

United States Patent [19]

Nagata

[11] 3,831,277

[45] Aug. 27, 1974

[54] COMBINATION SCISSORS FOR BOTH HAIR-CUTTING AND HAIR-THINNING

2,737,718 3/1956 Maunu..... 30/226
3,651,573 3/1972 Kaplan..... 30/226

[75] Inventor: Masamichi Nagata, Seki City, Japan

FOREIGN PATENTS OR APPLICATIONS

[73] Assignee: Kabushiki Kaisha Hasegawa Hamono Seisakusho, Seki City, Gifu Prefecture, Japan

497,297 8/1950 Belgium 30/195
809,045 7/1951 Germany 30/195

[22] Filed: July 23, 1973

Primary Examiner—Al Lawrence Smith

[21] Appl. No.: 381,564

Assistant Examiner—J. C. Peters

Attorney, Agent, or Firm—Wenderoth, Lind & Ponack

[30] Foreign Application Priority Data

Aug. 11, 1972 Japan 47-94983

[52] U.S. Cl. 30/195, 30/260

[57]

ABSTRACT

[51] Int. Cl. B26b 19/22

The present invention relates to a pair of scissors which has a combined use wherein it could perform an operation for both cutting and thinning of hair. One handle operates and is fixed to a thinning blade and is releasably secured by a shifting piece to another cutting blade. Thus the scissors is capable of cutting or thinning or cutting and thinning simultaneously.

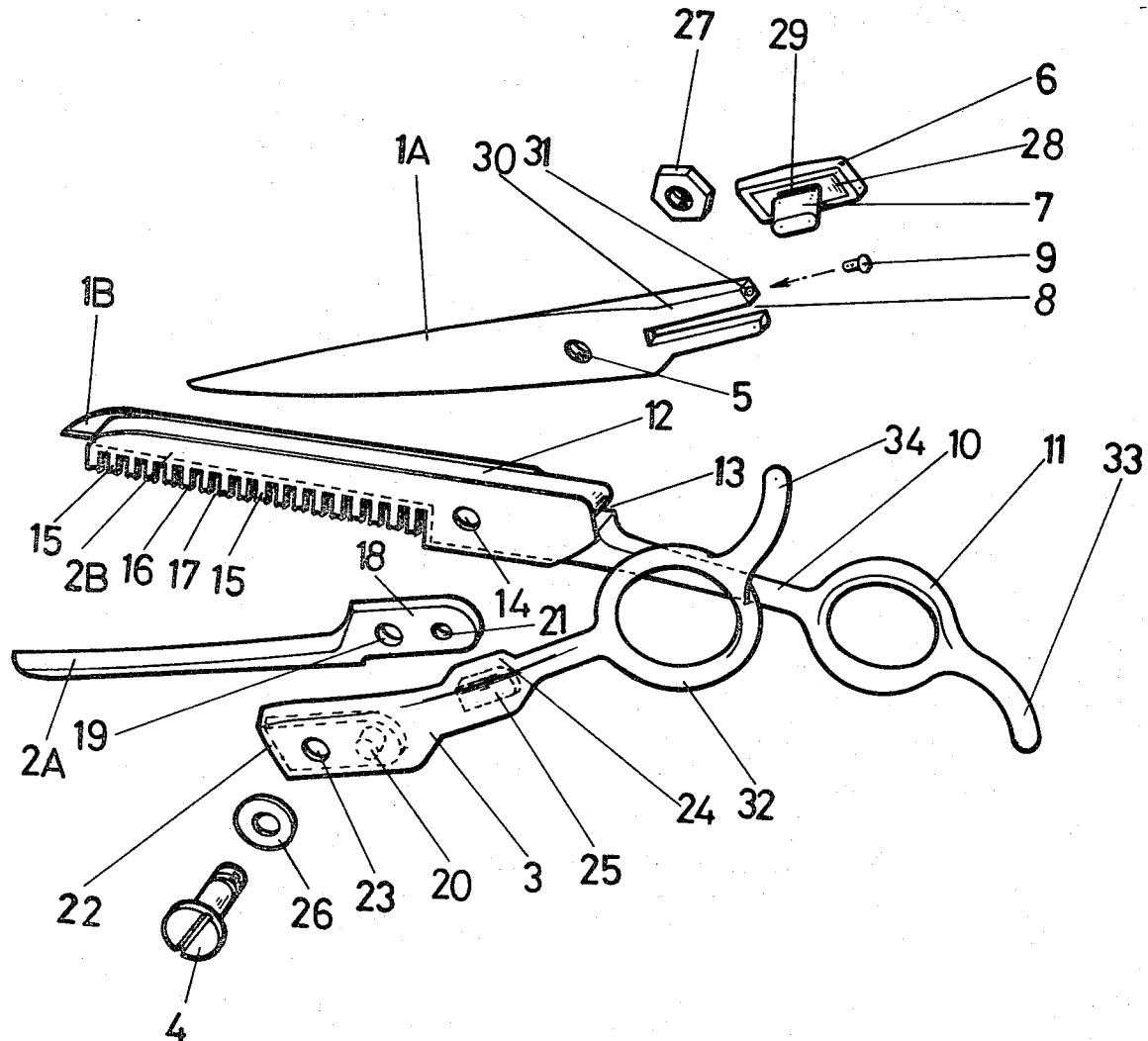
[58] Field of Search 30/195, 226, 260

[56] References Cited

UNITED STATES PATENTS

2,591,014 4/1952 Sansom 30/195

3 Claims, 6 Drawing Figures



PATENTED AUG 27 1974

3,831,277

SHEET 1 OF 3

FIG.1

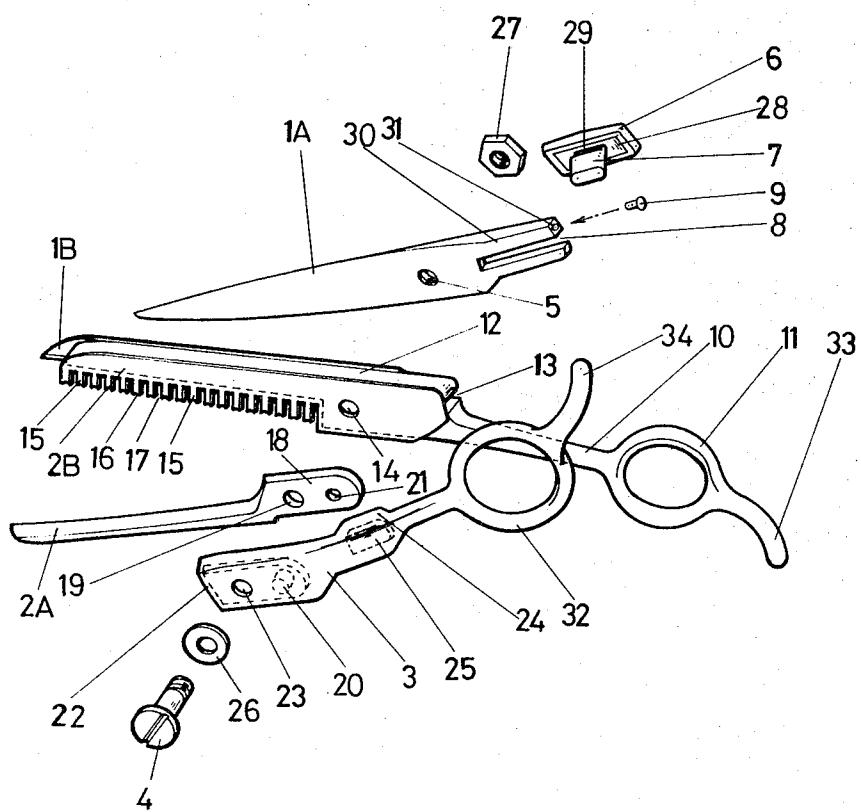
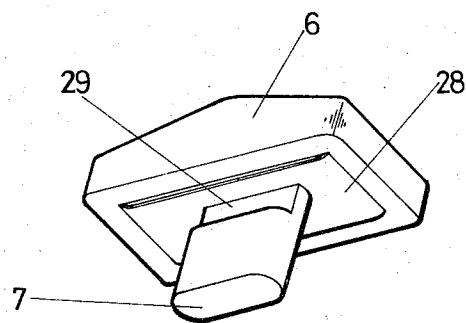


FIG.2



PATENTED AUG 27 1974

3,831,277

SHEET 2 OF 3

FIG. 3

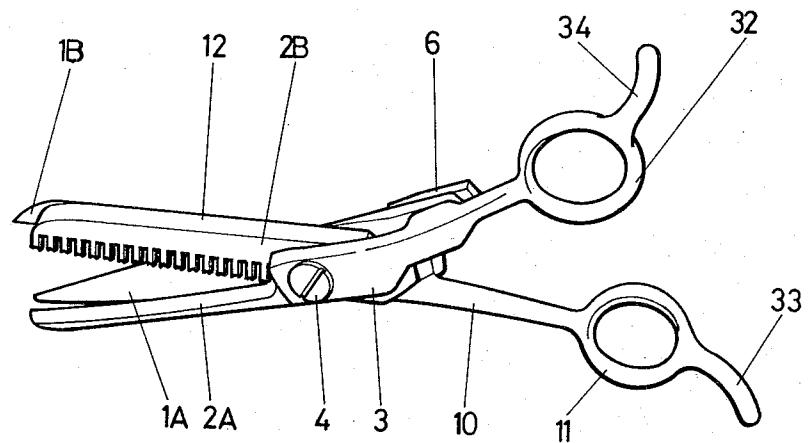
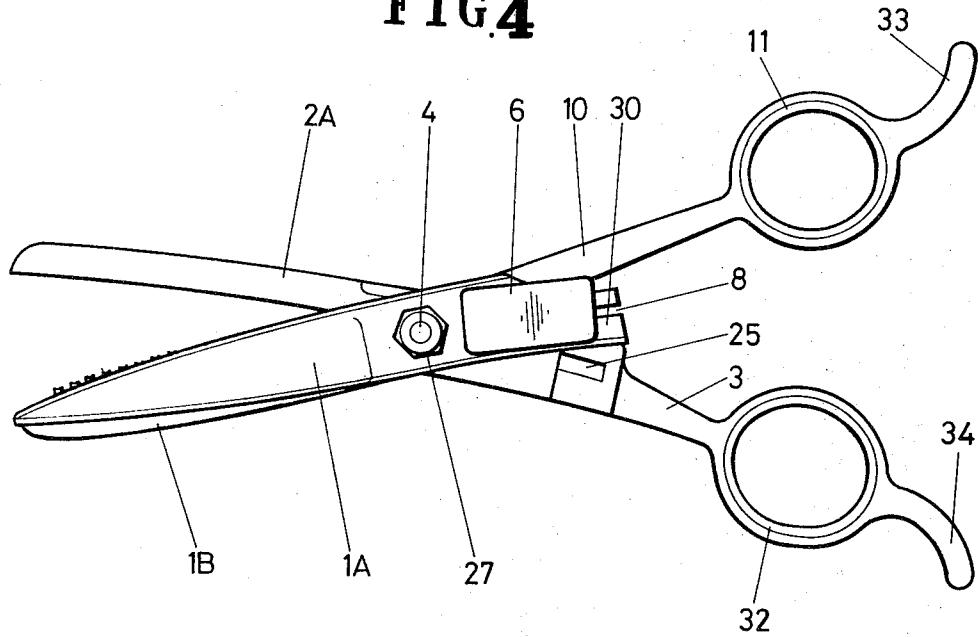


FIG. 4



PATENTED AUG 27 1974

3,831,277

SHEET 3 OF 3

FIG.5

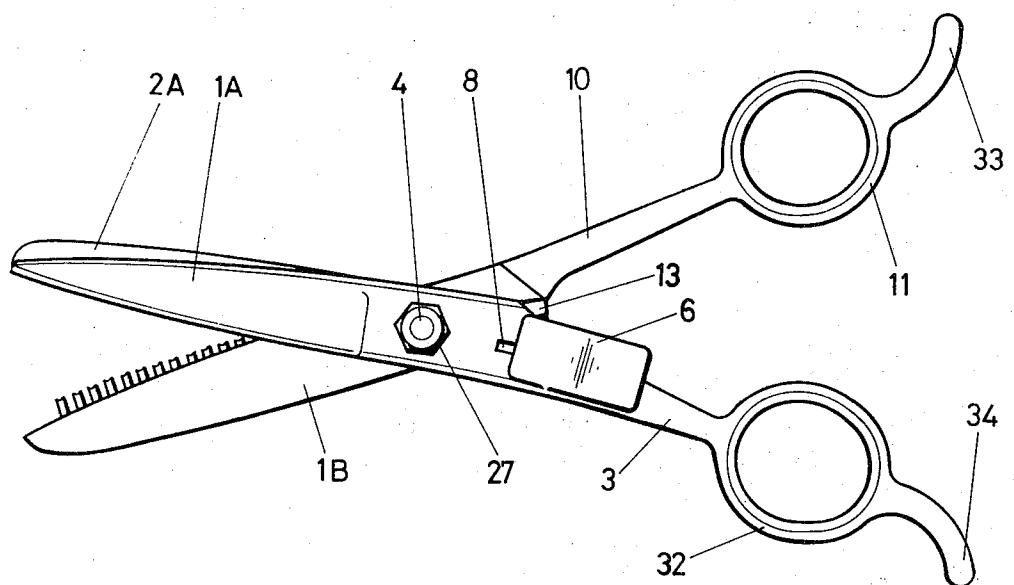
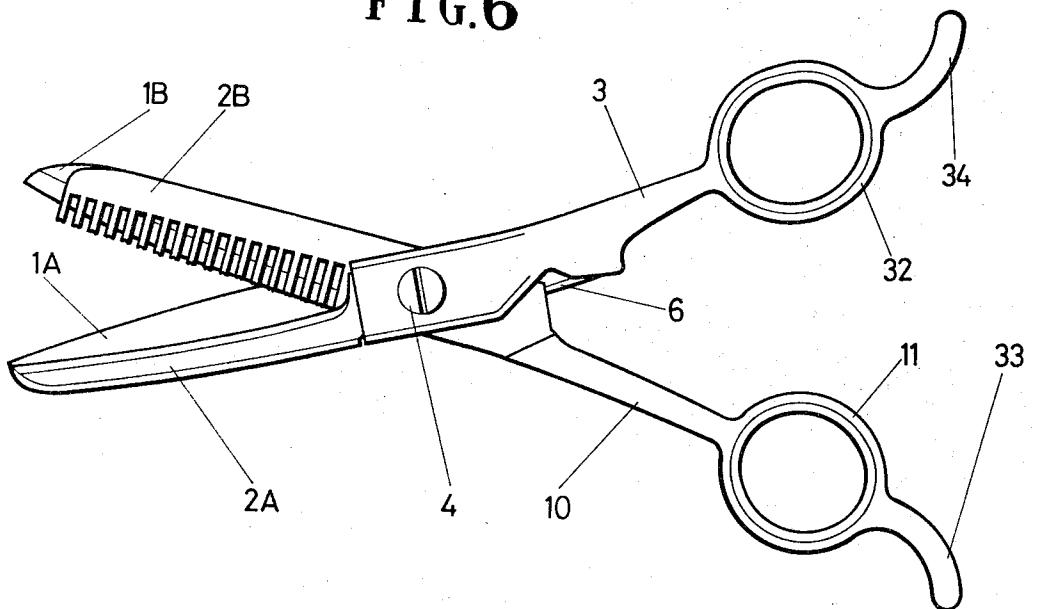


FIG.6



COMBINATION SCISSORS FOR BOTH HAIR-CUTTING AND HAIR-THINNING

BACKGROUND OF INVENTION

The present invention chiefly relates to an invention in the field of a hair-cutting scissors for home use. In conventional hair-cutting scissors, it is known to provide one pair of scissors for both cutting and thinning the hair provided with cutting blades and thinning blades.

However, in such known scissors, when either of the foregoing operations is performed, for instance, when a hair-cutting operation is performed, there exists the drawback that the cutting blades hinder the operation of the scissors. Further, while shifting or changing the operation from the use of the thinning blades to the cutting blades, the shifting or changing operation cannot be accomplished with a proper fit between the respective blades. Moreover, it is necessary that the weight of the scissors should be as light as possible, but this requirement has not necessarily been met.

SUMMARY OF INVENTION

The present invention relates to a hair-cutting scissors also useable for thinning the hair, wherein, centered around a support axis are first and second thinning blades, one handle provided with a key slot linked with a shifting piece, a first cutting blade, another handle with a key guide slot open in one direction only, and a second cutting blade with a long key slot alignable with the key slot or key guide slot.

The first object of the present invention is to provide an improved hair-cutting scissors useable for thinning the hair wherein, by eliminating the construction drawback in the conventional type as stated above and by making the manufacturing cost low, it could be used easily at home.

The second object of the present invention is to offer a hair-cutting scissors useable for thinning the hair, and which further can simultaneously perform both the cutting and the thinning of the hair.

The third object of the present invention is to offer a hair-cutting scissors useable for thinning the hair wherein, in case the hair-thinning and the hair-cutting are to be performed separately, a shifting operation of the scissors can be performed simply and exactly.

The fourth object of the present invention is to offer a hair-cutting scissors useable for thinning the hair wherein the weight of the scissors is made as light as possible in order that the fingers do not get tired.

The fifth object of the present invention is to offer a hair-cutting scissors useable for thinning the hair wherein, although it requires more constituent parts than a single-purpose hair-cutting scissors of a common use, the effectiveness thereof will not be affected in any way.

These and other objects are accomplished by the parts, improvements, combinations and arrangements comprising the invention, a preferred embodiment of which is shown by way of an example in the accompanying drawings, and herein described in detail. Various modifications and changes in details of

construction are comprehended within the scope of the invention.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a perspective view of a disassembled hair-cutting scissors useable for a hair-thinning operation.

FIG. 2 is an enlarged perspective view of a shifting piece.

FIG. 3 is a perspective view of an assembled condition in position for simultaneous performance of both hair-cutting and hair-thinning.

FIG. 4 is a front view illustrating the position for 15 performing hair-thinning only.

FIG. 5 is a front view illustrating the position for simultaneously performing hair-cutting and hair-thinning.

FIG. 6 is a front view illustrating the position for 20 performing hair-cutting only.

DETAILED DESCRIPTION OF INVENTION

The hair-cutting scissors of the present invention, 25 as roughly shown in FIG. 1, comprises a pair of cutting blades 1A and 1B for cutting the hair and a pair of thinning blades 2A and 2B for thinning the hair. Cutting blades 1A, 1B and thinning blades 2A, 2B are coaxially and rotatably mounted on both sides 30 of a main body 12. Exterior cutting blade 1A of the pair of cutting blades 1A, 1B has, as is different from wellknown cutting blades, no handle portion as illustrated in FIG. 1. Cutting blade 1A is operated only at the time of a hair-cutting operation, and when it 35 is operated, it would be engaged with a handle 3 which is part of thinning blade 2A, described below. The cutting blade 1A is wholly composed of stainless steel and the rear end part spaced from a hole 5 therein, for receiving a screw 4 to be discussed below, is shortened. At the rear end part, an elongated key slot 8 is provided in such a way that a key 7 of a shifting piece 6 will slide freely in slot 8. The key slot 8 is, as shown in the drawing, opened at its rear end. 40 However, slot 8 may be closed if of sufficient length to allow key 7 to slide therein a definite distance. In this invention slot 8 is open because the problem of the lowering of the production cost has been taken into consideration, however, it is recommended to 45 have the rear end block the exit from slot 8 of key 7. In the embodiment illustrated, instead of closing the rear end of the key slot 8, a pin 9 is fixed at the rear end of the cutting blade 1A so as to slightly protrude into the key slot 8 in order that the rear end of the 50 key 7 cannot go beyond the end of the key slot 8. Therefore, when the key 7 slides backwards along the key slot 8, the key 7 cannot be completely removed from slot 8. Concerning a shape of the blade edge for the cutting blade 1A, its thickness and the like are as 55 well-known.

The other cutting blade 1B which matches with the foregoing cutting blade 1A is fixed to the side of the main body 12 which is provided with a handle 10 and a finger insert ring 11. The attachment means, 60 such as rivet heads, are ground so that they are aligned with the horizontal plane of the cutting blade 1B. The cutting blade 1B is wholly composed of stain-

less steel, has no handle portion, and is shorter than the cutting blade 1A. It is advisable to have the rear end of the cutting blade 1B extend to a key guide slot 13 in the main body 12 with a space left between the rear end of the cutting blade 1B and the edge of the key guide slot 13, or the rear end of the cutting blade 1B may be notched off approximately in the same shape as the key guide slot 13. Concerning a shape of the cutting blade 1B, its thickness and the like are such as well-known.

The main body 12, which has attached thereto the cutting blade 1B and the thinning blade 2B to be described below, has approximately the same shape as well-known scissors in its overall shape. However, the main body 12 is itself not for thinning and/or cutting the hair. Rather, its purpose is to support the cutting blade 1B and the thinning blade 2B. Therefore, it is only necessary to provide a part which supports the cutting blade 1B and the thinning blade 2B and to provide a handle 10, a finger insert ring 11 and a finger support 33 for an operation. As for the height of the main body 12, it is preferable to have it extend to only above the bottom parts 16 of the comb teeth 15, and the bottoms or openings 17 therebetween, of the thinning blade 2B which is fixed to main body 12. That is, thinning of the hair could not be sufficiently performed if the portion of the main body 12 corresponding to the comb teeth 15 were to extend below the bottom part of the opening 17 of the comb teeth 15.

The width of the main body 12 is suitably chosen, and may be about 5 mm when uneven hair is being cut, because even a person who is not particularly skillful in hair-cutting could actually cut the hair so as not to leave any uneven hair when a clearance of about 5 mm between the cutting blade 1B and the thinning blade 2B is provided. Thus, the thinned hair would be cut at a position about 5 mm from the position where it has been thinned, and the cutting is fairly well done due to the extra space which exists therebetween. The above-mentioned clearance of 5 mm is for Japanese straight hair, therefore, it should be made about, for instance, 8 mm for frizzled or curled hair as seen on Europeans and Americans so that the hair would be somewhat longer.

The main body 12 is wholly composed of light alloys such as aluminum, duralmin and the like. It is not necessary that the main body 12 be of stainless steel, consequently, light alloys or hard plastics could be employed for decreasing the weight of the scissors.

On the side opposite to the cutting blade 1B of the main body 12, a thinning blade 2B having therein a plurality of the comb teeth 15 is attached in a manner similar to the attachment thereto of cutting blade 1B. The width of an opening 17 between 55 adjacent comb teeth depends upon, to some extent, the nature and thickness of the hair, however, generally speaking, a space of 2 mm would be sufficient. On the respective tip ends of the comb teeth 15, a slight recess is provided, the purpose and the function 60 of which are well-known. The thinning blade 2B is wholly composed of stainless steel having no handle portion at its rear end, and its length approximately coincides at its rear end with the open end of the key guide slot 13 in the main body 12. Another 65 thinning blade 2A matched with thinning blade 2B is, as shown in FIG. 1, elongated and made of stainless steel. The thinning blade 2A operates with teeth

15 to cut only the thinned hair. Therefore, not thinned hair passes by the openings 17 between the comb teeth 15 and the thinning blade 2B when the thinning blades 2A and 2B are engaged. It is necessary for the ends 5 of the openings 17 of the thinning blade 2B to be closed by the blade edge of the thinning blade 2A. Therefore, it is desireable that the height of the blade edge part of the thinning blade 2A be about the half of the height of the comb teeth 15 of the thinning blade 2B. Thereby, 10 the openings 17, when the thinning blades 2A and 2B are matched, form substantially square shaped openings surrounded by the blade edge of the thinning blade 2A and the comb teeth 15 of the thinning blade 2B.

Since it is, needless to say, necessary to rotatably mount the thinning blade 2A, an attaching part 18 is formed at the rear end thereof so that it may be attached to a handle 3 for the thinning blade. A screw hole 19 extends through part 18 for receipt of screw 4. Part 18 also has a projection hole 21 for receipt of a projection 20 projected from on a recessed seat of the handle 3. The handle 3 for the thinning blade is made of a light alloy such as aluminum, duralmin and the like in order to cut down the weight of the scissors, and its shape is nearly the same as the well-known scissors without a blade but with a finger insert ring 32 disposed at the rear end thereof. However, handle 3 is so that thinning blade 2A is attached thereto, and the cutting blade 1A may be operated thereby. Also, 25 handle 3 has a finger support 34 similar to the finger support 33 of the main body 12 to support fingers.

At the forward end of the handle 3 is provided a recessed seat 22 in conformity with the shape of the attaching part 18 in order to receive the attaching part 18 of thinning blade 2A. In FIG. 1 the recessed seat 22 is represented by phantom lines. A screw hole 23 extends through seat 22 for receipt of the screw 4, and spaced from the screw hole 23 is the projection 20 to be fitted into the projection hole 21 of the thinning blade 2A. Spaced rearwardly from the recessed seat 22 of the handle 3 is an inwardly projecting projected part 24 having an opening 25 opening forwardly. The height of the projected part 24 is such that the cutting blade 1A and the cutting blade 1B will align horizontally when the various parts are assembled. The determination of such height will be further clarified by the following explanation.

As illustrated by the phantom lines in the drawing, 50 opening or key slot 25 is arranged on the interior side of the projecting part 24 and opened only towards the recessed seat 22. The key slot 25 receives the key 7 of the foregoing shifting piece 6 so that its size and shape substantially coincide with those of the key 7.

A well-known means such as washer 26 and nut 27 are arranged in order to secure the screw 4. The shifting piece 6 is so designed that the cutting blades 1A and 1B and the thinning blades 2A and 2B will accurately fit each another and that the shifting operation can be securely but easily performed. As shown in FIG. 2, on the lower and interior side of the shifting piece 6 is positioned a plate spring 28 to spring outwardly toward the key 7 with a notched part 29 therein. The spring 28 will, when assembled, press down the cutting blade 1A against the cutting blade 1B, therefore, the cutting blade 1A will not become loose from the cutting blade 1B. Also, the stepped part 29 is disposed on the key, and therefore, when

the key 7 is inserted into key slot 8 of the cutting blade 1A and a side portion 30 of the key slot 8 contacts the stepped part 29, the key 7 will not slide irregularly in slot 8.

The assembly and operation of the respective parts of the present invention will be apparent from the above. However, such assembly and operation will be summarized below, although it will be apparent that many modifications may be made.

Firstly, the attaching part 18 of the thinning blade 2A is fitted to the recessed seat 22 of the handle 3, the projection 20 is inserted into the projection hole 21, and the washer 26 is inserted into the screw 4 and the screw 4 is inserted into hole 23 of the handle 3 and into hole 19 of the thinning blade 2A. The screw 4 is then inserted into hole 14 of the main body 12 on which the cutting blade 1B and the thinning blade 2B are previously fixed. On the other hand, the key 7 of the shifting piece 6 is inserted into the key slot 8 of the cutting blade 1A from the opening thereof. The side portion 30 of the key slot 8 is, as described before, fitted to the stepped part 29 arranged at the base of the key 7. Then, a screw 9 having a screw head extending laterally into key slot 8 is inserted into a screw hole 31 provided at the rear end of the side portion 30. By further inserting the key 7 projecting from the key slot 8 of the cutting blade 1A into guide slot 13 disposed at rear end of the main body 12, and also by inserting a hole 5 of the cutting blade 1A into the screw 4 projecting outwardly from the foregoing main body 12, and by rotatably fixing the respective parts by the nut 27, the hair-cutting and hair-thinning scissors are assembled.

Next, the method of use of the scissors for thinning the hair only, for simultaneously thinning and cutting the hair, and for cutting the hair only will be respectively explained.

In case thinning of the hair only is performed, it is sufficient only to make the thinning blade 2A, 2B match each other. Therefore, it is necessary that the thinning blades 2A and 2B be respectively operatively fixed to the handles 10 and 3 and that the cutting blades both be operatively fixed in the closed position to handle 10. Thus, as shown in FIG. 4, shifting piece 6 is moved toward the screw 4, and the key 7 is moved out of the key slot 25 of the handle 3 and into the key guide slot 13 of the main body 12. Thus, without operating the cutting blades 1A and 1B at all, a hair-thinning operation may be performed by the openings 17 between comb teeth 15 by bringing the thinning blades 2A and 2B to the hair and by operating the handle 3 and the main body 12 which is fixed to handle 10.

Next, in the case where thinning and the cutting of the hair are simultaneously performed, it is necessary to operate the cutting blades 1A and 1B simultaneously with the operation of the foregoing blades 2A and 2B. To perform this, the shifting piece 6 will be, as shown in FIG. 5, moved outwardly in the direction 60 towards the end of handle 3. Thus, the key 7 of the shifting piece 6 is slidably moved backwards along the key slot 8, is withdrawn from the key guide slot 13 of the main body 12, and moved into the key slot 25 of the handle 3. Accordingly, the cutting blade 1A 65 will be in a linking condition with the handle 3 by means of the key 7. Under this condition, having the thinning blades 2A and 2B brought to the hair, the

thinning of the hair will be performed, but simultaneously the hair which is thinned will be cut by the cutting blades 1A and 1B.

In case only hair-cutting is performed, no special operation is particularly required except to operate the scissors, as shown in FIG. 6, so as to bring the cutting blades 1A and 1B to the hair. In this instance, the thinning blades 2A and 2B are operated, however, they only thin hair which is already cut at a closer position to the scalp.

In the present invention, by operating the shifting piece 6, only hair-thinning may be performed, or both hair-thinning and hair-cutting can be simultaneously performed, and further, by alternating the position of the scissors, hair-cutting only may be performed. Accordingly, even an unskilled person in the operation of scissors is able to easily use the scissors, even at home. Since it is made of light alloys except the cutting blades 1A and 1B and the thinning blades 2A and 2B, its total weight may be small, consequently, the hand will become less tired. Moreover, as for the material, only the minimum amount of relatively expensive stainless steel need be employed, therefore contributing to lowering of the production cost. The cutting blades 1A and 1B and the thinning blades 2A and 2B are so properly fitted respectively that effectiveness of use will not be decreased in comparison with an ordinary scissors of a single purpose.

30 What is claimed is:

1. A combination scissors useable for both hair-cutting and hair-thinning, said scissors comprising:
 - a main body having at one end thereof an integral first handle;
 - a first cutting blade having no handle rigidly fixed to a first side of said main body;
 - a first thinning blade having no handle rigidly fixed to a second side of said main body;
 - a second handle;
 - a second thinning blade fixed to said second handle to form a second thinning blade unit;
 - said second thinning blade unit pivotally attached to said second side of said main body with said first and second thinning blades in scissoring engagement;
 - a second cutting blade having no handle pivotally attached to said first side of said main body with said first and second cutting blades in scissoring engagement;
 - said second cutting blade having in the rear end thereof a key slot;
 - said main body having at the rear end thereof a key guide slot open at the rear end thereof;
 - said second handle having at the rear end thereof a key slot open at the forward end thereof;
 - a shifting piece having a key slidably mounted in said key slot of said second cutting blade; and when said handles are in a closed scissors position, said key slot of said second cutting blade aligning with said key guide slot in said main body and said key slot in said second handle, such that said key of said shifting piece is movable from a first position into said key guide slot in said main body wherein said second cutting blade is keyed to said main body, to a second position into said key slot in said second handle wherein second cutting blade is keyed to said second handle.

2. A scissors as claimed in claim 1, wherein said key slot in said second cutting blade is closed at both ends thereof, and said key of said shifting piece is permanently mounted in said key slot in said second cutting blade.

3. A scissors as claimed in claim 2, wherein said first thinning blade has therein spaced apart comb teeth, and the height of said second thinning blade is approximately half the height of said comb teeth in said first thinning blade.

* * * * *

10

15

20

25

30

35

40

45

50

55

60

65