

July 17, 1951

J. STRENG  
ELECTRIC DRY SHAVER

2,561,241

Filed April 28, 1948

2 Sheets-Sheet 1

Fig. 1.

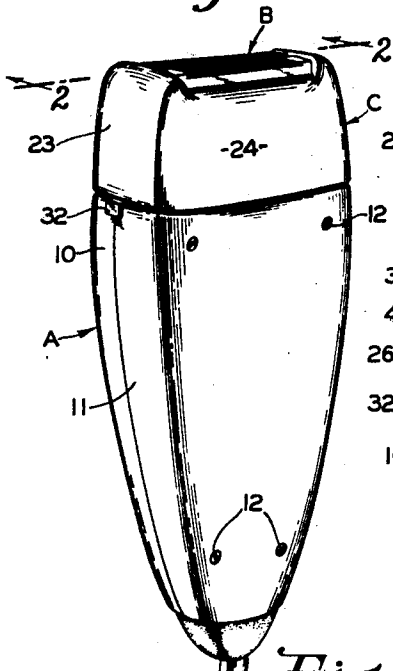


Fig. 2.

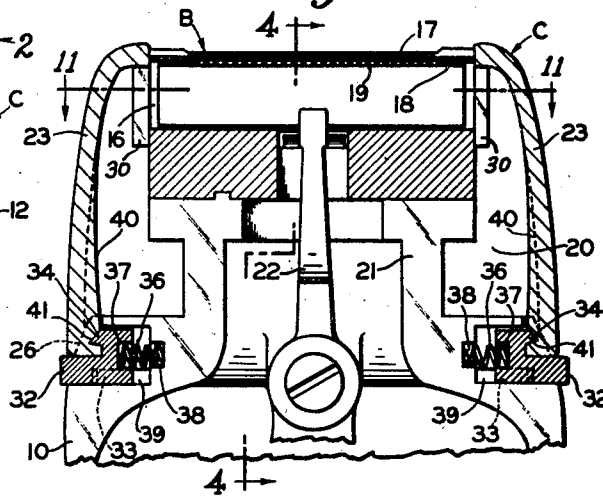


Fig. 3.

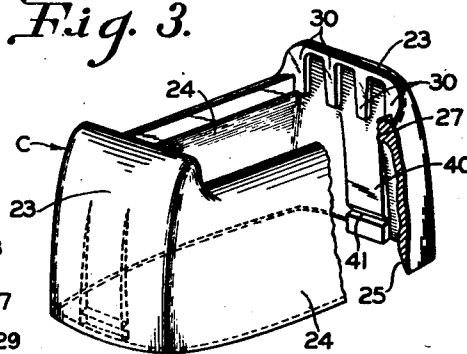


Fig. 4.

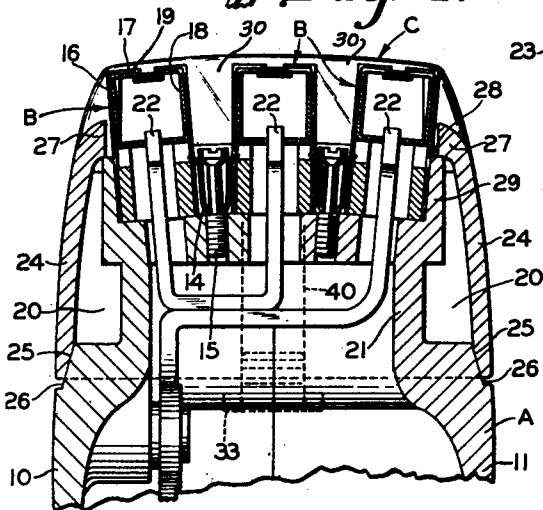


Fig. 5.

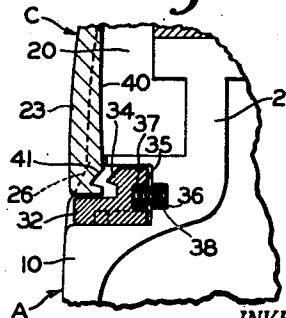
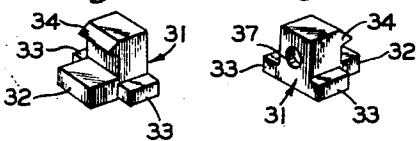


Fig. 6. Fig. 7.



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*Fig. 8*

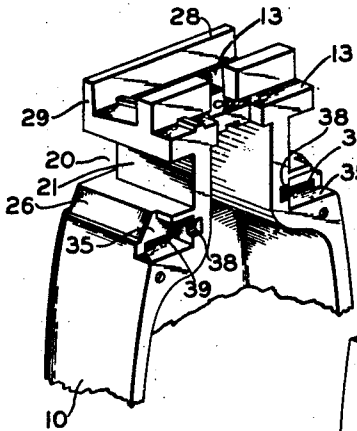


*Fig. 9.*

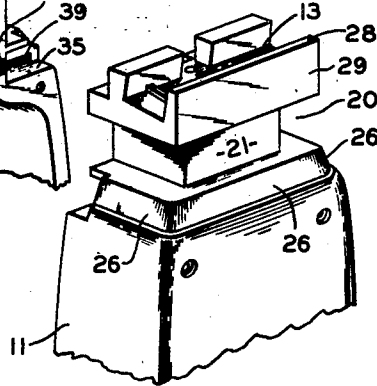


*Fig. 10.*

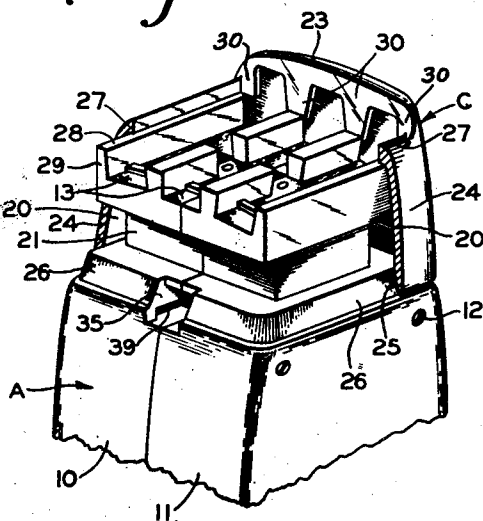
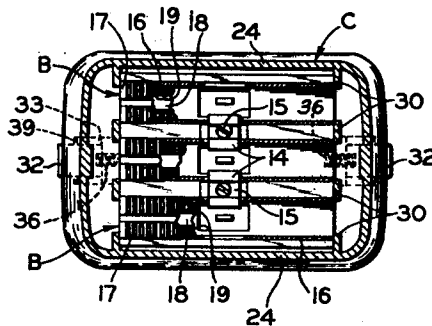


*Fig. 11.*



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## UNITED STATES PATENT OFFICE

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## ELECTRIC DRY SHAVER

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7 Claims. (Cl. 30-41)

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This invention relates to electric dry shavers and more particularly to improved means for catching cut hair during operation of the shaver and storing it for subsequent disposal.

To prevent cut hair from falling upon the clothing of the user, or elsewhere, most dry shavers manufactured and sold today are provided with means for catching and storing hair cut by the shearing head or heads, during the act of shaving, and such means are known and commonly referred to as hair pockets or receivers. Most commercial shavers have two hair pockets which are generally held adjacent the open ends of the shaver shearing head or heads in various ways. For example, some are held by springs, others by being hingedly connected to the shaver case-handle or to the shearing head, and still others formed integral with said case-handle.

All existing hair pockets for electric dry shavers, as known today, have the common disadvantage of affording extremely limited storage space for cut hair, thus necessitating frequent disposal and cleaning to insure against packing of the hair which would inhibit proper operation of the shearing head or heads; are costly to manufacture; are unsightly and detract from the streamline appearance of modern shavers, and are not susceptible to easy cleaning.

Accordingly, it is an object of the present invention to construct an electric dry shaver having improved means for catching and storing cut hair in a manner to obviate the disadvantages above referred to.

One feature of the present invention consists in the provision of a unitary hair pocket or storage chamber instead of separate pockets confined to the open ends of the shearing heads as in present day shavers.

The invention further contemplates the provision of a removable end member or casing section which forms a unitary hair pocket having increased storage capacity; which may be manufactured at low cost; which may be formed as a plastic molding, stamped from sheet metal or die cast; one which will readily conform or blend with the shape of the case-handle to give the appearance of being a part or extension thereof rather than an attachment thereto; and one which can be easily, quickly, and conveniently attached to or removed from the case-handle, and not in any way fastened to the shearing head or heads thus eliminating the possibility of distorting the heads or otherwise interfering with their proper operation.

Other objects and advantages have to do with

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the details of construction and arrangement of parts, as will appear more fully as the description proceeds.

The invention will be most readily understood by reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a dry shaver embodying a unitary hair pocket made in accordance with the present invention.

Fig. 2 is a fragmentary longitudinal section partly in elevation through the upper portion or cutting end of the shaver, the view being shown on an enlarged scale and taken substantially along the line 2-2 of Fig. 1.

Fig. 3 is a perspective detail of the sleeve-like hair pocket cover with a portion broken away to illustrate one of the grooves used to hold it in position upon the case-handle.

Fig. 4 is an enlarged fragmentary cross-sectional view taken on a plane corresponding to the line 4-4 of Fig. 2.

Fig. 5 is a fragmentary sectional detail of one of the cover holding latches shown in unlatched position.

Figs. 6 and 7 are front and rear perspective detail views respectively of one of the latches.

Figs. 8 and 9 are fragmentary perspective views of the upper or cutting end of the case-handle halves shown separated from one another.

Fig. 10 is a perspective view of the parts shown in Figs. 8 and 9 but in assembled relation and showing a portion of the sleeve-like cover installed thereon, and,

Fig. 11 is a horizontal sectional plan view partly in elevation along line 11-11 of Fig. 1.

The dry shaver chosen to illustrate the instant invention includes a casing A which forms the usual handle and housing for the shaver driving means, which may be in the form of the usual make-and-break contact type of electro-magnetic motor (not shown). Casing A, in common with known devices of this class, preferably comprises two molded plastic shells or parts 10 and 11 detachably joined together in any suitable manner, for instance, by one or more screws 12. The cutter or head end of casing A is formed with one or more channels 13 which are formed to provide a seat for receiving and mounting a shaver head B in each channel.

The drawing illustrates a shaver with three channels arranged in spaced parallel relation transversely across the cutter end of casing A for receiving three shaver heads B (Fig. 10) but, as will presently be apparent, the invention is not limited to multiple head shavers but is equally

applicable to shavers having only a single head. These shaver heads B may be detachably mounted in each channel in independent relation by clips 14 and screws 15 (Fig. 4) in a manner well known in the art.

In accordance with common practice, each shaver head B preferably comprises an outer open-ended stationary cutter 16 including a skin-contacting wall 17 provided with slots (Fig. 11) or other suitable perforations adapted to receive the hair or beard as the shaver is moved over the surface being shaved. Mounted for reciprocation within outer cutter 16 is an inner open-ended cutter 18 having cutter bars 19 which cooperate with the edges of the slots in wall 17 to sever hairs projecting through the slots in the usual and well-known manner.

As previously stated, the invention contemplates the provision of a unitary hair pocket arranged to receive and store hair cuttings from all of the shaver heads B. To this end casing A is formed with a channel or open chamber-like recess 20 (Fig. 10) which surrounds trunk portion 21 of said casing. Motor driven actuating levers 22, for reciprocating the inner cutters 18 of shaver heads B, pass through this trunk portion as clearly illustrated in Figs. 2 and 4.

A sleeve-like cover or casing section C, detachably mounted upon casing A serves to close chamber 20 to prevent cut hair stored therein from escaping therefrom or entering the interior of said casing. In this manner provision is made for storing hair cuttings on all sides of trunk 21, which is centrally disposed relative to casing A, instead of only at opposite ends of the shaver heads B as in the conventional manner. Thus, storage capacity for cut hair is materially increased and consequently the necessity for removal thereof is less frequent. Furthermore, the exterior surfaces of the cover or imperforate tubular open-ended casing section C conform or blend with the exterior of casing A to give a streamline appearance to the shaver by dispensing with all unsightly protruding parts.

Attention is now directed to the perspective view of the cover or casing C illustrated in Fig. 3. This cover is preferably molded from plastic or formed from sheet metal and comprises an imperforate tubular sleeve-like structure having end walls 23 and side walls 24, the lower marginal edges of which walls are beveled at 25 for engagement with the inclined wall 26 surrounding casing A. The upper edge of each side wall 24 is curved inwardly at 27 to seat upon the top edge 28 of wall 29, the latter being an integral part of casing A. In order to prevent hair cuttings from escaping between the spaced apart shaver heads B, end walls 23 of cover C are each formed with pads or bosses 30 which align with the walls forming the channels 13 when cover C is installed upon casing A as best shown in Fig. 10.

It has been previously mentioned that cover C is detachably mounted upon casing A. This may be accomplished by a pair of oppositely disposed spring-pressed holding latches 31 shown in detail in Figs. 6 and 7. Each latch 31 has a body portion comprising a button 32, a pair of oppositely disposed flanges 33 and a lip 34. Each latch slidably fits into its associated recess 35, formed in the casing shells 10 and 11, and is normally urged outwardly, as viewed in Fig. 2, by a spring 36 one end of which is received by a socket 37 formed in the latch and the other end received by socket 38 formed in the shells 10 and 11. Flanges 33 are received by and slide within

grooves 39 formed within recess 35 and limit the outward movement of said latches when cover C is removed.

Each end wall 23 of cover C has a centrally disposed internal projection or rib 40 which is provided near its lower end with a notch or groove 41 as clearly shown in Fig. 3. The construction is such that lips 34 of latches 31 snap into notches 41 under the influence of springs 36 when cover C is pressed upon casing A as will be apparent from Fig. 2.

When latches 31 are in their cover-holding position, buttons 32 thereof project slightly beyond the outer surface of casing A (see Figs. 1 and 2). To quickly and conveniently remove cover C from casing A, when it is desired to remove and replace shaver heads B or to dispose of hair cuttings contained within the storage chamber 20, buttons 32 are simultaneously pressed inwardly against the tension of springs 36. This inward movement of the latches withdraws lips 34 from holding engagement with notches 41 whereupon the cover or casing section C can be lifted from casing section A.

It will now be clear that the described shaver construction provides a novel arrangement whereby storage capacity for hair cuttings is materially increased over present shavers without increasing the overall dimensions of the shaver proper; that it is now possible to manufacture a shaver having a truly streamline appearance; and that the special securing means for the open-ended casing section or unitary hair pocket cover enables quick and convenient removal of hair cuttings or replacement of the shaver head or heads when desired.

Although there has been described and illustrated a highly desirable embodiment of the invention, it will be obvious that many changes and modifications could be made without departing from the field of the invention. It is the intention therefore to be limited only as indicated by the scope of the following claims.

The invention claimed is:

1. In a dry shaver of the class described the combination of, a pair of separable casing sections; means to removably hold said sections in telescopic relation relative to one another; and at least one open ended cutter head mounted upon one of said sections, characterized by the fact, that an uninterrupted hair receiving chamber is defined between said sections when in assembled relation to receive and store hair cut by said cutter head and discharged through the open ends thereof.

2. In a dry shaver of the class described the combination of, a pair of separable casing sections; detent means to hold said sections in telescopic relation when one is slipped upon the other; and at least one open ended cutter head mounted upon one of said sections and projecting within the other section, characterized by the fact, that an uninterrupted substantially rectangular hair receiving chamber is formed between said sections when they are in assembled telescopic relation to receive and store cut hair discharged through the open ends of said cutter head or heads.

3. In a dry shaver, the combination of a pair of separable casing sections one of which serves as a handle for the shaver and the other of which comprises a substantially rectangular sleeve-like member; means normally acting to hold said sleeve-like section in telescopic relation upon the handle section; and a plurality of open ended

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cutter heads supported upon one end of said handle section, characterized by the fact, that an uninterrupted substantially rectangular hair receiving chamber is formed between said sections when in assembled relation to receive and store hair discharged through the open ends of said cutter heads.

4. In a dry shaver of the character described comprising the combination of, a pair of separable casing sections one of which serves as the shaver handle and the other of which comprises a substantially rectangular sleeve-like member; spring detent means adapted to detachably hold said sleeve-like section in telescopic relation upon the handle section; and a plurality of open ended cutter heads mounted upon one end of said handle section, characterized by the fact that an uninterrupted substantially rectangular hair receiving chamber is formed between said sections, when they are assembled in telescopic hair retaining relation, to receive and store cut hair discharged through the open ends of said cutter heads.

5. In a dry shaver of the class described the combination of, a pair of detachable casing sections; detent means to normally hold said sections in telescopic relation relative to one another including spring pressed buttons slidably mounted in one of said sections and engageable with notches in the other of said sections; and at least one shearing head of the open ended type mounted upon one of said sections, characterized by the fact, that an uninterrupted hair receiving chamber is formed between said sections, when they are in assembled relation, to receive and store hair cut by said cutter head and discharged through the open ends thereof.

6. In a dry shaver construction of the character described comprising the combination of, a pair of detachable casing sections one of which forms the shaver handle and the other a substantially rectangular imperforate sleeve-like

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member; detent means normally acting to hold said sleeve-like section in telescopic relation upon the said handle section; and a plurality of open ended cutter heads mounted upon one end of said handle section and substantially extending within said sleeve-like section, characterized by the fact, that an uninterrupted rectangular hair receiving chamber is formed between said sections when they are assembled in telescopic relation relative to one another to receive and store hair discharged from said cutter heads.

7. A shaver comprising a pair of separable casing sections one of said sections forming a handle member and the other of said sections forming an imperforate rectangular sleeve-like member; detent means for uniting said sections in continuous casing forming relation relative to one another; a plurality of open ended cutter heads mounted upon the head end of the handle section; and means integrally formed with said sleeve-like member to close the open gaps between said cutter heads whereby an uninterrupted substantially rectangular hair receiving chamber is formed between said sections and around said heads to catch and store hair cut by said cutter heads.

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