

COOLING HUMAN BODY USING CLEAN ENERGY

- ❑ A novel way of cooling human body using a wearable piece of jewellery made from clay that is so designed to contain water and cool the body through *evaporative cooling*, thereby eliminating the need for any power source.
- ❑ It is designed to be worn around the target areas of human body such as *neck or nape of neck , ankle, waist and particularly the wrist where the arteries are located* and as it cools the blood in the arteries and this blood when it gets transported to the entire human body , it cools the human body.
- ❑ The sole purpose of this idea is to provide a *cooling system without harmful refrigerants* that can impact the environment and it *eliminates the need for a a power source*.
- ❑ It is an *inexpensive cooling methodology* for economically weaker sections of the society who work under the sun for long duration and thereby *reducing deaths due to sunstroke*.
- ❑ There exists a greater need for cooling with clean and green energy. Therefore, there is a need for cooling the human body with free cooling energy generated on the surface of the clay due to evaporative cooling, a behavior exhibited by a natural resource such as clay.
- ❑ If this jewellery is worn on the human body inside an already air conditioned space, the cooling setpoint of the HVAC(Heating Ventilation Air Conditioning) system can be optimized thereby *conserving energy and reducing carbon footprint*

BRIEF DESCRIPTION:

It comprises of a wearable device for cooling human body made out of clay designed as a piece of jewellery that is hollow in the inside. The hollow part acts as a water reservoir, which will cool the surface of the clay jewellery by the process of evaporative cooling. The reservoir can be filled with water through a narrow opening that can be closed by a rubber cap.

In order to persist the sensation of cooling, the jewellery piece is designed such that the person wearing it can flip it to the other side which is exposed to air, which would have been sufficiently cooled due to evaporative cooling, after every 20 minutes or whenever the cooling sensation is reduced, whichever being the earliest to perceive the sensation of cooling again.

When the device is designed in the form of a dial that can be secured around the wrist and/or ankle using an elastic band, the cool surface comes in contact with the arteries and cools the blood thereby cooling the body.

If the device is designed in the form of a pendant that can be worn around the neck using a chain, the cool surface comes in contact with the neck area and cools in and around the neck area.

If the device is designed in the form of a belt that can be worn around the waist using an elastic band and which houses clay cartridges, the cool surface comes in contact with the waist area, thereby giving a cooling sensation to the body.

PROTOTYPES



Bracelet variant



Pendant variant



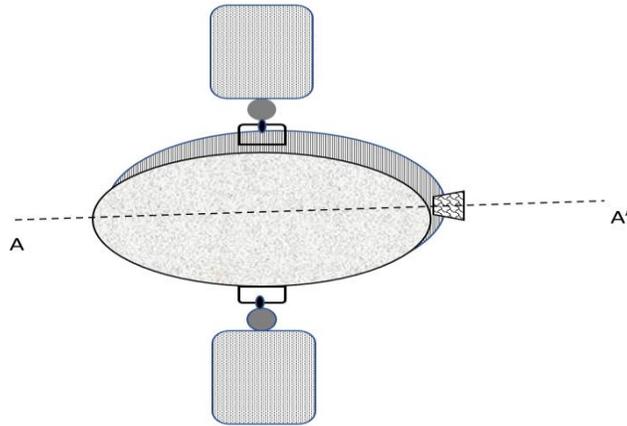


FIG. 1

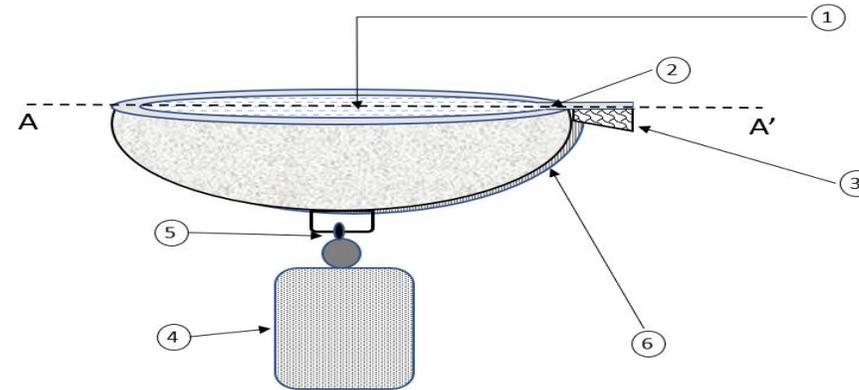


FIG. 1A

FIG. 1 illustrates a diagram exemplifying a wearable piece of jewellery worn on the wrist and/or ankle to deliver cooling to the human body.

Referring now to **FIG.1A**, the inside hollow clay piece acts as a water reservoir [1] that can be filled with water through the narrow opening [2] closed by a rubber cap/seal [3].The dial is attached to an elastic wrist band [4] through a flip-able hook arrangement [5] which is attached to the steel rim [6] that goes along the circumference of the dial.

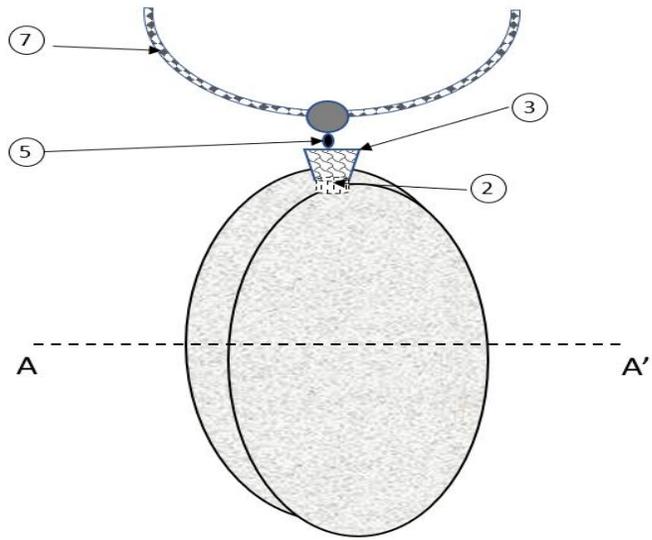


FIG. 2

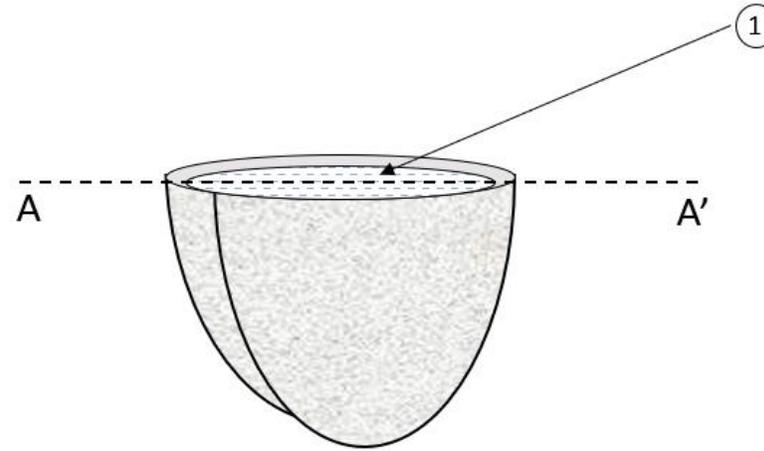


FIG. 2A

FIG. 2 illustrates a diagram exemplifying a wearable piece of jewellery worn on the neck to deliver cooling to the neck area. It comprises of a narrow opening [2] closed by a rubber cap/seal [3]. The rubber seal of the pendant has a flip-able hook arrangement [5]. The pendant is attached to a necklace [7] through the flip-able hook arrangement.

Referring now to **FIG. 2A**, the inside hollow clay piece designed as a pendant, acts as a water reservoir [1] that can be filled with water.

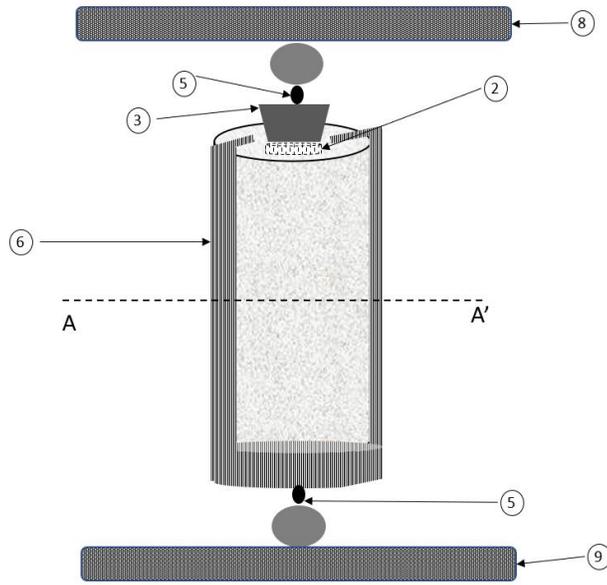


FIG. 3

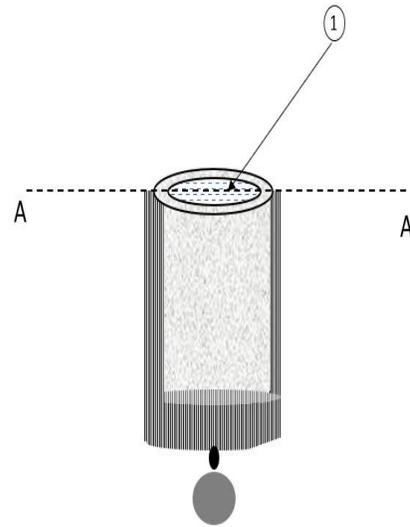


FIG. 3A

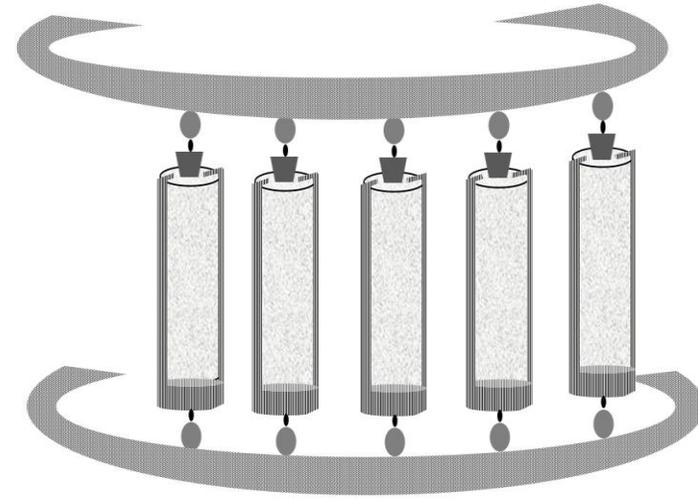


FIG. 3B

FIG. 3 illustrates a diagram exemplifying a wearable piece of jewellery worn around the waist to deliver cooling to the waist area. It comprises of a narrow opening [2] closed by a rubber cap/seal [3]. The cartridges are attached to the top band of the belt [8] using the flip-able hook arrangement [5] attached to the rubber seal at the top end. A steel rim [6] runs along the length of the cartridge leaving the narrow opening at the top and at the bottom of the steel rim, there is another flip-able hook arrangement [5] that is attached to the lower band of the belt [9].

Referring now to **FIG. 3A**, the inside hollow clay piece designed as a cartridge acts as a water reservoir [1] that can be filled with water .

FIG. 3B refers to the arrangement of multiple such cartridges attached to the belt that can be worn along the waist.