

Title: SHOE REFRESHMENT SYSTEM AND USE

ABSTRACT

A shoe refreshment system (100) comprises a base (10) for placing the system (100) on a horizontal surface (H). The system comprises at least one shoe holder (20) having an elongate shape (20s) configured to fit inside a respective shoe and hold the respective shoe above the base (10). A pump is configured to generate an air flow. A set of exhaust ports is disposed on the elongate shape (20s) and configured to output the generated air flow inside the respective shoe. The system (100) is configured to generate the air flow with the elongate shape (20s) of the shoe holder (20) arranged along the horizontal surface (H) to hold the respective shoe horizontally above the base (10). The inventors find this configuration may improve longevity and efficiency of the system.

CLAIMS

A SHOE REFRESHMENT SYSTEM (100) COMPRISING

a base (10) for placing the system (100) on a horizontal surface (H);

a shoe holder (20) having an elongate shape (20s) configured to fit inside a respective shoe (S) and hold the respective shoe (S) above the base (10);

a pump (31) configured to generate an air flow (F); and

a set of exhaust ports (21,22) disposed on the elongate shape (20s) and configured to output the generated air flow (F) inside the respective shoe (S);

wherein the system (100) is configured to generate the air flow (F) with the elongate shape (20s) of the shoe holder (20) arranged along the horizontal surface (H) to hold the respective shoe (S) horizontally above the base (10).

2. The system according to claim 1, wherein the base (10) comprises a bottom plate for placement on the horizontal surface (H), wherein each shoe holder (20) is fixated with respect to the bottom plate with a length (L) of the elongate shape (20s) arranged along a horizontal plane of the bottom plate.
3. The system according to any of the preceding claims, comprising an air inlet (11) and a heating element (32) for heating the air flow (F) passing from the air inlet (11) to the set of exhaust ports (21,22).
4. The system according to any of the preceding claims, comprising an ionizer or ozone generator (33) configured to generate ozone in the air flow (F).

5. The system according to any of the preceding claims, comprising a controller (42) and/or electronics (33) for controlling properties of the air flow (F) and/or operation of the system (100).
6. The system according to any of the preceding claims, comprising a humidity sensor arranged in or on the shoe holder (20) for measuring a humidity of a shoe (S) placed on the shoe holder (20), wherein the system is configured to automatically start and/or stop and/or adjust its operation based on the measured humidity.
7. The system according to any of the preceding claims, comprising a sensor arrangement (25a,25b) configured to detect a presence and/or absence of a respective shoe (S) on the shoe holder (20), wherein the system is configured to automatically start and/or stop a cleaning program based on the detection.
8. The system according to any of the preceding claims, wherein the elongate shape (20s) protruding from the rest of the system has a length (L) of more than fifteen centimeter and a diameter (D) of less than ten centimeter, wherein the elongate shape (20s) has a rounded top side and a flat bottom side, which bottom side is relatively wide compared to the top side.
9. The system according to the preceding claim, wherein the set of exhaust ports (21,22) includes exhaust holes (21) provided at the flat bottom side of the elongate shape (20s), facing the base (10), and exhaust holes (21) covering also the rounded top side of the elongate shape (20s).
10. The system according to any of the preceding claims, wherein the set of exhaust ports (21,22) includes one or more heel ventilation holes (22) arranged at the bottom side of the elongate shape (20s) adjacent a

connection point from which the elongate shape (20s) protrudes from the rest of the system.

11. The system according to any of the preceding claims, wherein the elongate shape (20s) is provided with a heel segment (20h) protruding at the bottom side towards the base (10), wherein the heel segment (20h) is provided with heel ventilation holes (22) facing the base (10).

12. The system according to any of the preceding claims, wherein the set of exhaust ports (21,22) includes exhaust holes arranged over at least fifty percent of a surface area of the elongate shape (20s), wherein over said surface of the elongate shape (20s) covered by the exhaust holes, a fraction of at least thirty percent is taken up by the area of the holes themselves, wherein the exhaust holes each have a diameter less than three millimeter.

13. The system according to any of the preceding claims, wherein the elongate shape (20s) is provided with a perforated distal surface area at portion of including a tip of the shoe holder (20), wherein the perforated distal surface area is covered by exhaust ports (21), wherein the elongate shape (20s) is provided with a non-perforated proximal surface area, where the shoe holder (20) is connected to the rest of the system, wherein an edge is formed between the perforated distal surface area and the non-perforated proximal surface area, wherein the edge is slanted at an angle (Φ) with respect to a vertical axis, normal to the horizontal surface (H), wherein the angle (Φ) is slanted towards the distal side at the top of the shoe holder (20).

14. The system according to any of the preceding claims, wherein a top side of the elongate shape (20s) extends along a length (L) of the shoe holder (20) at an angle (θ_t) of less than ten degrees with respect the horizontal surface (H).

15. Use of the system (100) according to any of the preceding claims, the use comprising placing at least one shoe (S) on the respective shoe holder (20) such that a length of the shoe (S) is arranged along the horizontal surface (H) and an opening of the shoe (S) is facing upwards, and energizing the system to dry and/or sterilize the shoe (S).