It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Singapore or any other country.

In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word “comprise” or variations such as “comprises” or “comprising” is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

CLAIMS

【Claim 1】

A face washing apparatus having a cosmetic brush including nylon, the face washing apparatus comprising:

a face washing apparatus case (100) having a rotating unit rotating by receiving externally provided electricity or battery electricity or a power source from a secondary battery; and a face washing brush (600) coupled to the face washing apparatus case so as to rotate,

wherein the face washing brush (600) comprises: a plurality of first brush bristle sets (610) including polybutylene terephthalate resin and mounted at an output panel of an electric motor to reversibly rotate according to reversible rotation of the electric motor; and a plurality of second brush bristle sets (620) including polybutylene terephthalate resin, mounted on an outer side of a front surface of the case, arranged in parallel to the first brush bristle set at a height equal to a height of the first brush bristle set, simultaneously spaced apart from the first brush bristle set by a uniform distance, and fixedly surrounding a periphery of the first brush bristle set to prevent foreign substances from being dispersed when the first brush bristle set is rotated,

wherein a first brush bristle (611) constituting the first brush bristle set (610) and a second brush bristle (621)

constituting the second brush bristle set (620) have tapered surfaces (611a and 621a) formed at distal ends thereof, respectively, and

wherein each of brush bristles (611) constituting the first brush bristle set (610) has a distal end polished to be rounded in an arc shape, and the rotating unit comprises: an operating unit (200) mounted on an outer side of the case to instruct power on/off and reversible rotation switching in a unit of a predetermined angle; a power supply unit (300) mounted on an inner one end of the case; a brushless electric motor (400) mounted in the case to operate by receiving power from the power supply unit according to a switching signal of the operating unit and to reversibly rotate in the unit of the predetermine angle; a control unit (500) to output an electric signal to control the reversible rotation of the brushless electric motor at the predetermined angle according to the switching signal of the operating unit; a holder (700) coupled to a shaft (410) of the brushless electric motor (400) and including vertical and horizontal panels bent in an L shape to reversibly rotate according to the reversible rotation of the brushless electric motor; a spring (800) coupled to one side of the horizontal panel of the holder and having an opposite side coupled to a support unit to flow about the support unit while being supported by the support unit as the holder move up and down in a vertical direction; the support unit (900) to support the opposite side

of the spring to induce the torque; and a ballast (1000) mounted at an upper portion of the holder to maintain a balance of the holder such that reversible rotation of the holder is stably induced.

【Claim 2】

The face washing apparatus of claim 1, wherein the tapered surfaces (611a, 621a, and LT) are formed to points in a length range of 2 mm to 4 mm from ends of the brush bristles, and the brush bristles have thin thicknesses of 10 um or less at brush bristle end points (611b, 621b, and DT).

【Claim 3】

The face washing apparatus of claim 1 or 2, wherein each brush bristle (621) constituting the second brush bristle set (610) has a distal end polished to be rounded in an arc shape or is formed in a straight line.

【Claim 4】

The face washing apparatus of any one of claims 1 to 3, wherein the brush bristles (611 and 621) constituting the first brush bristle set (610) and the second brush bristle set (620) have thicknesses of 63±10㎛.

【Claim 5】

The face washing apparatus of any one of claims 1 to 4, wherein the brush bristles (611 and 621) constituting the first brush bristle set (610) and the second brush bristle set (620) have lengths of 11.0±1.0 mm.

【Claim 6】

The face washing apparatus of any one of claims 1 to 5, wherein the first brush bristle set (610) and the second brush bristle set (620) have 90,000 to 120,000 of brush bristles (611 and 621), respectively, that are implanted.

【Claim 7】

The face washing apparatus of any one of claims 1 to 6, wherein the first brush bristle set (610) is formed in a first color and the second brush bristle set (620) is formed in a second color such that the first and second brush bristle sets (610 and 620) have mutually different colors.