

INTELLIGENT SYSTEM FOR GRIP ENHANCEMENT

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The invention relates to an intelligent system for grip enhancement of the footwear sole, depending on the temperature of the movement surface and in relation to the environmental conditions, based on the temperature difference, in that it is equipped with a thermo-mechanical conversion mechanism with a specific constructive form.

The invention consists of a solution that is actuated thermo-mechanically in an automatic manner and under different conditions of temperature, as a response to variable natural phenomena, which adapts the sole of the footwear in which it is embedded according to the external temperature, of environmental factors and/or of season, so that it facilitates the movement in conditions of high temperature (e.g., dry, firm and grippy environment) and it enhances the grip at low temperature (e.g., moist, soft and slippery environment).

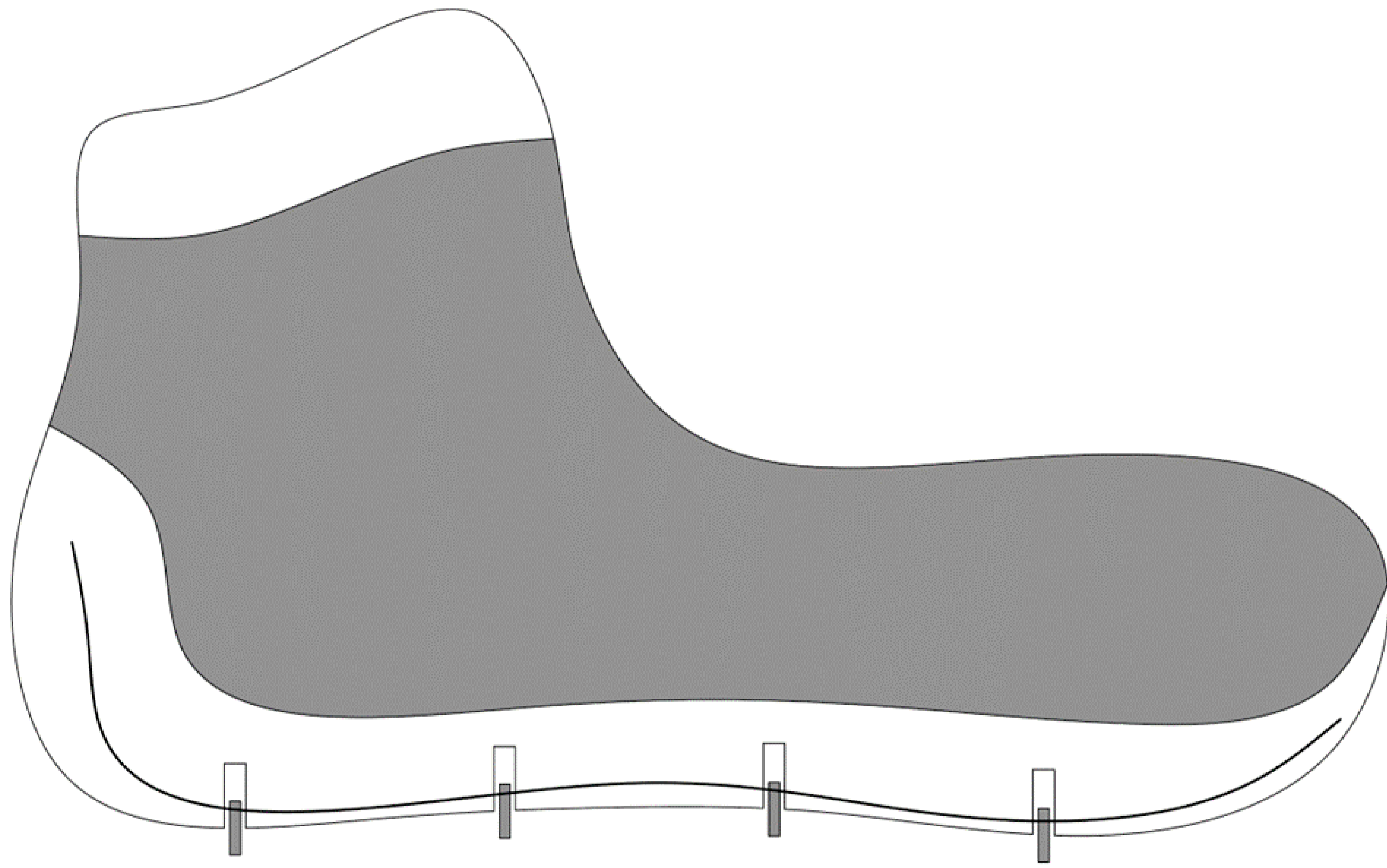


Figure 1. Structure of an intelligent system for grip enhancement in inactive state, incorporated in the sole of footwear at high temperature, side view.

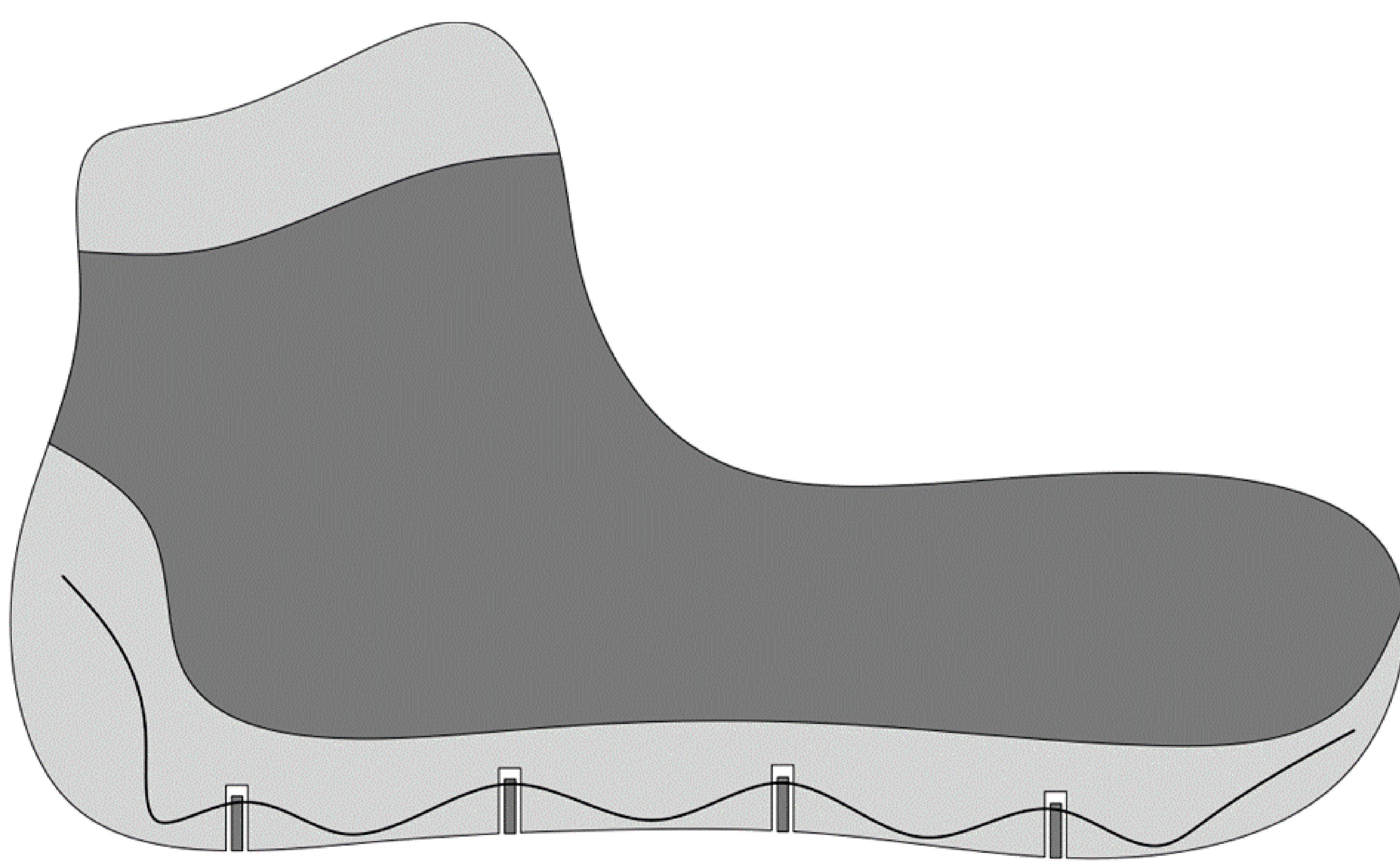


Figure 2. Structure of an intelligent system for grip enhancement in active state, incorporated in the sole of a footwear at low temperature, side view.

ADVANTAGES

- it introduces new possibilities for grip enhancement;
- it presents constructive simplicity and flexibility, but at the same time advantageous dimension, mass and shape, without negatively affecting the movement or the sole of the footwear that incorporates it in the purpose of grip enhancement;
- it reduces the impact that other solutions introduce on the efficiency of moving with footwears whose sole incorporates them in the purpose of grip enhancement;
- it facilitates grip enhancement, both depending on the environmental factors and season.