

HAIRCUTTING DEVICE

The present invention relates to a haircutting device.

Scissors, clippers and the like are usually used as haircutting implements for cutting and trimming a person's hair. However, hair that
5 has been cut by the haircutting implements directly falls onto the floor or onto the person's neck, thereby easily causing an uncomfortable sensation to the person and an inconvenience in disposal of the cut hair.

In accordance with one aspect of the present invention, there is provided a haircutting device comprising a housing having a first
10 opening defined in an underside thereof. A body is adjustably mounted in the housing and has a second opening defined in an underside thereof and communicating with the first opening.

A haircutting mechanism is mounted on the underside of the body and located above the second opening. A suction member is mounted in
15 the housing and includes a suction vent defined in an underside thereof and located above the haircutting mechanism. The suction member is operated to draw air from the housing through the first and second openings into the suction vent.

In the drawings:

20 Fig. 1 is a perspective view of a haircutting device in accordance with the present invention;

Fig. 2 is a partially cut-away exploded view of Fig. 1;

Fig. 3 is an enlarged exploded view of a cutting mechanism;

Fig. 4 is a side cross-sectional view of Fig. 1;

25 Fig. 5 is a front plan cross-sectional view of Fig. 1;

Fig. 6 is an operation view of Fig. 5;

Fig. 7 is a top plan cross-sectional view of Fig. 1;

Fig. 8 is a front plan cross-sectional view of Fig. 1, showing the cutting mechanism being disposed in an inclined manner; and

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Fig. 9 is a cross-sectional view showing an engagement between a snapping member and an indent.

Referring to the drawings, and initially to Figs. 1 and 2, a haircutting device according to the present invention comprises a housing 40 having a first opening 42 defined in an underside thereof. A hollow body 10 is adjustably mounted in the housing 40 and has a second opening 12 defined in an underside thereof and communicating with the first opening 42. A haircutting mechanism 20 is mounted on the underside of the body 10 and is located above the second opening 12. A suction member 30 is securely coupled with the body 10 and is adjustably mounted in the housing 40.

Preferably, the body 10 has two side walls each having a groove 14 vertically defined therein. The suction member 30 has two side walls each having a rib 33 vertically formed thereon and received in an associated groove 14 such that the suction member 30 can be coupled with the body 10.

Referring to Figs. 2 and 3, the haircutting mechanism 20 comprises a base plate 26 mounted on the underside the body 10. A lower cutting piece 27 is fixedly mounted on the base plate 26 and has a plurality of first blades 272 located above the second opening 12. A hole 276 is defined by a threaded periphery of the lower cutting piece 27.

An upper cutting piece 28 is slidably mounted on the lower cutting piece 27 and has a plurality of second blades 281 located above the plurality of first blades 272. An elongate slot 283 is defined in the upper cutting piece 28 and aligns with the hole 276. An upright wall 284 extends from one side of the upper cutting piece 28 and has an arcuate slot 285 defined therein.

A pressing plate 292 is mounted on the upper cutting piece 28 and has a bore 293 defined therein and aligning with the elongate slot 283.

A positioning bolt 29 extends through the bore 293 and the elongate slot 283, and is securely engaged in the hole 276. A biasing member 294 is mounted between the positioning bolt 29 and the pressing plate 292.

Referring to Figs. 2-6, a transmission mechanism 50 includes two supporting blocks 56 each having a first end fixedly mounted on each of the two side walls of the body 10 and a second end with an arcuate head 562. A pivot bracket is received in the body 10 and includes two side plates 53 each pivotally mounted on the second end of each of the two supporting blocks 56.

10 Preferably, each of the two side plates 53 has an arcuate groove 532 defined therein for receiving the arcuate head 562 of each of the two supporting blocks 56.

An upper plate 51 has an elongate slot 512 defined therein and two distal ends each pivotally engaged with an upper end of each of the two side plates 51. A lower plate 52 has two distal ends each pivotally engaged with a lower end of each of the two side plates 51. A linking rod 55 extends from the lower plate 52 and is received in the arcuate slot 285.

A motor 21 is fixedly mounted in the body 10. A rotary shaft 212 is rotatably mounted on an underside of the motor 21. A rotary disk 22 is fixedly mounted on the rotary shaft 212. An upright rod 23 is fixedly mounted on a periphery of the rotary disk 22 to rotate therewith, and is slidably received in the elongate slot 512 and urged on a periphery defining the elongate slot 512.

25 In operation, referring to Figs. 5-7 with reference to Figs. 2 and 3, the rotary disk 22 can be driven by the motor 21 to rotate the upright rod 23 which can slide in the elongate slot 512 and urge on the periphery defining the elongate slot 512 so as to move the upper plate 51 and the lower plate 52 from a position as shown in Fig. 5 to a position as shown

in Fig. 6, thereby moving the upright wall 284 by means of the rod 55 retained in the arcuate slot 285 so as to move the upper cutting piece 28 relative to the lower cutting piece 27.

Referring to Fig. 8 with reference to Figs. 2 and 3, the body 10 has a first side wall and a second side wall. An arcuate groove 13 is defined in an underside of the first side wall of the body 10. A cavity 17 is defined in the second side wall of the body 10. A plurality of teeth 182 extends inwardly from the second side wall of the body 10 and are located adjacent to the cavity 17.

10 The base plate 26 has an arcuate rib 262 formed on a first end thereof and pivotally received in the arcuate groove 13, and has an adjusting rod 264 formed on a second end thereof and detachably retained by one of the plurality of teeth 182.

By such an arrangement, the base plate 26 can be pivoted relative to the first side wall of the body 10, thereby adjusting an inclination angle of the base plate 26.

Referring to Figs. 2 and 9, a plurality of indents 16 are defined in the two side walls of the body 10, and a plurality of graduations 19 are formed on the two side walls of the body 10 and each align with each of the indents 16 respectively.

20 The housing 40 includes two side walls each having a snapping member 43 formed thereon. The snapping member 43 is formed by defining two opposite U-shaped cavities 430 in each of the two side walls of the housing 40, thereby forming an upper end 434 with a hook 436 extending inwardly therefrom, a lower end 432, and two webs 44 for connecting the snapping member 43 to the side wall of the housing 40.

Each of the hooks 436 can be snapped in one of the plurality of indents 16 and also can be detached from the associated indent 16 by pressing the lower end 432 such that the body 10 can be adjustably

mounted in the housing 40.

Referring to Figs. 2 and 4, the suction member 30 has a chamber 32 defined therein and a suction vent 31 defined in an underside thereof and located above the upper and lower cutting pieces 28 and 27.

5 The suction member 30 also includes a connector 35 formed on an upperside thereof and connected with a hose 36 which is attached to a suction device such as a vacuum cleaner (not shown) and the like, thereby being able to draw air from the housing 40 into the chamber 32 via the suction vent 31 and the second opening 12.

10 By such an arrangement, especially referring to Fig. 4, the haircutting device can be used to cutting and trimming a person's hair 60 with the first opening 42 of the housing 40 disposed above his/her hair.

Then, the suction member 30 can be operated by the vacuum cleaner so as to draw hair 60 upwardly into the second opening 12. The upper
15 cutting piece 28 can then be operated by the motor 21 to move relative to the lower cutting piece 27, thereby cutting hair 60 drawn through the second opening 12, and the cut hair can be drawn into the chamber 32 via the suction vent 31 and then taken away by the vacuum cleaner via the hose 36.



CLAIMED:

1. A haircutting device comprising:
 - a housing (40) having a first opening (42) defined in an underside thereof;
 - 5 a body (10) adjustably mounted in said housing (40) and having a second opening (12) defined in an underside thereof and communicating with said first opening (42);
 - a haircutting mechanism (20) mounted on the underside of said body (10) and located above said second opening (12); and
 - 10 a suction member (30) mounted in said housing (40) and including a suction vent (31) defined in an underside thereof and located above said haircutting mechanism (20), said suction member (30) being operated to draw air from said housing (40) through said first and second openings (42) and (12) into said suction vent (31).
- 15 2. The haircutting device in accordance with claim 1, wherein said haircutting mechanism (20) comprises:
 - a base plate (26) mounted on the underside said body (10);
 - a lower cutting piece (27) fixedly mounted on said base plate (26) and having a plurality of first blades (272) located above said second
 - 20 opening (12), a hole (276) defined by a threaded periphery of said lower cutting piece (27);
 - an upper cutting piece (28) slidably mounted on said lower cutting piece (27) and having a plurality of second blades (281) located above said plurality of first blades (272), an elongate slot (283) defined
 - 25 in said upper cutting piece (28) and communicating with said hole (276);
 - a pressing plate (292) mounted on said upper cutting piece (28) and having a bore (293) defined therein and communicating with said elongate slot (283);
 - a positioning bolt (29) extending through said bore (293) and



said elongate slot (283), and threadedly engaged with said hole (276);
and

a biasing member (294) mounted between said positioning bolt (29) and said pressing plate (292).

5 3. The haircutting device in accordance with claim 2, wherein said body (10) has a first side wall and a second side wall, a groove (13) transversely defined in the first side wall of said body (10), a plurality of teeth (182) formed on and extending inwardly from the second side wall of said body (10), said base plate (26) having a first end with a rib (262)
10 formed thereon and pivotally received in said groove (13), and having a second end with an adjusting rod (264) formed thereon and detachably retained by one of said plurality of teeth (182).

4. The haircutting device in accordance with claim 3, wherein a plurality of indents (16) are defined in at least one of the first and second
15 side walls of said body (10), said housing (40) includes a hook (436) formed on and extending inwardly from one side wall thereof and snapped in one of said plurality of indents (16).

5. The haircutting device in accordance with claim 2, wherein an upright wall (284) is attached to one side of said upper cutting piece (28),
20 and an arcuate slot (285) defined in said upright wall (284), said haircutting device further comprising a transmission mechanism (50) including:

two supporting blocks (56) each having a first end fixedly mounted on each of two side walls of said body (10) and a second end;
25 and

a pivot bracket received in said body (10) and including:

two side plates (53) each pivotally mounted on the second end of each of said two supporting blocks (56);

an upper plate (51) having two distal ends each pivotally



engaged with an upper end of each of said two side plates (51); and

a lower plate (52) having two distal ends each pivotally engaged with a lower end of each of said two side plates (51), a linking rod (55) extending from said lower plate (52) and received in said arcuate slot (285).

6. The haircutting device in accordance with claim 5, wherein the second end of each of said two supporting blocks (56) has an arcuate head, and each of said two side plates (53) has an arcuate groove (532) defined therein for receiving said arcuate head (562) of each of said two supporting blocks (56).

7. The haircutting device in accordance with claim 5, wherein said upper plate (51) has an elongate slot (512) defined therein, said haircutting mechanism (20) further comprising a motor (21) fixedly mounted in said body (10), a rotary disk (22) rotatably mounted on an underside of said motor (21), an upright rod (23) fixedly mounted on a periphery of said rotary disk (22) to rotate therewith and slidably received in said elongate slot (252) and urged on a periphery defining said elongate slot (252).

8. A haircutting device substantially as herein described with reference to the accompanying drawings.