[CLAIMS]

[Claim 1]

An anti-burn RF electrode cartridge for skin care and treatment, the anti-burn RF electrode cartridge comprising:

a tip part on a bottom of which an RF electrode assembly configured to apply RF energy into skin is positioned; and

a cartridge casing having an opening at a lower portion at which the tip part is positioned,

wherein the RF electrode assembly positioned to cover the entire bottom of the tip part and extend to an outer surface of the tip part, thereby surrounding the outer surface of the tip part,

wherein the cartridge casing comprises:

a first casing part on a surface of which the RF electrode assembly is positioned;

a second casing part to which the first casing part is connected to be able to tilt and that has an opening at a lower portion through which the tip part passes;

a bellows member of which a first end is connected to the first casing part and a second end is connected to the second casing part and that is positioned to surround the ball joint part and has a plurality of wrinkle parts; and

a bellows support frame member positioned at an upper end of the bellows member and formed in a frame structure surrounding an inner periphery of the bellows member,

wherein the bellows support frame member has a plurality of frame fixing pins protruding on an outer surface thereof, and

a plurality of pin insertion parts in which the frame fixing pins are inserted is provided on the bellows member.

[Claim 2]

The anti-burn RF electrode cartridge of claim 1, wherein the RF electrode assembly comprises:

a contact electrode part covering the entire bottom of the tip part; and

a side electrode part connected to the contact electrode part and formed to surround a side of the tip part.

[Claim 3]

The anti-burn RF electrode cartridge of claim 2, wherein the contact electrode part and

the side electrode part have an integrally connected structure, and an edge of the RF electrode assembly is positioned to face up on the outer surface of the tip part.

[Claim 4]

The anti-burn RF electrode cartridge of claim 1, wherein the RF electrode assembly is a plating layer integrally formed on the bottom and the outer surface of the tip part through plating.

[Claim 5]

The anti-burn RF electrode cartridge of claim 2, wherein the RF electrode assembly further comprises an insulating film member covering an entire surface of the contact electrode part and covering at least a portion of the side electrode part.

[Claim 6]

The anti-burn RF electrode cartridge of claim 2, wherein the RF electrode assembly is connected to an RF signal application wire part configured to apply AC power on the side electrode part.

[Claim 7]

The anti-burn RF electrode cartridge of claim 1, wherein the cartridge casing comprises:

a ball joint part configured to connect the second casing part and the tip part such that the first casing part can freely tilt within 360 degrees.

[Claim 8]

A handpiece for skin care and treatment, comprising:

an RF electrode cartridge comprising an RF electrode assembly supposed to come in contact with the skin; and

a handpiece body casing to which the RF electrode cartridge is separably coupled and that is connected to a control body,

wherein the RF electrode cartridge comprises the anti-burn RF electrode cartridge for skin care and treatment of any one of claims 1 to 7.

[Claim 9]

The handpiece for skin care and treatment of claim 8, wherein a cartridge insertion part

in which the RF electrode cartridge is inserted and coupled is positioned at a front end of the handpiece body casing,

a cartridge coupling block configured to electrically connect the control body and the RF electrode assembly by being coupled with the RF electrode cartridge is movably positioned in the cartridge insertion part,

the cartridge coupling block is positioned in an elastically supported state by a spring member for a cartridge,

an electrode on-off switch configured to turn on and off electrical power that is applied to the RF electrode assembly is positioned on a top of the cartridge casing,

the electrode on-off switch comprises a switch button elastically supported by a switch spring and has a structure that turns on electrical power that is applied to the RF electrode assembly only when the switch button is pressed and that turns off electrical power when the pressed switch button is released, and

a switch-pressing protrusion configured to press the electrode on-off switch when the cartridge coupling block is pressed and moved inward is positioned to protrude in the cartridge insertion part.

[Claim 10]

The handpiece for skin care and treatment of claim 9, wherein a switch-mounting protrusion on a top of which the electrode on-off switch is positioned on a top of the cartridge casing and a protrusion insertion part in which the switch-mounting protrusion is inserted is positioned in the cartridge insertion part, and

the switch-pressing protrusion is positioned in the protrusion insertion part to face a top of the switch-mounting protrusion.