March 9, 1954 C. PATRICELLI 2,671,266

SCISSOR MECHANISM

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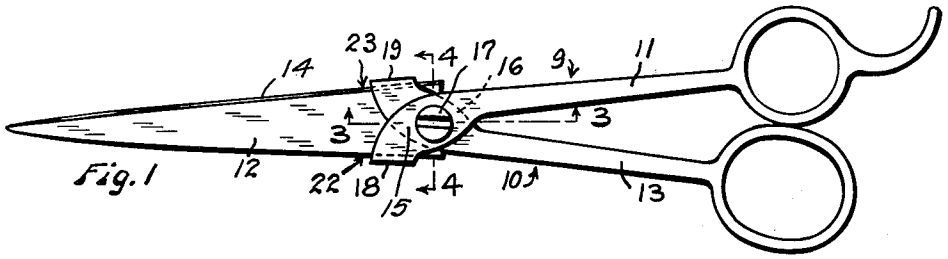


Fig. 1

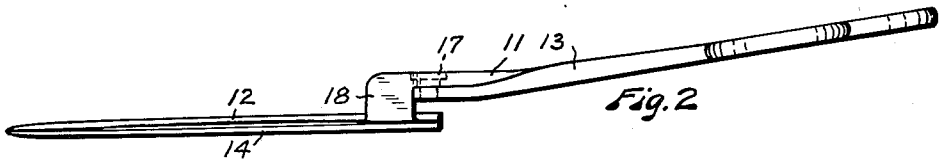


Fig. 2

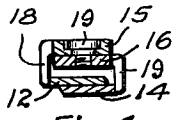


Fig. 4

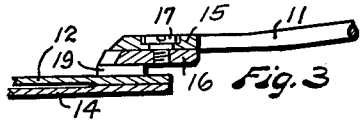


Fig. 3

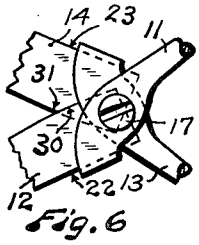


Fig. 6

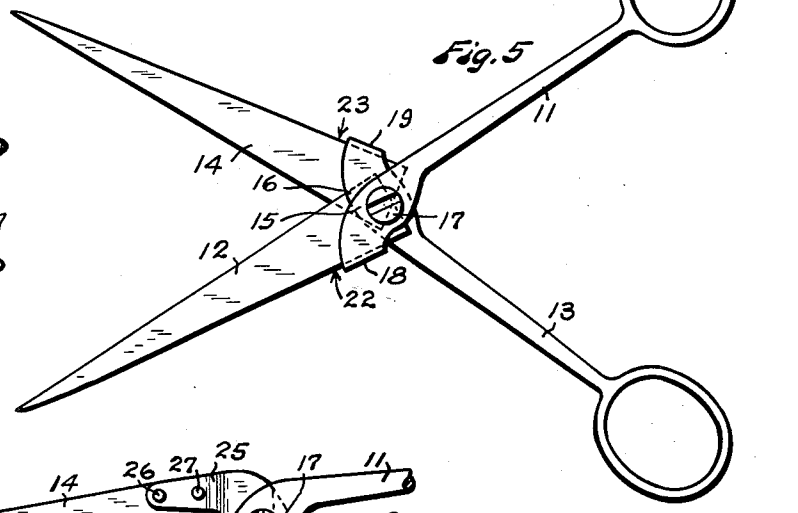


Fig. 5

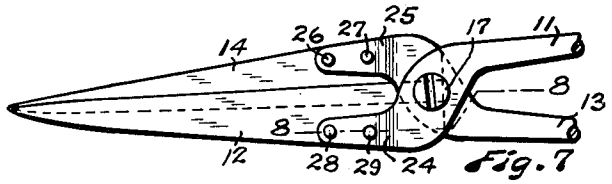


Fig. 7



Fig. 8

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SCISSOR MECHANISM

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7 Claims. (Cl. 30—257)

1

My invention relates to a scissor mechanism.

More particularly my invention relates to the providing of scissors which are particularly adapted to use by barbers in the cutting of hair.

A very definite requirement of barber shears is that they must lie flat against the comb which holds the hair while the hair is being cut. The difficulty with present barber scissors is that, in meeting this requirement, only the outer point portion of the scissors are available for cutting because it is only such small portion of the scissors in cutting hair that can readily be made to lie flat against the comb and allow room for the fingers of the operator and for the screw that ordinarily serves as the pivot point of the scissors.

A barber scissors requires certain essential elements for its best operation. Since the pair of scissor blades are operated by the outer or tip portion of the fingers, the device should be well-balanced for best operation since barber work involves great precision. Therefore well-balanced scissors are very important to avoid physical and nervous fatigue in performing proper or precision barber work.

The scissors of my invention, furthermore, permit the operator to maintain a more erect posture throughout the hair cutting procedure and therefore be more at ease as the features characterising my invention permit the scissors to lie flat against the comb even in difficult sections, such as often occur in the neck and ear portions.

An offset scissor to permit the fingers to not interfere must not allow a gap to develop between the blades when they are fully opened and thus the attention of the operator should not be required to avoid opening the scissors fully so as to prevent a gap and thereby allowing portions of the hair to escape thereby. One of the purposes of my invention is to provide for the full use of the scissors as to opening and also to the full length of the cutting portions of the blade and this without leaving any gap.

In referring to "balance of the scissors," it is not meant only as to the weight of the blades on the one hand and the weight of the handles on the other as respects the pivot point, but it is meant to include the idea of balance when force is being applied in cutting the hair. When the force applied is confined to the outer tip portions of the blades, obviously the leverage balance is upset and the force being applied is being employed inefficiently.

The restricting of the use of the scissors to the outer point portions of the common design scissors to make them lie flat against the comb results in excessive wear for the outer portions of the blades while little or no use is involved in the rearward portion of the scissor blades. My invention provides for a more uniform wear.

2

The sharpening of the scissors of common design and use operates to shorten the length of the blades and by so much continually reduces the efficiency. But with the scissors of my invention, the blades may be employed completely to their rearward end and whatever portion of the blade of my invention remains still operates at full efficiency, whereas in the ordinary scissors when the tip portions are sharpened away the usefulness of the scissors is practically at an end.

Besides providing a proper balance for the scissors, the construction of my invention permits lightness in weight so as to not tire the fingers of the operator and also this lightness in weight permits deftly handling and maneuvering.

Also, it is very important in barbering that the scissors have a highly efficient shearing operation—a requirement not met by the scissors of common present design since most of the operation of barbering permit only the use of the outer portion of the blades. Particularly is this true on the various head and neck curves, varying with each individual. Also the sitting posture and those having nervous afflictions induces the use of only the outer portion in trying to make the scissors lie flat against the comb. This means the finger tips must operate with an adverse leverage.

Such difficulties also require the operator to assume irregular postures in trying to make the scissors of present-day design perform under such circumstances. Naturally, all this induces fatigue on the part of the operator.

With the scissors of common design and use, the operator cannot cause the scissors to lie flat to the comb against the head by reason for the most part of the screw which serves as the pivotal connector of the blades. By so much as the operator is required to use only the point of the scissors, obviously the efficiency of the scissors is reduced—not only taking longer to do the barbering job, but the chance for errors in the stepping procedure standard to barbering are increased by the small piece-meal operation.

Furthermore, the scissors must be simple of construction in order to be economical in manufacture.

Where parts of the head permit the scissors to lie flat against the comb, then the pivot screw interferes. And, next, if one could cut close to the pivot point with the scissors of present design

as to certain parts of the head, then the finger tips ordinarily interfere.

It is a primary purpose of my invention to overcome the various stated difficulties and also to provide scissors with the advantageous features named above and disclosed herein. One feature of my invention is that the plane of the handles and the plane of the blades are offset. Nevertheless, this offset feature is not by itself sufficient. The blades must be of a character to provide the utmost shearing efficiency, and at the same time not permit an opening, that is, so that there will be no rearward gap between the blades when they are fully opened.

In my invention, the offset feature permits of the pivotal connector screw to be held in spaced relation to the plane of the cutting blades, and therefore renders it possible for the blades preferably to extend to, or substantially to, the intersecting point of the axis of the pivot point and the plane of the blades. In fact, if desired, the blades may extend rearwardly of this intersection point to an extent desired.

Also, the blades may be curved as to their rearward cutting portion and this is one way in my invention of providing for the blades to open widely without completely opening and leaving a gap between the blades through which the hair might slip when the scissors are being moved over the comb which holds the hair while being cut.

The above-mentioned general objects of my invention, together with others inherent in the same, are attained by the device illustrated in the following drawings, throughout which like reference numerals indicate like parts;

Figure 1 is a plan view of my invention in the closed position;

Fig. 2 is a side elevational view of my invention in the closed position;

Fig. 3 is a fragmentary cross-sectional view taken substantially on broken line 3—3 of Fig. 1;

Fig. 4 is a cross-sectional view of my invention taken substantially on broken line 4—4 of Fig. 1;

Fig. 5 is a plan view of my invention in the open position;

Fig. 6 is a fragmentary plan view of the pivoted portion of a modified form of my invention showing the heel end cutting edge portions of the curved blades;

Fig. 7 is a fragmentary plan view of a modified form of my invention in which form a flat side of the blades is fastened to the handle blade mounting portion and this by screws; and

Fig. 8 is a fragmentary sectional view taken substantially on broken line 8—8 of Fig. 7 with one of the shear members omitted.

My invention is made up of shearing members 9 and 10, Fig. 1. Shearing member 9 comprises handle portion 11 and blade portion 12. Shearing member 10 comprises handle portion 13 and blade portion 14.

Shearing members 9 and 10 provide broadened central portions 15 and 16 respectively, in which central portions 15 and 16 a pin means, as screw 17 or connector member, operates as a pivot affording mutual relative pivotal movement to shearing members 10 and 11.

Handle members 11 and 13 are provided with blade mounting portions 18 and 19 respectively, which blade mounting portions 18 and 19 each lie in planes angularly disposed to the planes of the central portions 15 and 16 respectively (see Fig. 3). By securing (as by welding) blade mounting portions 18 and 19 to the outer edge portions 22 and 23 (that is, the blade edges opposite the cutting edges) of blades 12 and 14 respectively (see especially Fig. 4, also Figs. 1, 2, 3, 4 and 5), said blades 12 and 14 can be provided with their rear end portions (that is, their ends opposite to scissor points of the blades) extended rearwardly of point of attachment of mounting portions 18 and 19. For example, such rearward extension may be to or beyond a point substantially opposite and in spaced relation to the pivotal point of the screw or connector 17 with the several advantages hereinafter set forth in the mode of operation. Also, such edge mounting of the blades 12 and 14 renders the functioning of the cutting edges independent of the pivotal connector member 17. Further, such connection of the blade members 12 and 14 with the blade mounting members 18 and 19 at the outer edge portions 22 and 23 of blade portions 12 and 14 permits of a self-cleaning action by blade portions 12 and 14, that is, the cutting edges are free to perform their normal cutting action to the very end thereof and thus a self-cleaning action of said blades 12 and 14 results without interference of any intersecting pivotal connector. Also the open structure provides for easy sterilizing of the device.

A fragmentary plan view of a modified form of my invention is illustrated in Fig. 6 in which form the heel or rear end portions 30 and 31 of the cutting edges 20 and 21 of blade portions 12 and 14 are curved toward the opposite edge portions 22 and 23, that is, curved toward the pivotal point. This construction results in an increase of cutting edge surface in addition to that provided by the construction incorporating the extended blade portion of my invention without permitting a gap between the cutting edges.

Figs. 7 and 8 illustrate a second modified form of my invention in which form a flat side of the blade members 12 and 14 is secured to blade mounting portions 24 and 25 by screw means or removable connectors. This construction permits of an easy detachment of blade members 12 and 14 for various purposes, such as that of sharpening. Such construction also permits economy in manufacture.

In operation, it will be noted that the scissors of my invention have the handle members 11 and 13 secured to the blade members 12 and 14 in advance of the ends of said blades so that a balance of the scissors is provided particularly in operation, i. e., have a certain balance in applying force in cutting the hair. The increased leverage provided by allowing the hair to be cut by that portion of the blades near the pivotal point renders the scissors easy to operate and provides a mechanism which may be skilfully handled with ease. By having the blades extending to beyond or substantially to the pivot point 17, there is always an intersection of their cutting edges even when the blades are widely open. Thus, there is no danger of the hair upheld in the comb failing to be engaged by the scissors well throughout their length.

The offset character by means of the mounting portions 18 and 19 serves well in allowing the cutting edges to lie flat against the comb. Also the handle pairs 11 and 13, it will be noted, are preferably inclined upwardly from a point just back of the pivot point 17. This likewise supplements the offset character of the blade mountings in providing for the blades to lie flat against the comb. The offset character also provides for the pivot point 17 to be in spaced relation to the plane of the blade members 12 and 14, and

therefore entirely out of their way so far as enabling the blades 12 and 14 to lie flat against the comb commonly employed in hair cutting. The spaced relation of the pivot point 17 to the plane of the blades permits the blades to be extended rearwardly of their mountings on the handles.

The curved parts 30 and 31 of the blades 12 and 14 in the modified form shown in Fig. 6 provides for opening very wide the scissors without danger of the cutting edges not intersecting and thereby allowing the hair to pass by without being contacted by the cutting edges.

In Figs. 7 and 8, the securing of the handles 11 and 13 to the blades 12 and 14 by means of screws 26, 27, 28, and 29 respectively provides for a firm gripping of the blades 12 and 14 and at the same time provides for these to be readily detached for purposes of grinding. Likewise, such construction permits the use of new blades while retaining the handle portions with which the operator has become accustomed. The form shown in Fig. 1 may be sharpened by removal of the screw 17. Of course, the form of these parts in Fig. 7 might be made integral instead of detachable.

Increasing the shearing portion of the scissors so that the cutting portion extends backward from the point portion of the blades and extending the blades to or beyond the pivot point and the offset of the blades and handles with other features above set forth, all combine to provide a cutting mechanism characterized by its well-balanced feature and ability to lie flat against the comb. Moreover, the construction of my scissors provides that when they are fully opened they will operate without danger of catching the ear between the rear portions of the blades, which rear portions in my construction act as a guard by pushing back the ear. The fact that the rear portions of the blades leave no gap automatically forms a protection from pinching the ears when the scissors are operated in cutting the hair about the ear. Also, the scissors of my invention are characterized by their efficiency in taking longer cuts (work is not confined to end portions of the blades), ease of cutting due to proper leverage, avoidance of ear interference, and economy of manufacture.

Obviously, changes may be made in the forms, dimensions, and arrangement of the parts of my invention without departing from the principle thereof, the above setting forth only preferred forms of embodiment.

I claim:

1. A scissor mechanism comprising, handle members each having a pivot mounting portion and a blade mounting portion which is disposed angularly to the plane of said pivot mounting portion; a pivot connector in said pivot mounting portion; and blade members mounted on said blade mounting portion and lying in a plane disposed in spaced relation to said pivot connector and to the plane of said pivotal mounting portion of the handle members, the cutting edge of the rear end portions of each of said blades lying in spaced relation to and substantially opposite the pivotal screw.

2. A scissor mechanism comprising, handle members each having a pivot mounting portion and a blade mounting portion which is disposed in spaced relation to said pivot mounting portion longitudinally of said handle, which blade mounting portion is disposed angularly to the plane of said pivot mounting portion; and blade members mounted intermediate their length on said blade

mounting portions, the cutting edge of the rear end portion of each of said blade members extending opposite the intersection of the plane of said blade members and the axis of the pivot point of said handles.

3. A scissor mechanism comprising, handle members each having a pivot mounting portion and a blade mounting portion which is disposed in spaced relation to said pivot mounting portion longitudinally of said handle, which blade mounting portion is disposed angularly to the plane of said pivot mounting portion; and blade members mounted on said blade mounting portions, the cutting edge of the rear end portions of the cutting edges of said blade members being curved toward the other edge portions of said blade members.

4. A scissor mechanism comprising, handle members each having a pivot mounting portion and a blade mounting portion which is disposed angularly to the plane of said pivot mounting portion; and blade members mounted on said blade mounting portions, the cutting edge of the rear end portion of each of said blade members extending rearwardly of the blade mounting members.

5. A scissor mechanism comprising, handle members each having a pivot mounting portion which is angularly disposed with respect to the handle members, and a blade mounting portion which is angular disposed to the plane of said pivot portion; and blade members mounted on said blade mounting portion, the cutting edge of the rear end portion of each of said blade members extending rearwardly opposite the point of intersection of the plane of the blade members and the extension of the axis of the pivotal point.

6. A scissor mechanism comprising, handle members each having a pivot mounting portion and a blade mounting portion which is disposed angularly to the plane of said pivot mounting portion; and blade members detachably mounted on said blade mounting portions and the cutting edge of the rear end portion of each of said blade members extending rearwardly of the blade mounting members.

7. A scissor mechanism comprising, pivoted handle members which have a broadened central portion at the pivotal point and have blade mounting sections disposed angularly to the plane of said central portion, said pivotal point lying wholly in the plane of said central portion; and blades secured to said blade mounting sections in offset relation, said blades extending substantially to the point of intersection of the plane of the blades and the extension of the axis of the pivotal point.

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