Claims

[Claim 1] A shower head, comprising:

a shower main body including an inflow passage into which a liquid is caused to flow, and an outflow passage through which the liquid having flowed into the inflow passage is caused to flow out, the inflow passage being opened to one end of the shower main body, the outflow passage being opened to the other end of the shower main body;

a shower nozzle mounted to the other end of the shower main body; and

a mist generating unit arranged on the shower nozzle, and configured to form the liquid, which is caused to flow out through the outflow passage, into a mist of liquid droplets,

the mist generating unit including:

a plurality of mist throttle holes, which are formed to pass through the shower nozzle and communicate to the outflow passage; and

a plurality of mist guides, which are each formed into a conical spiral shape, and each include a plurality of spiral surfaces each having the same spiral shape,

wherein the mist throttle holes are each formed into a conical hole passing through the shower nozzle and having a diameter gradually reducing from the outflow passage side,

wherein the spiral surfaces are arranged between a cone bottom flat surface and a cone upper surface of each of the mist guides to cross a cone side surface of each of the mist guides, and are each formed into a spiral shape having a diameter gradually reducing from the cone bottom flat surface toward the cone upper surface,

wherein each of the mist guides is inserted into each of the mist throttle holes from the cone upper surface with a gap between the cone side surface and a conical inner peripheral surface of each of the mist throttle holes,

wherein each of the mist guides is fitted in each of the mist throttle holes so as to define a plurality of mist flow passages each having a spiral shape between the spiral surfaces, the conical inner peripheral surface, and the cone side surface, and

wherein the mist flow passages are opened into each of the mist throttle holes and communicate with the outflow passage.

[Claim 2] The shower head according to claim 1,

wherein the mist generating unit includes a plurality of mist guides, which are each formed into a conical spiral shape, and each include first and second spiral surfaces each having the same spiral shape,

wherein the first and second spiral surfaces are arranged between the cone bottom flat surface and the cone upper surface to cross the cone side surface of each of the mist guides,

wherein the first and second spiral surfaces are arranged so as to be point symmetrical with respect to a cone center line of each of the mist guides,

wherein the first and second spiral surfaces are each formed into a spiral shape having a diameter gradually reducing from the cone bottom flat surface toward the cone upper surface,

wherein each of the mist guides is inserted into each of the mist throttle holes from the cone upper surface with the gap between the cone side surface and the conical inner peripheral surface of each of the mist throttle holes,

wherein each of the mist guides defines first and second mist flow passages each having a spiral shape between the first and second spiral surfaces, the conical inner peripheral surface, and the cone side surface, and

wherein the first and second mist flow passages are opened into each of the mist throttle holes and communicate with the outflow passage.

[Claim 3] A mist generating unit, comprising:

a shower nozzle; and

a mist generating unit arranged on the shower nozzle, and configured to form the liquid having flowed out through the outflow passage into a mist of liquid droplets,

the mist generating unit including:

a mist throttle hole, which is formed to pass through the shower nozzle, and communicates with the outflow passage; and

a mist guide, which is formed into a conical spiral shape, and includes a plurality of spiral surfaces having the same spiral shape,

wherein the mist throttle hole is formed into a conical hole passing through the shower nozzle and having a diameter gradually reducing from the outflow passage side,

wherein the spiral surfaces are arranged between a cone bottom flat surface and a cone upper surface of the mist guide to cross a cone side surface of the mist guide, and are each formed into a spiral shape having a diameter gradually reducing from the cone bottom flat surface toward the cone upper surface,

wherein the mist guide is inserted into the mist throttle hole from the cone upper surface with a gap between the cone side surface and a conical inner peripheral surface of the mist throttle hole,

wherein the mist guide is fitted in the mist throttle hole so as to define a plurality of mist flow passages each having a spiral shape between the spiral surfaces, the conical inner peripheral surface, and the cone side surface, and

wherein the mist flow passages are opened into the mist throttle hole, and

communicate with the outflow passage.

[Claim 4] The mist generating unit according to claim 3,

wherein the mist generating unit includes a mist guide, which is formed into a conical spiral shape, and includes first and second spiral surfaces each having the same spiral shape,

wherein the first and second spiral surfaces are arranged between the cone bottom flat surface and the cone upper surface to cross the cone side surface of the mist guide,

wherein the first and second spiral surfaces are arranged so as to be point symmetrical with respect to a cone center line of the mist guide,

wherein the first and second spiral surfaces are each formed into a spiral shape having a diameter gradually reducing from the cone bottom flat surface toward the cone upper surface,

wherein the mist guide is inserted into the mist throttle hole from the cone upper surface with the gap between the cone side surface and the conical inner peripheral surface of the mist throttle hole,

wherein the mist guide defines first and second mist flow passages each having a spiral shape between the first and second spiral surfaces, the conical inner peripheral surface, and the cone side surface, and

wherein the first and second mist flow passages are opened into the mist throttle hole and communicate with the outflow passage.