May 15, 1956 K. C. PURDY 2,745,175

EXTENSION BLADE GUARD ATTACHMENT FOR DOUBLE EDGE SAFETY RAZORS

Filed Nov. 19, 1952

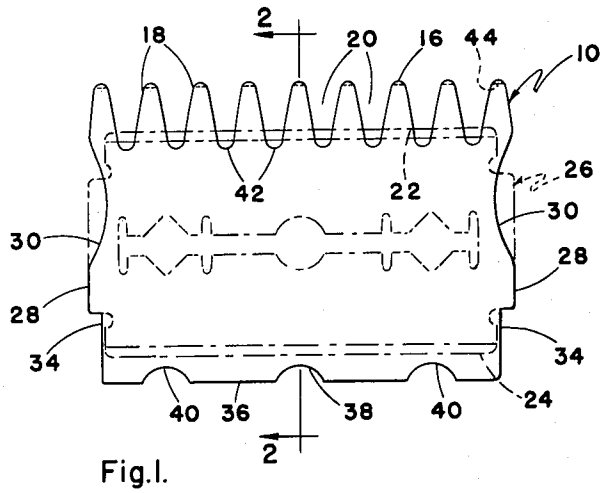


Fig.1.

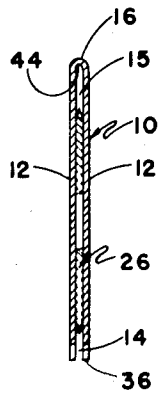


Fig.2.

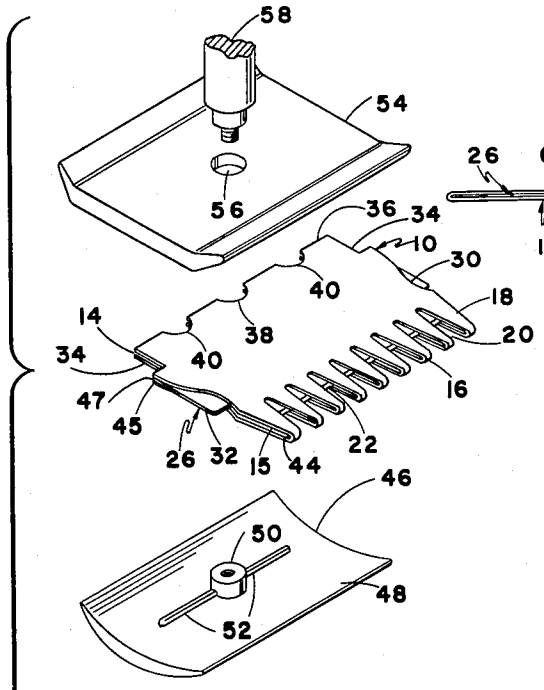


Fig. 3.

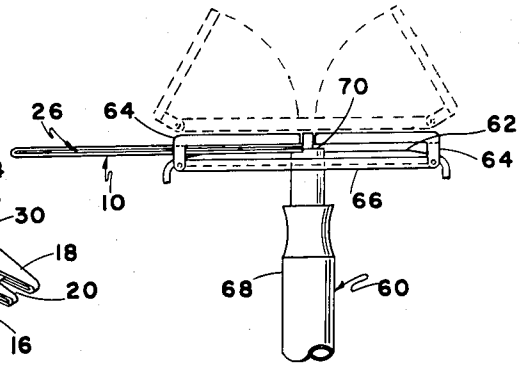


Fig.4.

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United States Patent Office 2,745,175 Patented May 15, 1956

2,745,175

EXTENSION BLADE GUARD ATTACHMENT FOR DOUBLE EDGE SAFETY RAZORS

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Application November 19, 1952, Serial No. 321,370

4 Claims. (Cl. 30—31)

The present invention relates generally to hair cutting devices and more particularly to a combination hair trimmer and razor for use in conventional double-sided safety razors, and still more particularly to an extension blade guard attachment.

The primary object of this invention is to provide an attachment for use with conventional razors and for holding any type of double-edged razor blade therein for the purpose of cutting or shaving hair, the ease of securement and removal of the guard being an important feature.

Another object of this invention is to provide an attachment for holding any type of double-edged razor blade with means for adjusting the position of the blade therein to permit the cutting of hair to any desired length.

Another object of this invention is to provide an attachment which when secured in a razor, presents the cutting edge extended sufficiently far from the holder portion of the razor to facilitate the trimming of the hair line, the removal of underarm hair, and for clinical use such as the preparation of patients for surgical operations.

Another object of this invention is to provide an attachment for use in a safety razor, the closing action of the razor securely retaining both the attachment and a razor blade therein.

Another object of this invention is to provide an attachment in which used and normally discarded razor blades can be satisfactorily employed.

Another object of this invention is to provide an attachment with means for protecting the user from injury from any razor blade secured therein, this feature having particular reference to the covering of the ends of the cutting edges.

Another object of this invention is to provide an attachment of slightly flexible character, which will permit minor but important adaptation of said attachment to the contour of the part operated upon, it being remembered that very minor dimensional changes in blade holding means greatly affect the operation of a razor. In this connection, it is noteworthy that the teeth provided in the guard are slightly more flexible than the more massive portions of the guard.

Another object of this invention, ancillary to the preceding objects, is to teach the best known mode of implementing the principles of the invention in carrying the invention into actual practice.

Another object of this invention is to provide an attachment for use in a safety razor which is adapted for fabrication from many different materials, so that the choice of material can be according to the dictates of availability and price considerations, the exact sizes and proportions being matters easly determined to suit particular conditions and needs.

Another object of this invention is to provide an attachment for use in a safety razor which is inexpensive and practicable to manufacture.

Finally, it is an object to provide an attachment for use in a safety razor which is simple, safe and convenient to operate, and which will give generally efficient and durable service.

With these and other objects definitely in view, this invention consists in the novel construction, combination and arrangement of elements and portions, as will be hereinafter fully described in the specification, particularly pointed out in the claims, and illustrated in the drawing which forms a material part of this disclosure and wherein similar characters of reference indicate similar or identical elements and portions throughout the specification and throughout the views of the drawing, and in which:

Fig. 1 is a front elevation view of the invention.

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is an exploded isometric view showing the method of securing the invention in an older type safety razor.

Fig. 4 is a front elevation view showing the method of securing the invention in a newer type safety razor.

Referring in detail to Figs. 1 and 2 of the drawing it will be seen that the invention may be fabricated from a single rectangular sheet of flexible metal, said metal being brass or other suitable material approximately .015 inch thick, the sheet being folded centrally, transversely of its length, to form the clip **10**. The clip **10** is U-shaped in cross-section when folded with the two layers **12** of equal length defining between them the slot **14**, approximately .006 inch in transverse dimension. Whether the sheet is actually folded or not, the clip will always have a returned or folded edge **16** which has a comb-like profile, as best shown in Figs. 1 and 3, comprising a plurality of identically dimensioned, generally cuneiform teeth **18**, between which are the spaces **20**, said spaces also being substantially cuneiform. Otherwise stated, the clip has a slot **14** and the teeth **18** have slot extensions **15** which communicate in co-planar relationship with adjacent portions of the slot **14**. The clip **10** is of adequate size to enclose the cutting edges **22** and **24** of a common double-edged razor blade **26**, when said blade is properly inserted into the slot **14** of the clip **10**. The edges **28** of the clip **10** are provided with the arcuate recesses **30** which sufficiently expose the end extensions **32** provided conventionally on the razor blade **26** to permit said blade **26** to be gripped between the thumb and forefinger, thus facilitating adjustment of said blade **26** in the slot **14** of the clip **10**. The cutting edge **22** of said blade **26** will, of course, be exposed in the spaces **20** between the teeth **18**. The cut-away or relieved corners **34** in the edges **28** of the clip **10** provide clearance for said clip **10** to allow insertion of the clip into any conventional double-edged safety razor. The edge **36** of the clip **10** has a central arcuate recess **38** while at each side of said arcuate recess **38** and at equal distances from it are the arcuate recesses **40**.

It will be seen that the blade **26** can be moved at will either towards or away from the folded edge **16** of the clip **10**, so that the cutting edge **22** of the blade **26** can be set in any desired cutting position and can be advanced from a position adjacent to the roots **42** of said teeth to a position wherein the cutting edge abuts the inner surface **44** of the fold of the clip **10**. The inner surface **44** of the fold acts as a stop, preventing continued movement of the blade **26** towards the edge **16** of the clip **10**, thus eliminating the danger of complete exposure of the cutting edge **22** of said blade **26**. In this connection, the opposing indexing shoulders **45**, provided on the sides of the guard adjacent to the relieved corners **34**, are functionally important in that the user locates and aligns the razor blade in the guard, prior to the insertion of the guard and blade in the razor holder,

using thumb and index finger to press the blade into position in the guard so that notch portions **47** of the razor blade register with the notched portions **45** of the guard. In Fig. 3 of the drawing the blade **26** is shown in a cutting position within the clip **10**. The numeral **46** denotes the clamp plate of a conventional type of double-edge safety razor. The clip **10** locates on the surface **48** of the clamp plate **46** so that the edge of the clip at the arcuate recess **38** abuts against the boss **50** which is centrally positioned on the surface **48**. Any tendency to pivotal movement of the clip **10** about the boss **50** is prevented by the abutment of the edge **36** of said clip **10** against the longitudinal boss **52** of the clamp plate **46**. The clamp plate **54** is seated on the clip **10** so that the central hole **56** in said clamp plate **54** is in alignment with the arcuate recess **38** of the clip **10** and the boss **50** of the clamp plate **46**. The arcuate recesses **40** in the clip **10** are provided to increase the versatility of the device, thus extending its use to those types of safety razors in which the clamp plate **46** might support locating pins of circular or square section, said pins being additional to boss **50** and replacing boss **52**. Insertion of the handle **58** in the hole **56** of the clamp plate **54** allows threadable engagement of said handle **58** with the interior of the boss **50**, with a consequent clamping action which effectively secures the clip **10** within the razor and the blade **26** within said clip **10**. Due to the flexibility of the material used for the clip and that of the conventional double-edged blade the blade is securely held in position and cannot shift after adjustment.

Referring to Fig. 4 in particular, the numeral **60** denotes a safety razor of a newer type, including the locating plate **62**, which seats a razor blade for normal shaving purposes, the hinged clamp plates **64** pivotally mounted at the ends of the support bar **66**, and the conventional opening mechanism actuated by the rotatable handle **68**. The clip **10** containing the blade **26** is placed on the locating plate **62** so that the edge of the clip at the arcuate recess **38** abuts against the boss **70**. Rotation of the handle **68** actuates the closing mechanism, causing the clamp plates **64** to close towards the locating plate **62**. It will be understood that only one of the hinge plates **62** will be actually effective in clamping the clip **10** between said clamp plate and the locating plate **62**, securely gripping the said clip **10** and simultaneously securely retaining the razor blade **26** within said clip **10** in any adjusted cutting position.

It will be seen by reference to Figs. 3 and 4 that the clip **10**, when containing a razor blade and assembled within a razor, extends considerably past the normal cutting station of the razor. This feature greatly facilitates the use of this invention in removing hair from over the ears, under the arms and in clinical use preparatory to surgical operations. The flexible character of the metal from which the invention is fabricated proves advantageous in the application of the invention to irregular contours and surfaces and would also constitute an additional safety feature.

My clip may be used with the conventional double-edge razors and may be located with the cutting edge **22** of the blade facing in either direction with equal facility and security.

At all times the ends of the cutting edges of the blade will be concealed and the user is thus protected. Furthermore, regardless of the particular setting of the blade, my device provides a means which will cut hair very short, if desired, to a length in the order of the thickness of the metal used for the clip. In connection with my device blades otherwise discarded may be used for certain hair cutting purposes aforementioned that could not be further used in ordinary shaving.

My device may also be used in trimming the ends of the hair for women and girls with safety and will easily provide a desirable tapered cut which allows the hair to lie smoothly. By maintaining the same general angle of the razor handle the hair may be trimmed uniformly. The comb edge **16** allows the clip to divide the hair equally and the hair is uniformly presented to the cutting edges with the result that the hair is not notched or cut with ragged edges.

The operation of this invention will be clearly comprehended from a consideration of the foregoing description of the mechanical details thereof, taken in connection with the drawing and the above recited objects. It will be obvious that all said objects are amply achieved by this invention.

Further description would appear to be unnecessary.

It is understood that minor variation from the form of the invention disclosed herein may be made without departure from the spirit and scope of the invention, and that the specification and drawing are to be considered as merely illustrative rather than limiting.

I claim:

1. A hair trimmer comprising a guard or clip having teeth along one edge, said clip having a razor blade-receiving slot therein, said slot having slot extensions in said teeth, said slot extending to a side of said clip remote from said teeth, a razor blade in said slot and slot extensions, a safety razor having clamp plates engaging said clip therebetween along side of the clip remote from said teeth so that the razor blade is clamped in operative position within said clip, said clip having a minor portion thereof disposed and clamped within said clamp plates, the major portions of said clip and blade extending beyond said clamp plates, and said blade having portions thereof extending beyond the clip whereby the blade may be adjusted in said clip when the clamp plates are released from the clip, said safety razor having a handle and handle-operated means to clamp said plates on said clip.

2. A guard or clip comprising two parallel and integral layers of sheet material having a return folded end, said folded end being provided with comb teeth so that a razor blade-receiving slot is provided in said teeth and between said layers, said clip including parallel heel portions at the edge of the clip remote from said teeth, said heel portions having cut-out portions at the ends of the edges thereof remote from said teeth so that said heel portions can be clamped in a safety razor holder.

3. A guard or clip comprising two parallel and integral layers of sheet material having a return folded end, said folded end being provided with comb teeth so that a razor blade-receiving slot is provided in said teeth and between said layers, said clip including parallel heel portions at the edge of the clip remote from said teeth, said heel portions having cut-out portions at the ends of the edges thereof remote from said teeth so that said heel portions can be clamped in a safety razor holder, said clip having opposing recesses on the side edges of the clip, a razor blade in said slot having end portions projecting into said recesses and accessible for manual adjustment of the razor blade relative to the comb teeth, said clip having shoulders adjacent to said recesses and spaced apart a distance equal to the length of the razor blade so that said shoulders function as locating means for the razor blade with respect to longitudinal adjustment of the razor blade in the clip.

4. A safety razor holder having clamping plates and an abutment member between said plates, a clip comprising two parallel and integral layers of sheet material having a return folded end, said folded end being provided with comb teeth so that a razor blade-receiving slot is provided in said teeth and between said layers, said clip including parallel heel portions at the edge of the clip remote from said teeth, said heel portions having cut-out portions at the ends of the edges thereof remote from said teeth and said heel portions being clamped between said clamping plates and the edges of said heel portions remote from said teeth comprising stop means for limit-

ing the entry of the heel portions into the razor holder by engaging said abutment member, and means for clamping said plates on said clip.

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