May 14, 1957 F. KLUGE 2,791,830

HAIR TRIMMING ATTACHMENTS FOR ELECTRIC RAZORS

Filed Nov. 15, 1954

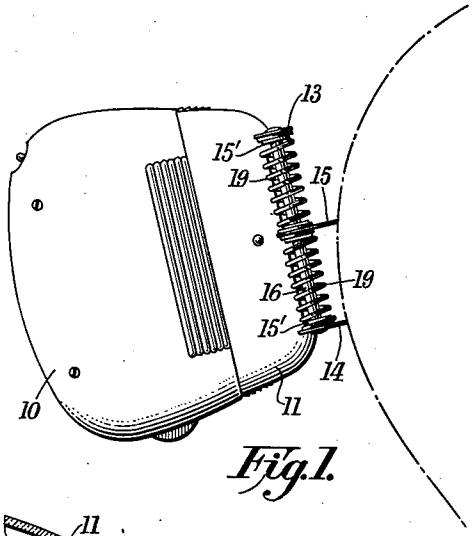


Fig. 1.

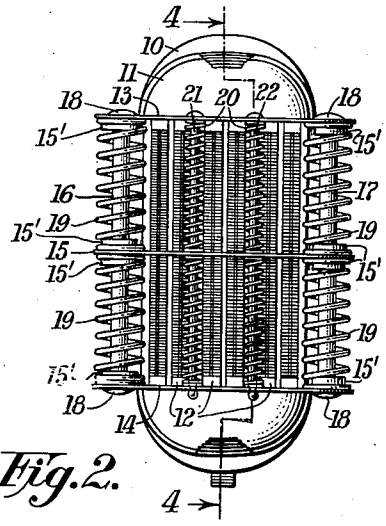


Fig. 2.

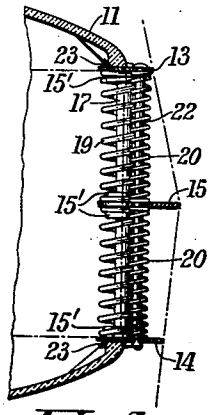


Fig. 4.

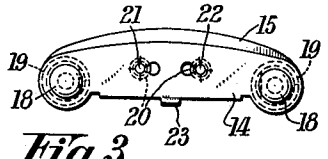
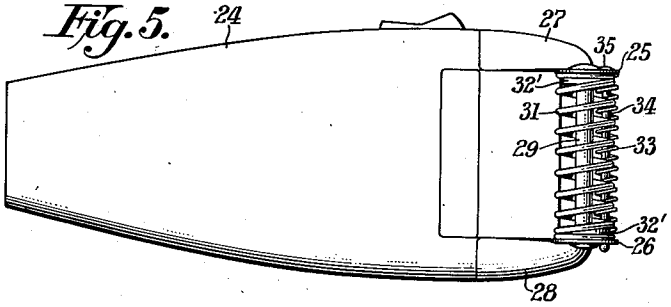


Fig. 3.

Fig. 5.



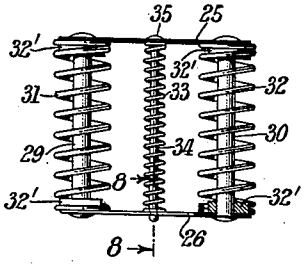


Fig. 6.

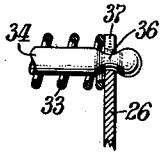


Fig. 8.

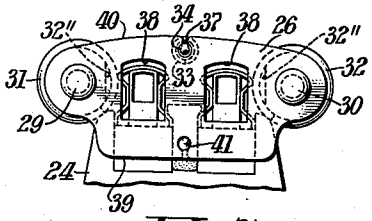


Fig. 7.

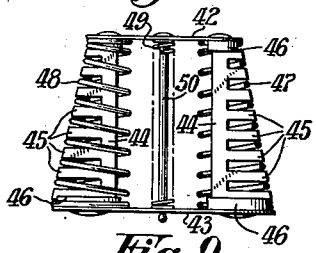


Fig. 9.

WITNESS

Godfrey Pfeiffer

INVENTOR.
Frederick Kluge

BY

Marshall J. Breen

ATTORNEY

United States Patent Office 2,791,830 Patented May 14, 1957

2,791,830

HAIR TRIMMING ATTACHMENTS FOR ELECTRIC RAZORS

Frederick Kluge, Elizabeth, N. J.

Application November 15, 1954, Serial No. 468,728

3 Claims. (Cl. 30—34)

This invention relates to new and useful improvements in electric razors or dry shavers and has particular relation to an attachment for an electric shaver adapting it for trimming hair.

The primary object of the present invention is to provide a hair trimming attachment which can be readily applied to an existing conventional dry shaver without the need of any modification to the dry shaver.

Another object of the present invention is to provide a hair trimming attachment which will readily snap onto the conventional electric shaver and will in no way interfere with the operation of the shaving head or with the self-cleaning feature of the shaving head.

A further object of the present invention is to provide an attachment of the above character that can be produced by relatively simple production methods.

A still further object of the present invention is to provide an electric shaver hair trimming attachment which is constructed such that the conventional shaping of the hair on a person's neck can be easily obtained as can also the shaping of the hair near the top of a person's head.

A further object of the invention is to provide an attachment of the above character which is of relatively lightweight construction, which is strong and durable, which is simple in construction and easily cleaned, and which is relatively inexpensive to manufacture.

Further objects and advantages of the present invention will become apparent as the following description proceeds, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

For a complete understanding of the present invention reference may be had to the accompanying drawings in which:

Fig. 1 is an elevational view of a well known form of electric razor fitted with the present hair trimming attachment, showing in dot and dash lines the outline of a human head and the way in which the razor fitted with the improved attachment is utilized.

Fig. 2 is a front elevational view of the razor and hair trimming attachment shown in Fig. 1.

Fig. 3 is an end view of the hair trimming attachment.

Fig. 4 is a fragmentary vertical sectional view taken substantially along the line 4—4, Fig. 2, showing the manner in which the hair trimming attachment is clipped onto the frame of the electric shaver.

Fig. 5 is a slightly different form of hair trimming attachment adapted for use with another well known type of electric razor.

Fig. 6 is a front elevational view of the hair trimming attachment shown in Fig. 5, with a portion in section to illustrate the spring-end anchoring disk.

Fig. 7 is an end view of a portion of the electric razor shown in Fig. 5, showing the hair trimming attachment

mounted in operative position with its hair-clearance holes in register with the reciprocating cutters of the razor.

Fig. 8 is an enlarged sectional view taken substantially along the line 8—8, Fig. 6.

Fig. 9 is a front elevational view of another modified form of the attachment.

Referring in detail to the drawing, and at first more particularly to Figs. 1 through 4, the electric razor is indicated by the reference character 10. Provided on the razor is the usual detachable shield or guard 11 disposed to cover the regular cutting head 12. The cutting head is of the well known type and comprises a plurality of rows of stationary ledger blades which have cooperating therewith rapidly reciprocated cutting elements or teeth. The guard 11 is inherently resilient and thereby is detachably fastened to the body of the electric razor. In the vicinity of the cutting head 12 the guard 11 is apertured to permit the hair ends to enter the cutting head and be cut thereby. All of the foregoing description relates to well known structures of electric razors and is given merely by way of setting forth general construction of such devices in order that the operation and use of the attachment of the present invention will be understood.

The attachment of the invention, as shown in Figs. 1 through 4, comprises a pair of end-plate runners 13 and 14 and an intermediate plate runner 15. The two end-plate runners 13 and 14 and the intermediate plate runner 15 are perforated at their respective ends to receive connecting members such as studs or rivets 16 and 17. Each of the connecting studs or rivets at its opposite end is preferably formed with a head 18 and interposed between the end-plate runners 13 and 14 and the intermediate plate runner 15 are primary cutting head spacing elements or coil-springs 19 which are under initial compression and thereby maintain the components of the attachment in assembled relation. If desired, the end plate runners 13 and 14 can be welded, soldered or otherwise fastened to the headed end of the studs or rivets 16 and 17. Attached to the inner face of the end-plate runners 13 and 14 and to the opposite faces of the intermediate plate runner 15 are spring-end positioning or anchor disks 15'. These disks are of such size as to receive the end convolutions of the coil-springs 19 and thereby maintain the coil-springs such that the rivets 16 and 17 are centrally located with respect to the coil-springs. As will be seen in Fig. 2, the opposite rows of coil-springs 19 are spaced apart a distance slightly greater than the width of the cutting head in order that the attachment when in use will contact the person's head at relatively widely spaced points. In order that the hair being trimmed will not approach to a point too close to the cutting head 12 between the opposite rows of coil-springs 19, I have provided two rows of secondary coil-springs 20 which are preferably of smaller diameter than the primary coil-springs 19. Like the primary coil-springs, the secondary coil-springs 20 are mounted on two studs 21, 22 which are headed at one end, penetrate the intermediate plate runner 15 and are formed at their other ends so as to be detachably secured in the opposite end-plate runner 14. By having the studs 21 and 22 detachably secured in the end-plate runners, they and the secondary springs 20 can be removed whenever desired either for cleaning or perhaps better performance in accordance with individual requirements.

As will be seen in Figs. 1 and 4, the end-plate runners 13 and 14 and the intermediate plate runner 15 vary in height. Thus, it will be seen in Fig. 4 that the scalp-contacting edges of the end-plate runner 13 and the in-

termediate plate runner 15 define an angle such that the trimming attachment can be located sufficiently close to the scalp of the person having his hair trimmed that a very neat trim can be obtained at the base of the hair line. As the hair trimming proceeds upwardly away from the hair line the electric razor can be inverted, bringing into operation end-plate runner 14 and the intermediate plate runner 15. As will be seen in Fig. 4, the angle defined by the scalp-contacting edges of the plate runners 14 and 15 is different than that defined by plate runners 13 and 15. This different angle results in a spacing of the cutting head of the razor a distance further away from the person's head and consequently permits a very gradual taper to the hair from the hair line upwardly to the top of the person's head.

As clearly shown in Figs. 3 and 4, the trimming attachment is adapted to be releasably held on the guard 11 of the electric razor by means of two spring clips 23 formed on the end-plate runners 13 and 14 and disposed to engage under the guard 11. To attach or remove the trimming attachment it is only necessary to flex the end-plates toward one another so that the clips 23 can be slipped under the marginal edge of the cutter head opening in the guard 11.

Referring now to the modification shown in Figs. 5 through 8, the trimming attachment illustrated is of slightly different form whereby it is adapted for use with another well known type of electric shaver indicated by the reference character 24. As will be seen in Fig. 6, this form of attachment comprises end-plate runners 25 and 26 which are adapted to enter between the hinged hair-collecting guards 27 and 28 of the electric razor. The end-plate runners 25 and 26 are apertured to receive the studs or rivets 29 and 30 and these studs or rivets have mounted thereon primary coil-springs 31 and 32. As previously explained in connection with the attachment disclosed in Figs. 1 to 4, the opposite ends of the primary coil-springs 31 and 32 are constrained by the positioning disks 32' such that the rivets 29 and 30 are centrally located relatively to the coil-springs 31 and 32. In Fig. 7 it will be observed that the positioning disks are slabbed off, as at 32", to provide clearance permitting the attachment to be easily applied to various razors of the same make which may vary slightly in dimension. Between the coil-springs 31 and 32 is a secondary coil-spring 33 mounted on a retractable stud or rivet 34 formed with a head 35 at one end and with a reduced or necked portion 36 at the other end. In order releasably to receive the necked portion 36 of the stud or rivet 34 the end plate runner 26 is formed with an open ended slot 37 into which the stud or rivet is laterally introduced.

The two end-plate runners 25 and 26 are of similar shape and, as illustrated in Fig. 7, each plate is formed with clearance openings 38 in register with the ends of the cutting heads so that the trimmings can be discharged into the two hair-collecting guards 27 and 28. It will be noted also in Fig. 7 that the end-plate runner 26 is formed with a projection whose edge 39 is located at a greater distance from the coil-springs 31 and 32 than is the edge 40 and that this projection is formed with a hole 41 to receive the stud or rivet 34. The end-plate runner 25 is similarly formed but instead of being provided with a hole similar to 41 in the projection it is formed with an open ended slot like slot 37 in end-plate runner 26. It will be understood that the purpose of the projection on the end-plate runners 25 and 26 is to provide for the proper spacing of the cutting head of the electric razor away from the head of the person whose hair is being trimmed as the razor is moved upwardly from the hair-line. In other words, as the trimming device is shown in Fig. 7, it is adapted to be used to start the hair trimming operation at the neck hair line. As the razor is moved upwardly to the point where the hair must be longer, the trimming attachment is slipped off

the razor and the stud 34 and spring 33 are removed and assembled on the opposite side of the two end-plate runners, following which the attachment is again slipped onto the razor. The hair trimming operation can now be continued and the longer sides of the end-plate runners insures that the electric razor cannot trim the hair too close to the scalp.

In the modification shown in Fig. 9, the device includes an end-plate runner 42 and an end-plate runner 43 which is larger than end-plate runner 42. The two end-plate runners 42 and 43 are each permanently fastened to the ends of two comb-like rivet members 44 which are preferably thin stampings. Each comb-like rivet member 44 is tapered from one end to the other and is formed with fingers or tines 45. At its opposite ends each rivet member 44 is provided with positioning disks 46 which are sized to enter the end convolutions of the primary coil-springs 47 and 48, which like the comb-like rivets 44 are tapered from one end to the other. Disposed between the two primary coil-springs 47 and 48 is a secondary coil-spring 49 mounted on a removable rivet 50 which is secured in the end-plate runners 42 and 43 in a manner similar to the rivet 34 in the device shown in Fig. 6. The advantage of the tapered primary coil-springs 47 and 48 is that the usual shaping of the hair can be successfully accomplished simply by resting the attachment against the person's neck, leaving it to the taper of the primary springs properly to locate the trimming head of the razor. The tines 45 function to direct or guide the hair properly into the cutting head of the razor. Assisting the tines in this operation are the convolutions of the coil-spring members 47 and 48.

From the foregoing, it will be appreciated that I have invented a hair trimming attachment for use with electric razors, which attachment is exceedingly simple to use and can be successfully operated by any one unskilled in the cutting of hair. The coil springs have been found to be very effective in properly alining the hair for introduction into the cutting head of the electric razor. Also, it will be appreciated that the end-plate runners accurately space the cutting head from the scalp of the person whose hair is being trimmed and this feature makes the present attachment particularly useful in cutting the hair at a uniform length, such as is the case in the now common "crew" cut.

Having thus described the nature of the invention, what I claim herein is:

1. An attachment for a power razor having a cutting head and a guard therefor, comprising a pair of substantially parallel end-plate runners adapted to engage said power razor at the ends of said cutting head, one of said plate runners having a height greater than the other of said plate runners, parallel cutting head spacing elements supported by and spanning the distance between said end-plate runners, and spring means associated with said end-plate runners for releasably securing said attachment to said power razor.

2. An attachment for a power razor having a cutting head and a guard therefor, comprising a pair of substantially parallel end-plate runners adapted to engage said power razor adjacent to the opposite ends of said cutting head, a plurality of rivet members connected at their opposite ends to said end-plate runners, an intermediate plate runner mounted on said rivet members between said end-plate runners, cutting head spacing coil-springs mounted on said rivet members and bearing at their opposite ends against said end-plate runners and said intermediate plate runner, said end-plate runners and said intermediate plate runner having scalp-contacting edges at different heights from the plane defined by the axes of said rivet members, and means associated with said end-plate runners for releasably securing said attachment to said razor.

3. An attachment for a power razor having a cutting head and a guard therefor, comprising a pair of substan-

tially parallel end-plate runners adapted to engage said power razor adjacent to the opposite ends of said cutting head, a plurality of rivet members connected at their opposite ends to said end-plate runners, an intermediate plate runner mounted on said rivet members between said end-plate runners, cutting head spacing primary coil-springs mounted on certain of said rivet members and bearing at their opposite ends against said end-plate runners and said intermediate plate runner, secondary coil-springs of a diameter different from that of said primary coil-springs mounted on other of said rivet members and located between said primary coil-springs, said end-plate runners and said intermediate plate runner having scalp-

contacting edges at different heights from the plane defined by the axes of said primary coil-springs, and means associated with said end-plate runners for releasably securing said attachment to said razor.

References Cited in the file of this patent

UNITED STATES PATENTS

952,837	Nahemow	Mar. 22, 1910
2,098,036	Gore	Nov. 2, 1937
2,216,797	Andis	Oct. 8, 1940
2,286,660	Wallace	June 16, 1942
2,423,874	Coles	July 15, 1947