

CLAIMS

1. A process for treating, especially for washing, the hair, comprising the steps consisting in:

a) applying at least one cosmetic active ingredient to the head of hair,

b) applying to the head of hair, using a dispensing device (10) comprising a hand piece (11) comprising at least two nozzles (13), the jets of which collide with one another, a mixture of water and of said active ingredient, this mixture originating from a collection basin (20) arranged below the user's head,

the active ingredient being a surfactant.

~~2. The process as claimed in claim 1, the cosmetic active ingredient being chosen from surfactants, compounds for dyeing or bleaching the hair, compounds for permanently changing the shape of the hair, hair care active ingredients such as cationic polymers, fatty substances such as fatty alcohols, scalp care active ingredients such as antidandruff agents, anti hair loss agents and fragrances.~~

~~3. The process as claimed in one of claims 1 and 2, the active ingredient being a surfactant.~~

~~4.2.~~_____The process as claimed in one of the preceding claims, the hand piece (11) bearing at least two nozzles (13), the jets of which collide with one another, these nozzles being supplied under pressure, preferably at a pressure of between 3 and 25 bar above atmospheric pressure.

~~5.3.~~_____The process as claimed in the preceding claim, the dispensing device (10) comprising a pump (14) for supplying the hand piece (11) under pressure.

~~6.4.~~_____The process as claimed in any one of the preceding claims, the device comprising at least one buffer tank (30; 40, 41) towards which the contents of the collection basin (20) may be drained, and at least one pipe to withdraw the contents of this buffer tank and recycle it towards the hand piece.

~~7.5.~~_____The process as claimed in any one of the preceding claims, the device comprising at least one first buffer tank (40) and a second buffer tank (41) and at least one first routing element (34) for orienting the contents of the collection basin (20) towards one or the other of said tanks, and at least one circuit for withdrawing the contents of a selected buffer tank in order to recycle it towards the hand piece (11), this circuit preferably comprising at least one second routing element (35) for selecting the buffer tank, the contents of which it is desired to recycle.

~~8.6.~~_____The process as claimed in any one of the preceding claims, comprising at least one circuit for recycling the contents of the collection basin towards the hand piece and a circuit for draining (23) to waste water, and a circuit for supplying water or a mixture of water and active ingredient, and at least one routing element for selectively activating at least one of said circuits.

~~9.7.~~_____The process as claimed in any one of the preceding claims, wherein the device comprises a circuit for supplying water, a tank (50) comprising the active ingredient, and at least one injection line for injecting the active ingredient contained in the tank into the water circulating in the water supply circuit, this injection line preferably being fitted with at least one valve, better still a solenoid valve.

~~10.8.~~_____The process as claimed in any one of the preceding claims, wherein the device comprises a circuit for supplying water, at least one first tank (50) comprising a first active ingredient, and at least one first injection line for injecting the active ingredient contained in this first tank into the water circulating in the water supply circuit, at least one second tank (60) comprising a second active ingredient, and at least one second injection line for injecting the active ingredient contained in this second tank into the water circulating in the water supply circuit, each injection line preferably being fitted with at least one valve, better still a solenoid valve, the two active ingredients preferably being different surfactants.

~~11.9.~~_____The process as claimed in any one of the preceding claims, wherein water and the active ingredient are placed in the collection basin and then the recirculation of the collection basin towards the hand piece is started.

~~12.10.~~_____The process as claimed in any one of the preceding claims, wherein, in step a), the active ingredient is initially applied in the form of a mixture of water and of said active ingredient, this mixture preferably being distributed on the head of hair using said hand piece (11).

~~13.11.~~_____The process as claimed in any one of the preceding claims, the device (10) being arranged to operate according to at least two modes, namely a first mode in which it dispenses a fluid without recycling, and a second mode in which it dispenses a fluid withdrawn from the collection basin (20), the passage from the first mode to the second occurring automatically, especially by virtue of a time delay or of a measurement of the amounts dispensed.

~~14.12.~~_____The process as claimed in the preceding claim, the fluid dispensed in the first mode being water, the active ingredient, especially the surfactant, being applied beforehand to the head of hair, differently to with the device in step a).

~~15.13.~~_____ The process as claimed in any one of the preceding claims, the device being arranged to pass into a third mode of operation, after the end of the recycling of the liquid originating from the collection basin, in which water without said active ingredient is conveyed onto the head of hair in order to rinse it, the passage into this third mode of operation preferably being automatic, as soon as the recycling ends, or being manually controlled, by action of the user on a control member.

~~16.14.~~_____ The process as claimed in any one of the preceding claims, the device being arranged to enable an injection of water into the recycled liquid in order to decrease the content of active ingredient in the flow sent back towards the head of hair, and to gradually rinse the hair.

~~17.15.~~_____ A process for treating, especially for washing, the hair, comprising the steps consisting in:

a) applying at least one cosmetic active ingredient to the head of hair,

b) applying to the head of hair, using a dispensing device (10) comprising a hand piece (11) preferably comprising at least two nozzles (13), the jets of which collide with one another, a mixture of water and of said active ingredient, this mixture originating from a collection basin (20) arranged below the user's head, the step b) being followed by rinsing phase in which water without active ingredients is conveyed to the hand piece,
the active ingredient being a surfactant.

~~18.16.~~_____ A system for treating the head of hair, especially for carrying out the process as claimed in any one of the preceding claims, comprising:

- A dispensing device (10) comprising a hand piece (11), comprising at least two nozzles (13), the jets of which collide with one another, this dispensing device comprising at least one pump (14) for recycling, towards the hand piece, a liquid originating from a collection basin (20) above which a user's head is arranged for the treatment of their head of hair.

~~19.17.~~_____ The treatment system as claimed in claim ~~16~~8, further comprising the collection basin (20).