CLAIMS

[Claim 1] A temperature regulating apparatus for regulating a temperature of a polishing surface of a polishing pad, comprising:

a heat exchanger having a heating flow passage and a cooling flow passage formed therein;

a holder arranged over the heat exchanger;

a coupling mechanism configured to detachably fix the heat exchanger to the holder, the coupling mechanism including:

a first hook fixed to an upper surface of the heat exchanger; and

a second hook held by the holder, the second hook being configured to be able to be engaged with and disengaged from the first hook.

[Claim 2] The temperature regulating apparatus according to claim 1, wherein the first hook includes:

a first base fixed to the upper surface of the heat exchanger; and

a first protrusion protruding laterally from the first base,

the second hook includes:

a second base extending through the holder; and

a second protrusion protruding laterally from the second base, the second protrusion being configured to be able to contact a lower surface of the first protrusion.

[Claim 3] The temperature regulating apparatus according to claim 1 or 2, wherein the second hook is rotatable about its own axis.

[Claim 4] The temperature regulating apparatus according to any one of claims 1 to 3, wherein the coupling mechanism further includes:

a screw arranged in the first hook; and

a spiral structure embedded in the heat exchanger, the screw being screwed into

the spiral structure through a through-hole formed in the first hook.

[Claim 5] The temperature regulating apparatus according to ~~any one of claims 1 to 4~~claim 2, wherein the coupling mechanism further includes a coil spring into which the second base is inserted, the coil spring being arranged on an upper surface of the holder.

[Claim 6] The temperature regulating apparatus according to any one of claims 1 to 5, wherein the holder has a housing chamber in which the first hook and the second hook are arranged.

[Claim 7] The temperature regulating apparatus according to any one of claims 1 to 6, wherein the second hook is arranged outwardly of the first hook in a radial direction of the heat exchanger.

[Claim 8] The temperature regulating apparatus according to any one of claims 1 to 6, wherein the second hook comprises two second hooks, the two second hooks being arranged on both sides of the first hook in a circumferential direction of the heat exchanger.

[Claim 9] The temperature regulating apparatus according to any one of claims 1 to 8, wherein the coupling mechanism comprises a plurality of coupling mechanisms arranged in a circumferential direction of the heat exchanger.

[Claim 10] The temperature regulating apparatus according to any one of claims 1 to 9, wherein the heat exchanger has a side surface composed of a water-repellent coating layer.

[Claim 11] A polishing apparatus comprising:

a polishing table configured to support a polishing pad;

a polishing head configured to press a substrate against a polishing surface of the polishing pad; and

the temperature regulating apparatus according to any one of claims 1 to 10 configured to regulate a temperature of the polishing surface by exchanging heat with the polishing pad.