pivotally connected to the journal block by a pair of transversely extending pins **44**. Collar **43** includes a bore **45** having a pair of opposed L-shaped keyways **46** on its inside surface which engage tab-like key surfaces **47** on stem **24** to achieve a positive locked-rotation engagement between the members. In practice, stem **24** may be hollow and helical compression spring (not shown) may be provided therein to bias the blade assembly **22** upwardly against the perforated foil comb **15**, which is held in position by means of a semi-rigid frame **48** (FIGS. **6** and **8**) press-fit into a complementarily dimensioned recess on housing **14**.

Referring to FIGS. **6–9**, the retractable trimmer assembly **16** provided in shaver **10** for trimming sideburns and moustaches, and for assisting the close shaving head assembly formed by comb **15** and blade assembly **22** in cutting occasional long hairs in closely shaved portions of the face, comprises a stationary outer blade **51**, a reciprocatively driven inner blade **52**, a blade carriage **53**, a pivot rod **54** for pivotally mounting the blade carriage to the shaver head housing **14**, a slidably mounted positioning member **55**, and actuator slide button **21**. The outer and inner blades **51** and **52** are arranged side-by-side in sliding engagement to form a unitary blade assembly **50**. This blade assembly is pivotally attached to the frame **14** of the shaver head **12** by means of hinge pin **54**, which extends through a central bore **56** in the base portion of carriage **53** between respective ones of a pair of inwardly facing recesses **57** (FIG. 7) molded into housing **14**. The bottom or base portion of carriage **53** is cylindrical in form, and the bottom portion of blade **51**, as it enters housing **14**, is wrapped around this cylindrical portion to form a curved section of uniform radius.

Recesses **57** establish a pivotal axis for the trimmer blade assembly **16** at this point such that the aperture **58** through which the blade assembly **50** enters housing **14** is substantially fully occupied by the blade assembly regardless of its position. This constant-radius pivot arrangement helps to prevent clippings or other foreign objects from entering the shaver head housing through the aperture.

A precision long hair cutting edge **60** is formed at the top of trimmer blade assembly **50** by providing a series of spaced knife-edged notches **61** along the top marginal portions of trimmer blades **51** and **52**. As the inner trimmer blade **52** is caused to reciprocate with respect to the outer trimmer blade **51**, a shearing action is obtained between the knife edges of the notches which severs long hairs trapped therebetween. To protect the skin being shaved from the shearing action of the notches the top margin of outer blade **51** is folded over the top margin of inner blade **52** to form a channel **62** within which the top margin of blade **52** is received. Inner blade **52**, which does not extend to the pivot point of outer blade **51**, is held in position against the inside surface of outer blade **51** by blade carriage **53**, which may be formed of a long wearing plastic material and which may be attached to blade **52** by means of bosses **63** (FIGS. **6** and **7**) on the outside face of the carriage which are force-fit into appropriately dimensioned recesses **64** (FIG. **9**) on the blade.

In accordance with the invention, the shaver head assembly **12** is provided with a novel linkage for conveniently extending and retracting the trimmer blade assembly **16**. Referring to FIGS. **6–9**, this linkage comprises a cam track **70** disposed on the portion of the outer blade **51** which wraps around the cylindrical base of the blade carriage **53**, and an actuator cam **71** which depends from slide actuator **55**. Cam track **70** has an inclined center portion which forms a spiral around the surface of the cylindrical base, and horizontal (in FIG. 7) end portions which extend substantially to the pivot axis of carriage **53**. Cam track **70** receives the actuator cam **71** in operative engagement so that as slide actuator **55** is moved back and forth parallel to the pivot axis, the outer blade **51** is caused to rotate about the axis established by pivot pin **54**. Since the bottom portion of the stationary outer blade **51** is wrapped around the cylindrical base portion of carriage **53**, the effect of rotating the curved bottom portion of blade **51** is to similarly rotate blade **52** and carriage **53** about pin **54**.

To facilitate movement of the slide actuator **55** by the user, the slide button **21** includes an inwardly extending stud **72** which extends through a complementarily dimensioned slot **73** in the head housing **14** and through an aperture **74** in slide actuator **55**. The slide button is retained in position by fastening means in the form of a C-ring **75** which is press-fit into an annular groove **76** near the end of stud **72**. To extend the trimmer blade assembly it is merely necessary for the user to slide the slide button **21** toward the center of the shaver. This advances actuator cam **71** along cam track **70** with the result the curved base portion of outer cut-

ter blade **51** is forced to rotate about the pivotal axis established by pivot pin **54.** The horizontal (in FIG. 7) portions provided at either end of the inclined center portion of cam track **70** serve to index the blade assembly **50** in its fully extended and fully retracted positions, there being no transverse force exerted on actuator **55** by the blade assembly in these positions.

Operating power is supplied to the inner trimmer blade **52** by means of an outward-extending finger **77** on actuator **26.** This finger engages a channel **78** which extends partially around the central portion of the cylindrical base of carriage **53.** The length of finger **77** and the depth of channel **78** are such that the inner blade **52** is reciprocatively driven by actuator **26** in both the fully extended and fully retracted positions, and in all intermediate positions of the trimmer blade assembly **50.** The center portion of the outer blade **51** is provided with a slot **80** to allow finger **77** to engage and reciprocatively drive slot **78,** and the axial dimensions of the cylindrical base portion of carriage **53** are such that carriage **53** can slide on pivot pin **54** in coincidence with the like movement of actuator slide **26** without coming into contact with housing **14.**

The trimmer head assembly **16** performs the dual functions of assisting the close-shaving cutter head in cutting occasional long hairs, and of providing a means for precision trimming of sideburns and moustaches. Optimum assistance to the close shaving head is realized by shaping the trimmer blade assembly **50** so as to position the long hair cutting surface **60** at a predetermined spacing to comb **15,** preferably at or near one of the margins of the comb as shown in FIG. **6.** Then, when shaving in close-shaved areas where long hairs may occasionally be encountered, such as on the neck and under the chin, the comb surface of the close shaving head will first be brought into contact with the skin, followed immediately by the retracted long hair trimmer. In practice, it has been found that a spacing "D" in FIG. **6** of 0.2 inches for a comb **15** having approximate dimensions of 1 inch by 2 inches provides optimum results. The rounded end portions of housing **14** are dimensioned to have outside edges **81** which are spaced further from comb **15** than cutting edge **60** to guide the skin as it passes over the comb and prevent it from becoming trapped in the space between cutting edge **60** and comb **15.** Optimum precision trimming of long hairs is realized when the auxiliary trimmer head assembly is fully extended so as to space cutting edge **60** away from the shaver body where it can be easily seen and accurately positioned with respect to sideburns, moustaches, or other shaving areas requiring precision trimming.

It will be appreciated that cutter blades **51** and **52** and comb **15** can have other sizes and shapes, and that alternate drive arrangements can be provided, such as a resilient link member between actuator **26** and the inner trimmer blade **52.** Since the trimmer assembly requires a minimum number of additional components and is simple and compact in design and construction, it can be economically incorporated in existing shaver designs with minimum modifications to the shaver. Furthermore, while the trimmer blade assembly has been shown only in conjunction with a motor-driven type electric shaver, it will be appreciated that it can be incorporated in vibrator type electric shavers as well.

While a particular embodiment of the invention has been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention in its broader aspects, and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of the invention.

We claim:

1. In an electric shaver of the type having a housing, a power driven actuating member contained within said housing, and a cutter head of the close-shaving type including a multi-apertured comb member and a cutter blade reciprocatively driven by said actuating member, an auxiliary trimmer head assembly comprising, in combination:

a trimmer blade assembly including first and second trimmer blades having spaced cutting teeth at one end and arranged for relative reciprocation;

means for pivotally mounting said trimmer blade assembly to said housing whereby said blade assembly is free to pivot between a retracted position, wherein said cutting teeth are disposed in close proximity to said comb member, and an extended position, wherein said cutter teeth project away from said housing; and

actuator means including a curved based portion on said first trimmer blade, a cam track disposed on the surface of said base portion, a cam in operative engagement with said cam track, and means including a user-actuable slide button mounted on the wall of said housing for driving said cam along a path substantially parallel to the pivot axis of said trimmer blade assembly to actuate said trimmer blade assembly into either said retracted or extended position.

2. An auxiliary trimmer head assembly as defined in claim **1** wherein said curved base portion is cylindrical and coaxial with the pivot axis of said trimmer blade assembly, said actuator button slides along a path parallel to said axis, and wherein said cam is slidably coupled to said slide button.

3. An auxiliary trimmer head assembly as defined in claim **2** wherein said trimmer blade assembly includes a carriage pivotally attached to said housing and having a cylindrical base portion, said second trimmer blade is mounted on said carriage, and said curved portion substantially corresponds to the outside surface of said cylindrical base portion.

4. An auxiliary trimmer head assembly as defined in claim **1** wherein said shaver housing comprises a head portion and a body portion, said trimmer blade assembly and said actuator member are mounted on said head portion, and wherein locking means are provided for locking said head portion to said body portion of said shaver.

5. In an electric shaver of the type having a housing, a power driven actuating member contained within said housing, and a cutter head of the close-shaving type including a multiapertured comb member and a cutter blade reciprocatively driven by said actuating member, an auxiliary head assembly comprising, in combination:

a trimmer blade assembly comprising first and second trimmer blades having spaced cutting teeth at one end and arranged for relative reciprocation;

means for pivotally mounting said trimmer blade assembly to said housing whereby said blade assembly is free to pivot between a retracted position, wherein said cutting teeth are disposed in close

proximity to said comb member, and an extended position, wherein said cutter teeth project away from said housing;

means comprising a cylindrical actuator surface on said first trimmer blade, said actuator surface including a cam track;

an actuator cam operatively engaged with said cam track; and

means comprising a user-actuable actuator button slidably mounted to said housing for driving said actuator cam along the surface of said actuator member parallel to said pivot axis to cause said trimmer blade assembly to pivot between said retracted and extended positions.

6. An auxiliary head assembly as defined in claim **5** wherein said shaver housing comprises a head portion and a body portion, said trimmer blade assembly and said actuator member are mounted on said head portion, and wherein locking means are provided for locking said portion in position on said body portion of said shaver.

7. In an electric shaver of the type having a body housing and a power driven actuating member contained within said body housing, a combined close shaving and trimmer type head assembly comprising, in combination:

a head assembly housing;

a multi-apertured close-shaving comb member mounted to said head assembly housing;

a close-shaving cutter blade assembly disposed within said head assembly housing in shearing engagement with the inside surface of said comb assembly, said cutter blade being operatively coupled to said actuating member;

a trimmer blade assembly comprising first and second trimmer blades having spaced cutting teeth at one end and arranged for relative reciprocation;

means for pivotally mounting said trimmer blade assembly to said head assembly housing whereby said blade assembly is free to pivot between a retracted position, wherein said cutting teeth are disposed in close proximity to said comb member, and an extended position, wherein said cutter teeth project away from said housing;

means comprising a cylindrical actuator surface on said first trimmer blade, said actuator surface including a cam track;

an actuator cam operatively engaged with said cam track;

means comprising a user-actuable actuator button slidably mounted to said head assembly housing for driving said actuator cam along said cam track to cause said trimmer blade assembly to pivot between said retracted and extended positions; and

latching means for removably mounting said head assembly housing to said body housing whereby in a closed position said cutter blade assembly is brought into shearing engagement with the inside surface of said comb assembly, and in an open position said cutter blade assembly is accessible for cleaning.

8. A combined close-shaving and trimmer head assembly as defined in claim **7** wherein said user-actuable button comprises a slide button slidably mounted on said head assembly housing.

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UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 3,909,938

DATED : October 7, 1975

INVENTOR(S) : Brenneman et al

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Col. 3, Line 14: Delete "electric" and substitute --the--.
Col. 6, Line 47: After "substantially" insert --parallel--.
Col. 6, Line 56: After "about" insert --pivot--.

Signed and Sealed this

second Day of *March 1976*

[SEAL]

Attest:

RUTH C. MASON
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents and Trademarks