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(54) **Hair cutting machine**

(57) In order to provide the option of dividing up the hair with one-handed use of the hair cutting machine (1) for a hair cutting machine (1) having a gripping piece (2), two clipper blades (3), as well as a drive to generate a

relative movement of the clipper blades (3), it is proposed that a dividing tip (4) be provided on the hair cutting machine (1) and that said dividing tip (4) be connected to the hair cutting machine (1) via a connection (5).

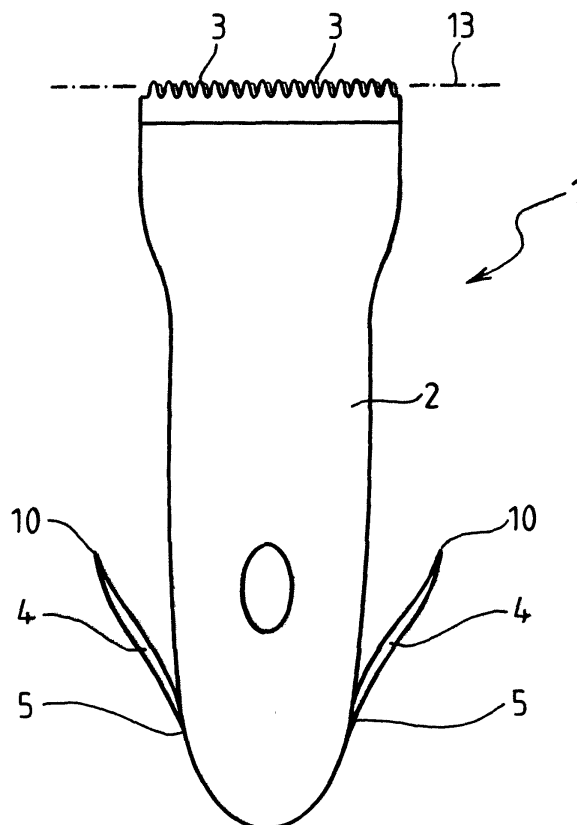


Fig. 1

Description

[0001] The subject matter of the invention relates to the salon industry and an electric hair cutting machine therein.

[0002] Electric hair cutting machines are sufficiently well-known. They are used to cut scalp hair and are an alternative to cutting hair using scissors.

[0003] DE 10338401 A1 discloses an electric hair cutting machine according to the preamble of Claim 1. This electric hair cutting machine is equipped with a gripping piece, which has a longitudinal axis, as well as a drive, a fixed clipper blade, and a clipper blade that is aligned parallel to and adjoins the fixed clipper blade and can be moved back and forth on a cutting plane, such that hair can be cut along a cutting line.

[0004] The use of a hair cutting machine alone to execute an exact haircut is not sufficient for many applications. A hairdresser must also use a comb to separate individual hairs or hair strands before the hairdresser uses the hair cutting machine in the upper region of the head. This is disadvantageous in that the hairdresser must hold a hairdressing device in each hand. Thus, the hairdresser must first set down one of the devices to free up one hand in order, for example, to grasp and apply a cosmetic hair product or to exercise some other type of hand grip, for example, to hold a strand of hair.

[0005] The object of the invention is to construct a hair cutting machine according to the preamble of Claim 1 such that this disadvantage is eliminated.

[0006] The object is achieved in that a dividing tip is provided on hair cutting machine and that the dividing tip is connected to the hair cutting machine using a connection.

[0007] The proposed innovation has the advantage that a hairdresser can use the dividing tip as a fixture to divide up a section of hair without using a second hand. The hairdresser can then use this other hand for other purposes. Because the dividing tip is connected to the cutting machine, this tip can be used in a manner similar to that of a comb by moving the hair cutting machine.

[0008] Advantageous embodiments of the proposed hair cutting machine are described in Claims 2 through 10.

[0009] If the connection between the hair cutting machine and the dividing tip is rigid (Claim 2), the dividing tip can be securely used in a specified direction. On the other hand, if the connection has a joint such that the dividing tip can be swiveled with respect to the hair cutting machine (Claim 3), the dividing tip can either be swiveled into a working position or placed back into a position on the surface of the hair cutting machine when the dividing tip is not intended for use. With this embodiment, it is advantageous if, according to Claim 4, a stop is provided for the dividing tip in order to fix said tip into a certain practical swivel position.

[0010] The dividing tip does not interfere with the handling of the hair cutting machine, provided the dividing

tip is not intended for use when the dividing tip is integrated into an exterior surface of the hair cutting machine in a position in which the dividing tip is not swiveled outward (Claim 5). In this process, well-known technology, for example, can be used to snap the dividing tip into a recessed position by pressing on it once. Pressing a second time releases the dividing tip and a spring action causes it to swivel outward.

[0011] The dividing tip can be subsequently attached to a hair cutting machine if, according to Claim 6, the dividing tip is provided on an attachment piece and the attachment piece is constructed such that it can be attached to the hair cutting machine. To that end, it is desirable if the attachment piece is constructed as a ring, an ellipsoid, or a loop in a suitable manner and can be slid over the gripping piece or the clipper blades (Claim 7). It can be held in a suitable position by friction or snapping.

[0012] The dividing tip can be best utilized when it has an end that points in a direction proceeding parallel to a center axis of the gripping piece or that forms a sharp angle with said center axis (Claim 8). This results in advantageous handling of the dividing tip.

[0013] If, according to Claim 9, a dividing tip is provided on the opposing sides of the hair cutting machine and these dividing tips are offset with respect to one another in the direction of a cutting line, one of the dividing tips can be used by a left-handed person and the other dividing tip can be used by a right-handed person. Or, both of the dividing tips can be utilized by one hairdresser, depending on the location of the hair strand to be divided. A similar advantage is achieved if, according to Claim 10, an attachment piece having a dividing tip can also be attached in a position that is rotated by 180° with respect to the hair cutting machine, around the center axis of the attachment piece, in order to achieve an embodiment for a right-handed person or for a left-handed person.

[0014] The proposed hair cutting machine is described in more detail in the following using figures showing exemplary embodiments. The following is shown:

Figure 1 shows a side view of an electric hair cutting machine with two dividing tips on one gripping piece;

Figure 2 shows a perspective view of a hair cutting machine with one dividing tip in a folded-in position;

Figure 3 shows a perspective view of the hair cutting machine according to Figure 2, but with a partially extended dividing tip;

Figure 4 shows a perspective view of the hair cutting machine according to Figure 2, but with a completely extended dividing tip;

Figure 5 shows a side view of a hair cutting machine

with an attachment piece on which a dividing tip is constructed;

Figure 6 shows a side view of a hair cutting machine with an attachment piece with a different construction; and

Figure 7 shows a side view of a hair cutting machine with a dividing tip that can be retracted.

[0015] With a hair cutting machine 1 having a gripping piece 2, two clipper blades 3, as well as a drive to generate a relative movement of the clipper blades 3, two dividing tips 4 are provided, each of which is connected to the gripping piece 2 of the hair cutting machine 1 using a rigid connection 5 (Figure 1). A dividing tip 4 is attached on opposing sides of the hair cutting machine 1 and the dividing tips 4 are offset with respect to one another in the direction of a cutting line 13 in order to divide up the hair to be cut. Depending on whether a separation is to be carried out on the left or right area of hair, the end 10 of the right or the left dividing tip 4 is used in order to accomplish this.

[0016] With the exemplary embodiment according to Figures 2 through 4, there is a dividing tip 4 on the rear end of a hair cutting machine 1, in a manner that is non-interfering, in a retracted condition on the external surface of a gripping piece 2 (Figure 2). The connection 5 between the dividing tip 4 and the gripping piece 2 has a joint 6 so that the dividing tip 4 can be either partially (Figure 3) or completely (Figure 4) swiveled, with respect to the hair cutting machine 1. In the completely extended condition, a stop 7 serves to fix the dividing tip 4 in its maximum swivel position. The dividing tip 4 has an end 10, which points in a direction 11 that forms a sharp angle with a center axis 12 of the gripping piece 2.

[0017] With the exemplary embodiments according to Figures 5 and 6, the dividing tip 4 is provided on an attachment piece 9. The attachment piece 9 is constructed so that it can be attached to the hair cutting machine 1 either from the clipper blade or from the end of the gripping piece 2. The attachment piece 9 is designed to approximate a rectangle and is pushed onto the gripping piece as a loop until it is fixed into position due to increased local friction. Common to both exemplary embodiments is that attachment piece 9 can also be attached to hair cutting machine 1 in a position that is rotated by 180° with respect to hair cutting machine 1, around the center of attachment piece 9, in order to have a design for a right-handed person or for a left-handed person.

[0018] In the exemplary embodiment according to Figure 7, the dividing tip 4 is integrated into an external surface 8 of the hair cutting machine 1 in a position that is not extended (shown by the dotted line) and can be unfolded into an extended target position.

1 Hair cutting machine

2 Gripping piece
3 Clipper blades
4 Dividing tip
5 Connection
6 Joint
7 Stop
8 Surface
9 Attachment piece
10 End
11 Direction
12 Center axis
13 Cutting line

15 Claims

1. A hair cutting machine (1) having a gripping piece (2), two clipper blades (3), as well as a drive to generate a relative movement of the clipper blades (3), **characterized in that** a dividing tip (4) is provided on the hair cutting machine (1) and said dividing tip (4) is connected to the hair cutting machine (1) via a connection (5).
2. The hair cutting machine according to Claim 1, **characterized in that** the connection (5) is rigid.
3. The hair cutting machine according to Claim 1, **characterized in that** the connection (5) has a joint (6) such that the dividing tip (4) can be swiveled with respect to the hair cutting machine (1).
4. The hair cutting machine according to Claim 3, **characterized in that** a stop (7) is provided for the dividing tip (4) in order to fix said dividing tip (4) into a certain swivel position.
5. The hair cutting machine according to either Claim 3 or Claim 4, **characterized in that** the dividing tip (4) is integrated into an external surface (8) of the hair cutting machine (1) in a position that is not extended.
6. The hair cutting machine according to Claim 1, **characterized in that** the dividing tip (4) is provided on an attachment piece (9) and the attachment piece (9) is constructed such that it can be attached to the hair cutting machine (1).
7. The hair cutting machine according to Claim 6, **characterized in that** the attachment piece (9) is constructed as a ring, an ellipsoid, or a loop and can be slid over the gripping piece (2) or the clipper blades (3).
8. The hair cutting machine according to any of Claims 1 through 7, **characterized in that** the dividing tip (4) has an end (10), which points in a direction (11),

which is parallel to a center axis (12) of the gripping piece (2) or which forms a sharp angle with said center axis (12).

9. The hair cutting machine according to Claim 1, **characterized in that** a dividing tip (4) is provided on opposing sides of the hair cutting machine (1) and the dividing tips (4) are offset with respect to one another in the direction of a cutting line (13). 5
10. The hair cutting machine according to either Claim 6 or Claim 7, **characterized in that** the attachment piece (9) can also be attached to the hair cutting machine (1) in a position that is rotated by 180° with respect to the hair cutting machine (1), around the center of the attachment piece (9), in order to have a design for a right-handed person or for a left-handed person. 10

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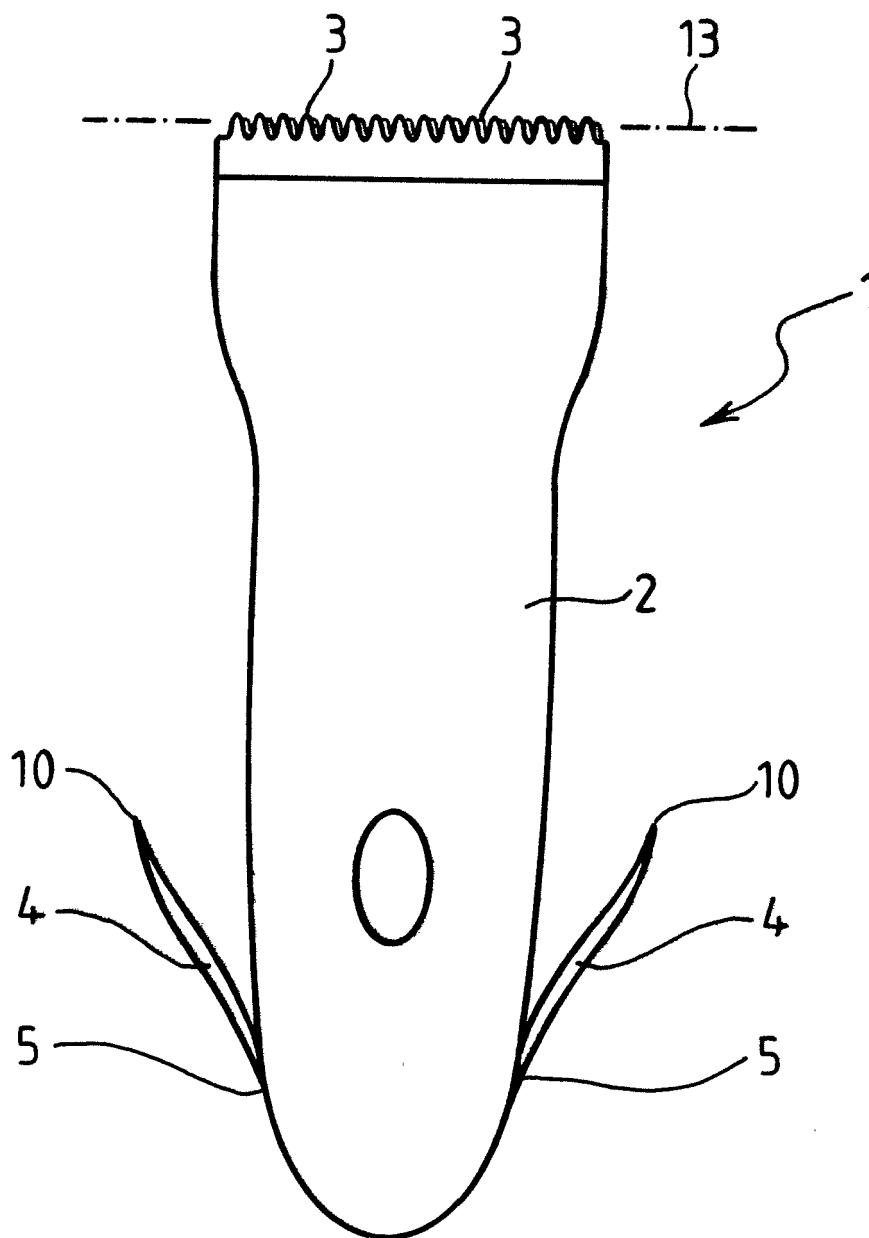
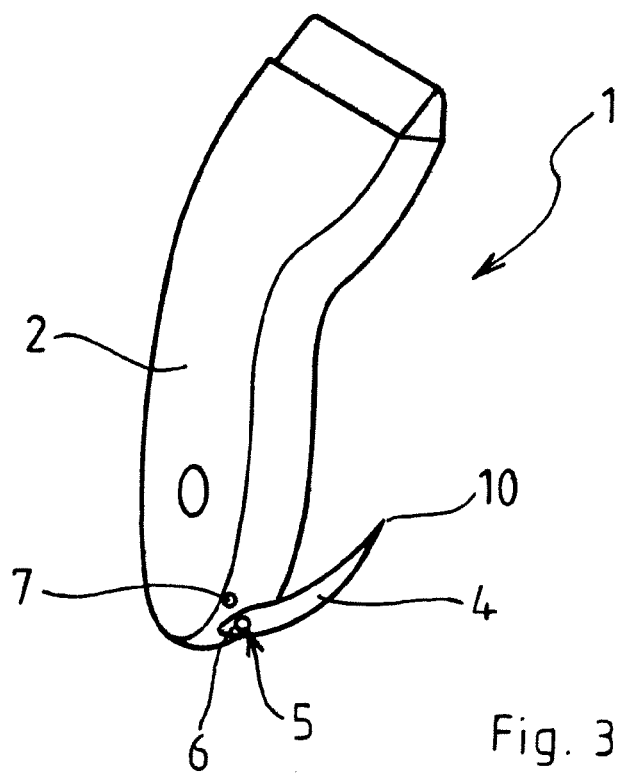
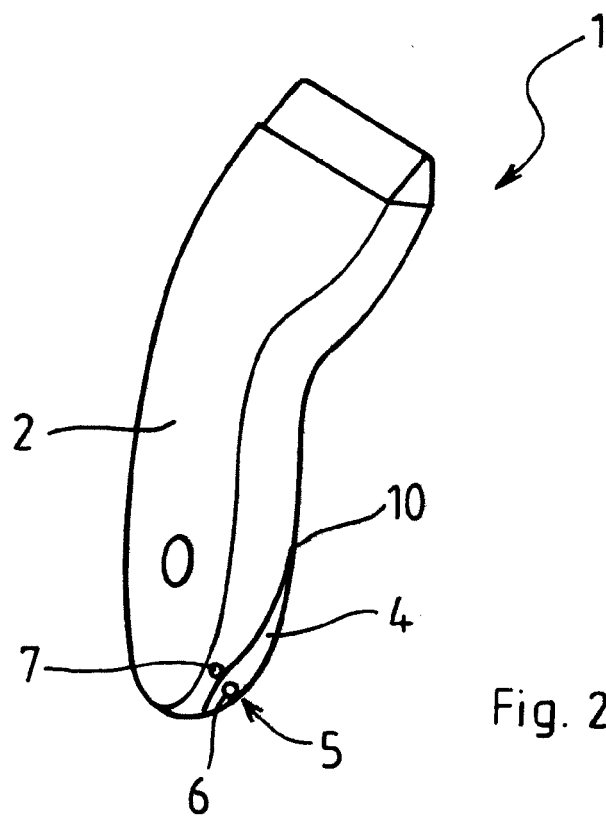


Fig. 1



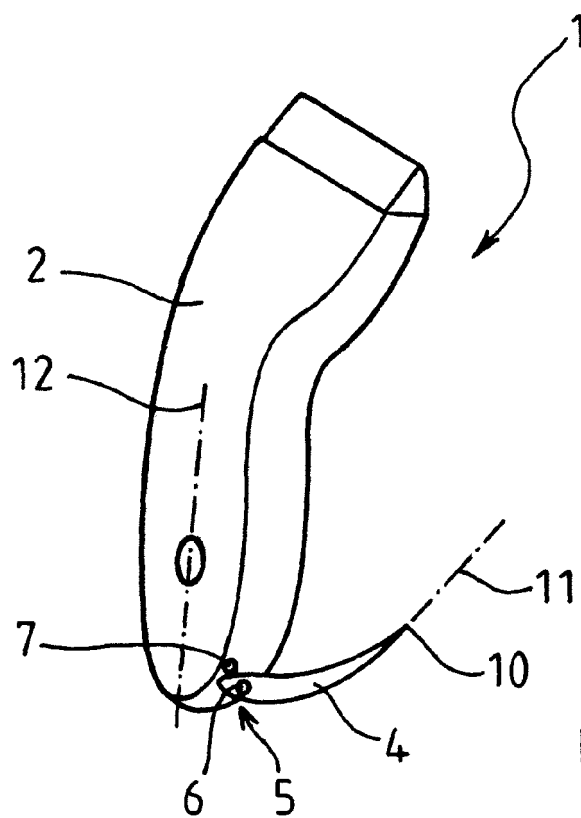


Fig. 4

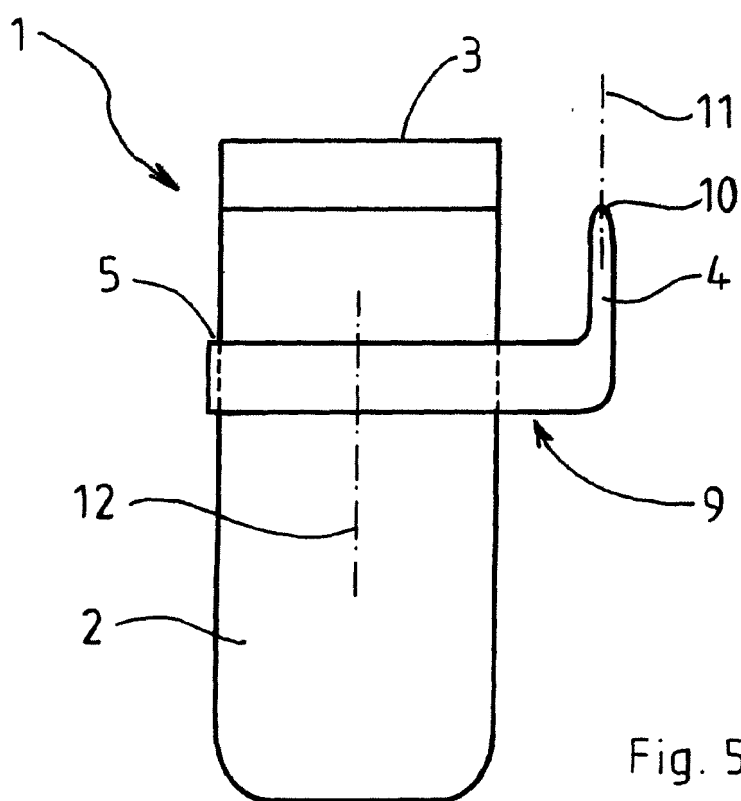
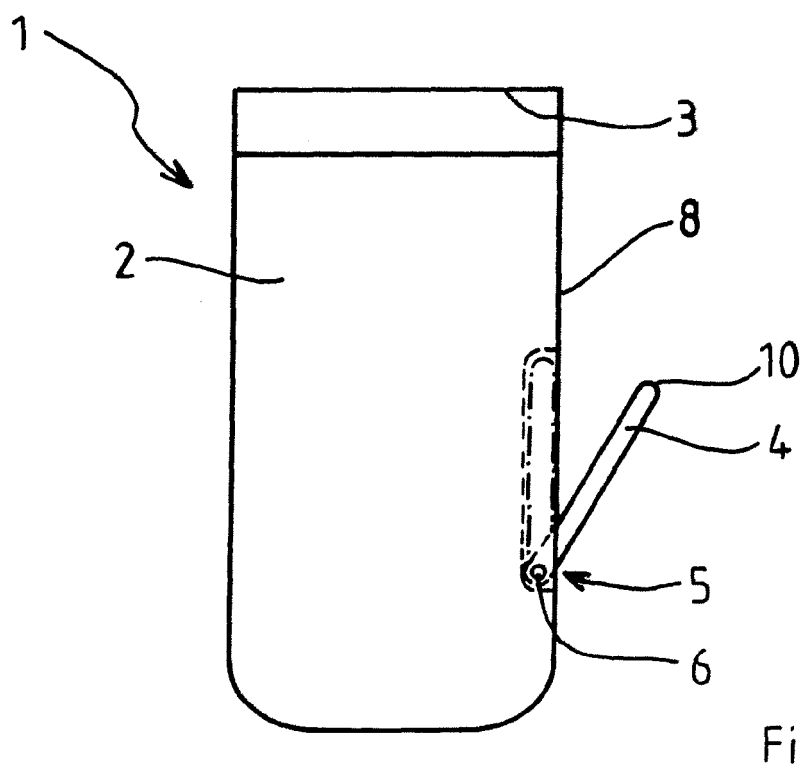
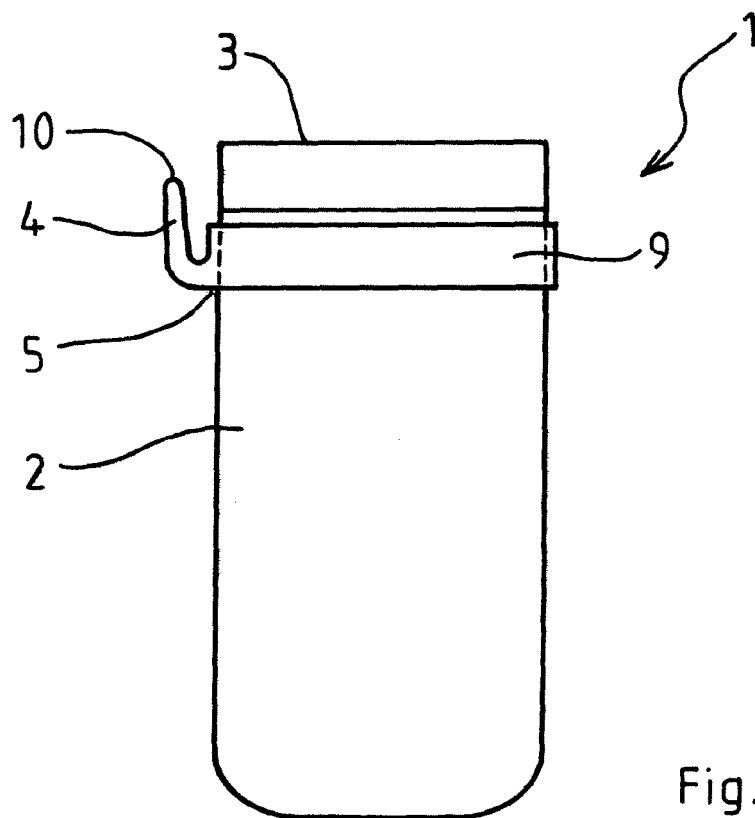


Fig. 5





EUROPEAN SEARCH REPORT

Application Number
EP 08 16 2804

DOCUMENTS CONSIDERED TO BE RELEVANT			
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5 The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 7 December 2009	Examiner Maier, Michael
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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Application Number

EP 08 16 2804

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☒ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

1-10

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 08 16 2804

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claim: 1

A hair cutting machine (1) having a gripping piece (2), two clipper blades (3), as well as a drive to generate a relative movement of the clipper blades (3), characterized in that a dividing tip (4) is provided on the hair cutting machine (1) and said dividing tip (4) is connected to the hair cutting machine (1) via a connection (5).

1.1. claim: 2

The hair cutting machine according to claim 1, characterised in that the connection is rigid.

1.2. claims: 3-4

The hair cutting machine according to claim 1, characterised in that the connection (5) has a joint (6) such that the dividing tip (4) can be swiveled with respect to the hair cutting machine (4).

1.3. claims: 6-7

The hair cutting machine according to claim 1, characterised in that the dividing tip is provided on an attachment piece.

1.4. claim: 8

The hair cutting machine according to any of claims 1 through 7, characterised in that the dividing tip (4) has an end (10), which points in a direction (11), which is parallel to a center axis (12) of the gripping piece (2) or which forms a sharp angle with said center axis (12).

1.5. claim: 9

The hair cutting machine according to claim 1, characterised that a dividing tip (4) is provided on opposing sides of the hair cutting machine (1) and the dividing tips (4) are offset with respect to one another in the direction of a cutting line (13).

2. claim: 5

The hair cutting machine according to claim 3 or 4, characterised in that the dividing tip (4) is integrated into an external surface (8) of the hair cutting machine (1) in a position that is not extended.



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 08 16 2804

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

3. claim: 10

The hair cutting machine according to claim 6 or 7, characterised in that the attachment piece can also be attached to the hair cutting machine (1) in a position that is rotated by 180° with respect to the cutting machine (1), around the center of the attachment piece (9), in order to have a design for a right-handed person or a left-handed person.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 08 16 2804

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

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