



US 20060123660A1

(19) **United States**

(12) **Patent Application Publication**

Chen

(10) **Pub. No.: US 2006/0123660 A1**

(43) **Pub. Date: Jun. 15, 2006**

(54) **SHOE STRUCTURE WITH HEATING FUNCTION**

(52) **U.S. Cl. 36/2.6**

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(57) **ABSTRACT**

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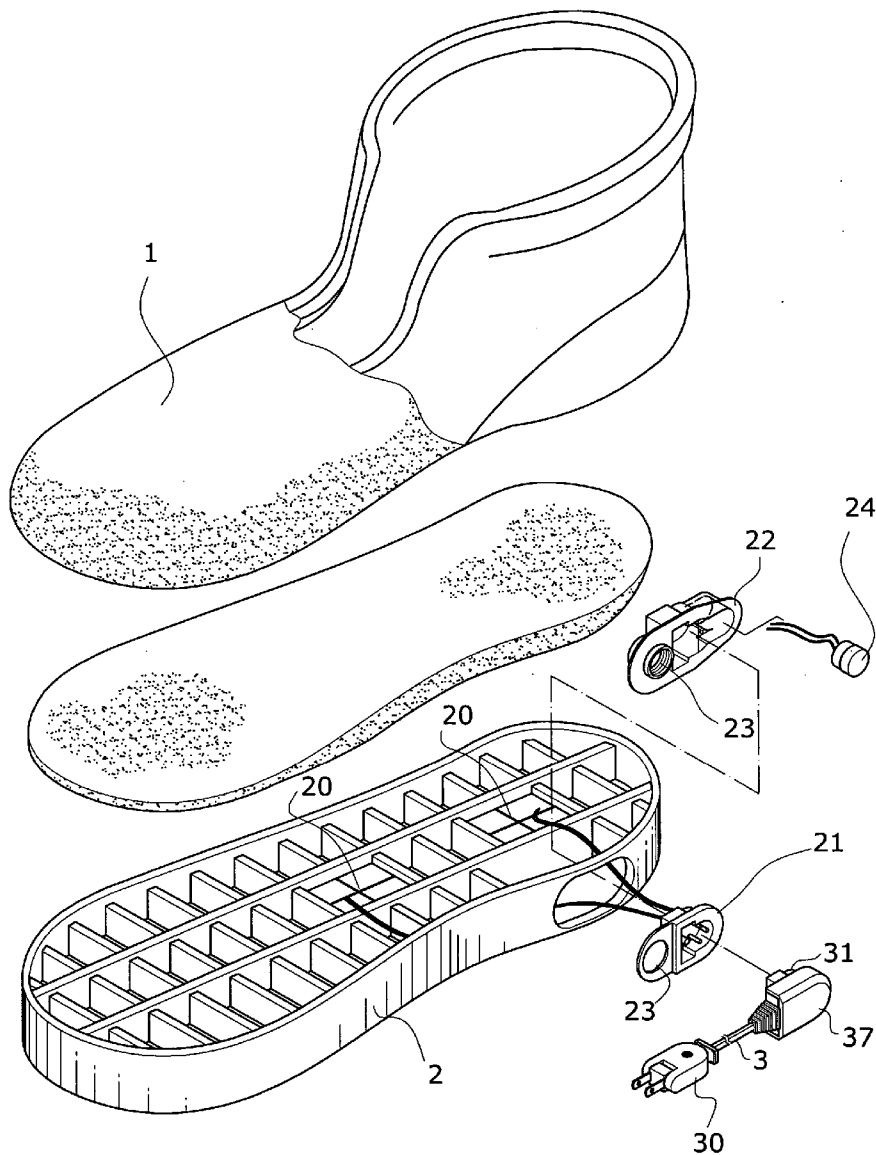
A shoe structure with heating function comprising a vamp, outsole, power wires and heat conductive liquid. The outsole has two electrical conductive slices, heat conductive liquid or heat conductive powder liquid internally; an outer charger shell, an inner charger shell, a temperature control and input connectors are installed on one side of the outsole; an indentation slot is on the outer charger shell; one end of the power wires is a power plug, the other end is a charging connector and output connectors. Based on the structure described above, the electrical conductive slices convert electrical power into heat in the heat conductive liquid to keep feet warm, also achieves sterilization, shock-absorb and deodorization effects.

(21) **Appl. No.: 11/008,983**

(22) **Filed: Dec. 13, 2004**

Publication Classification

(51) **Int. Cl. A43B 7/02 (2006.01)**



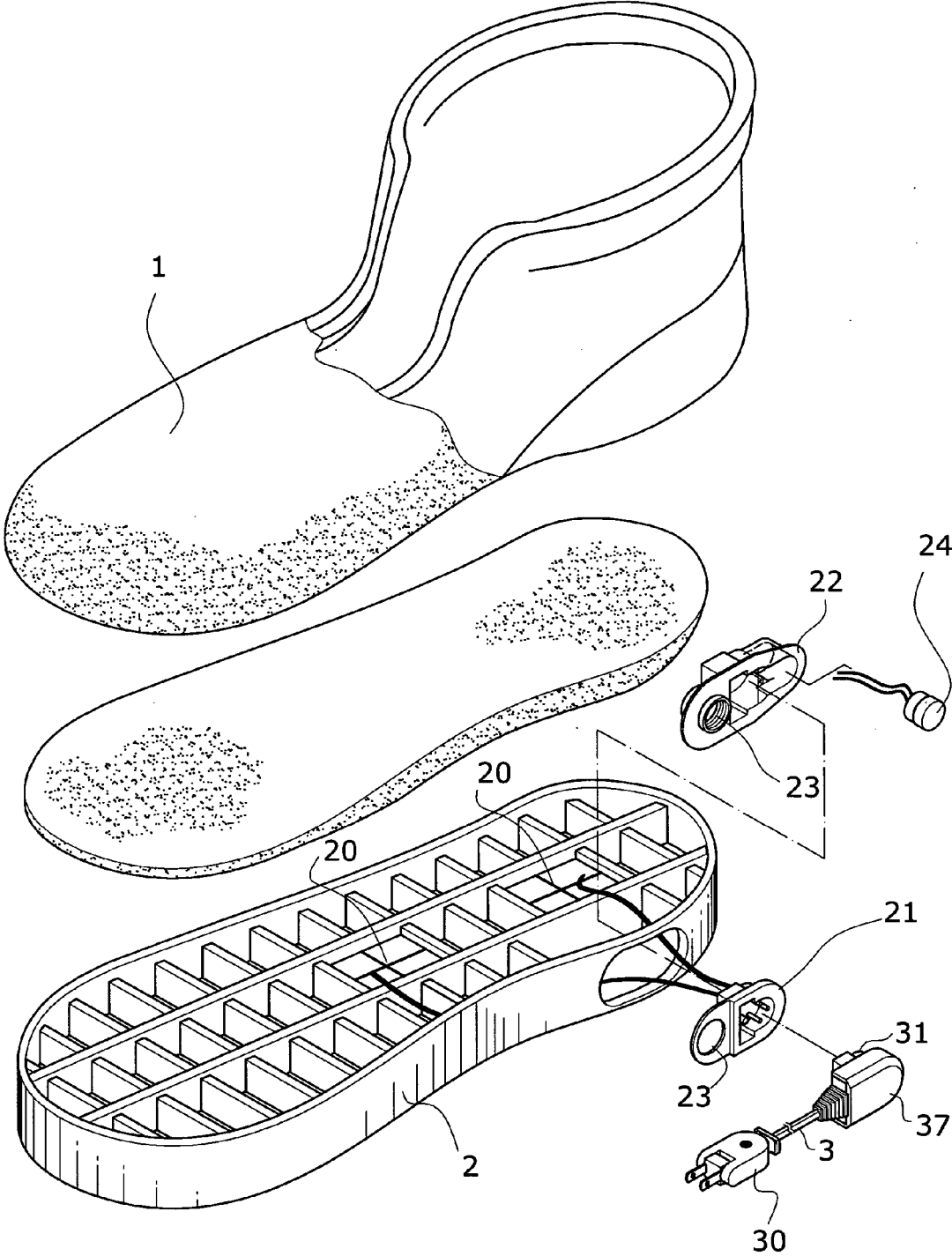


Fig.1

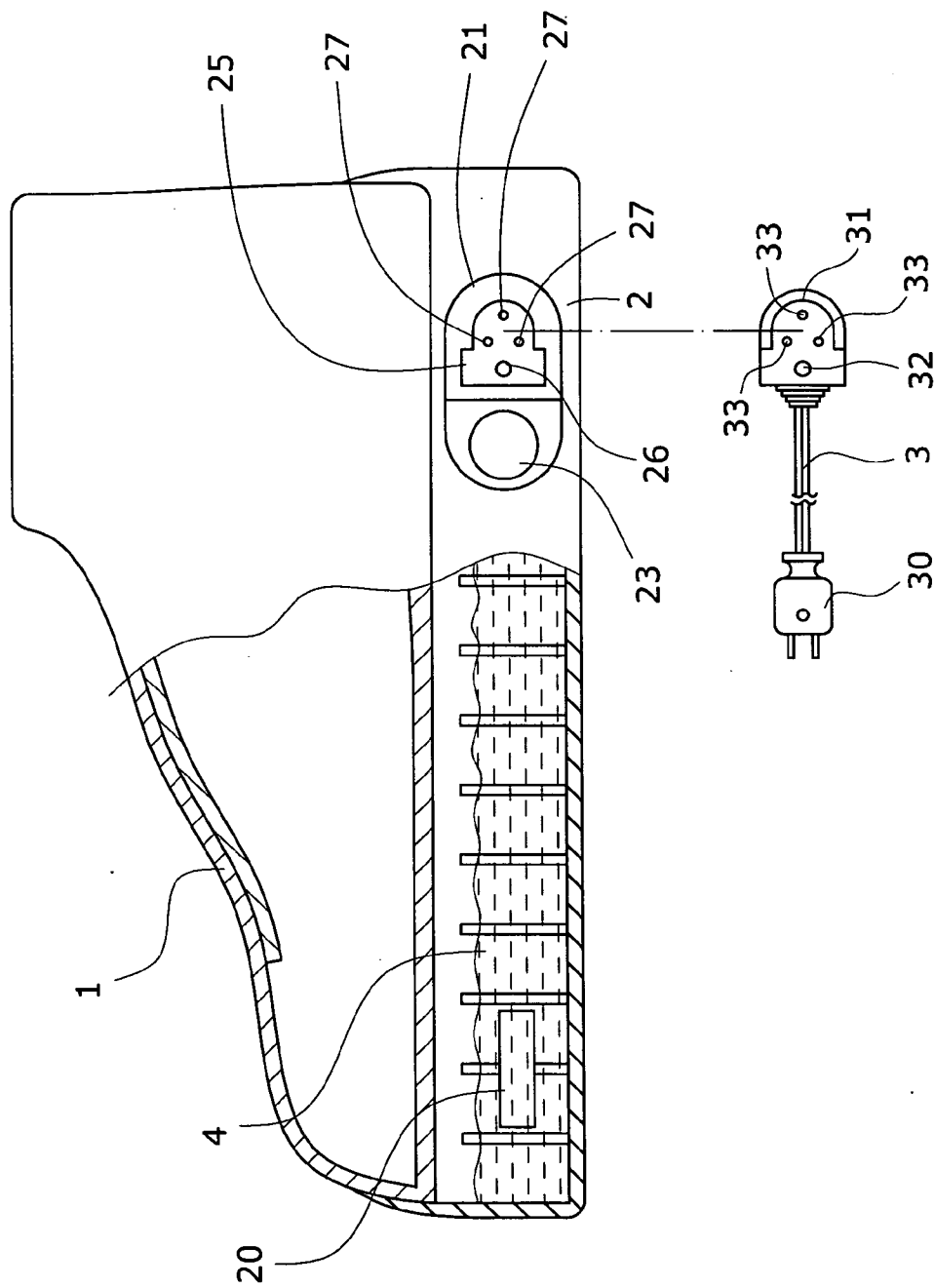


Fig. 2

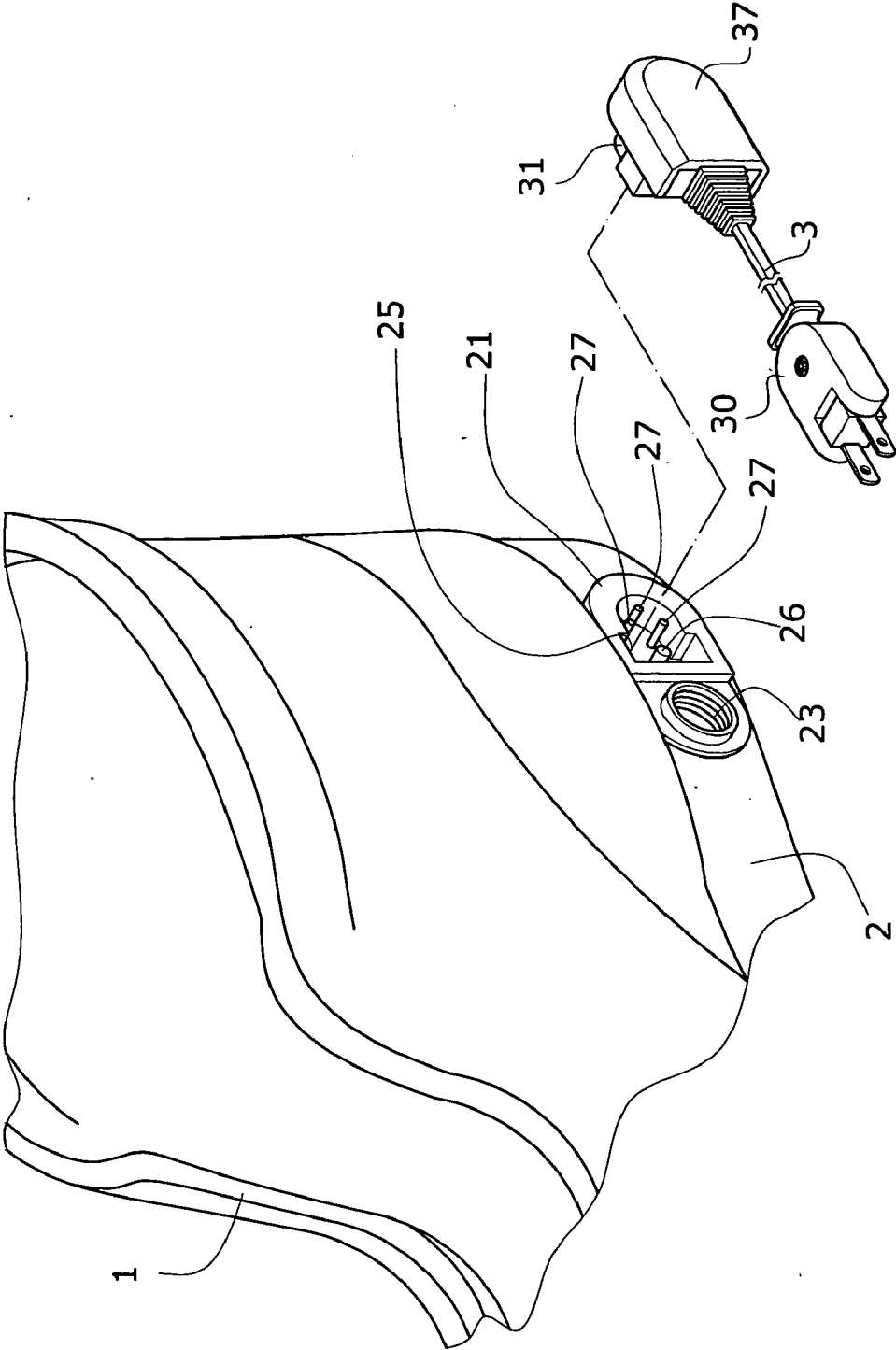


Fig. 3

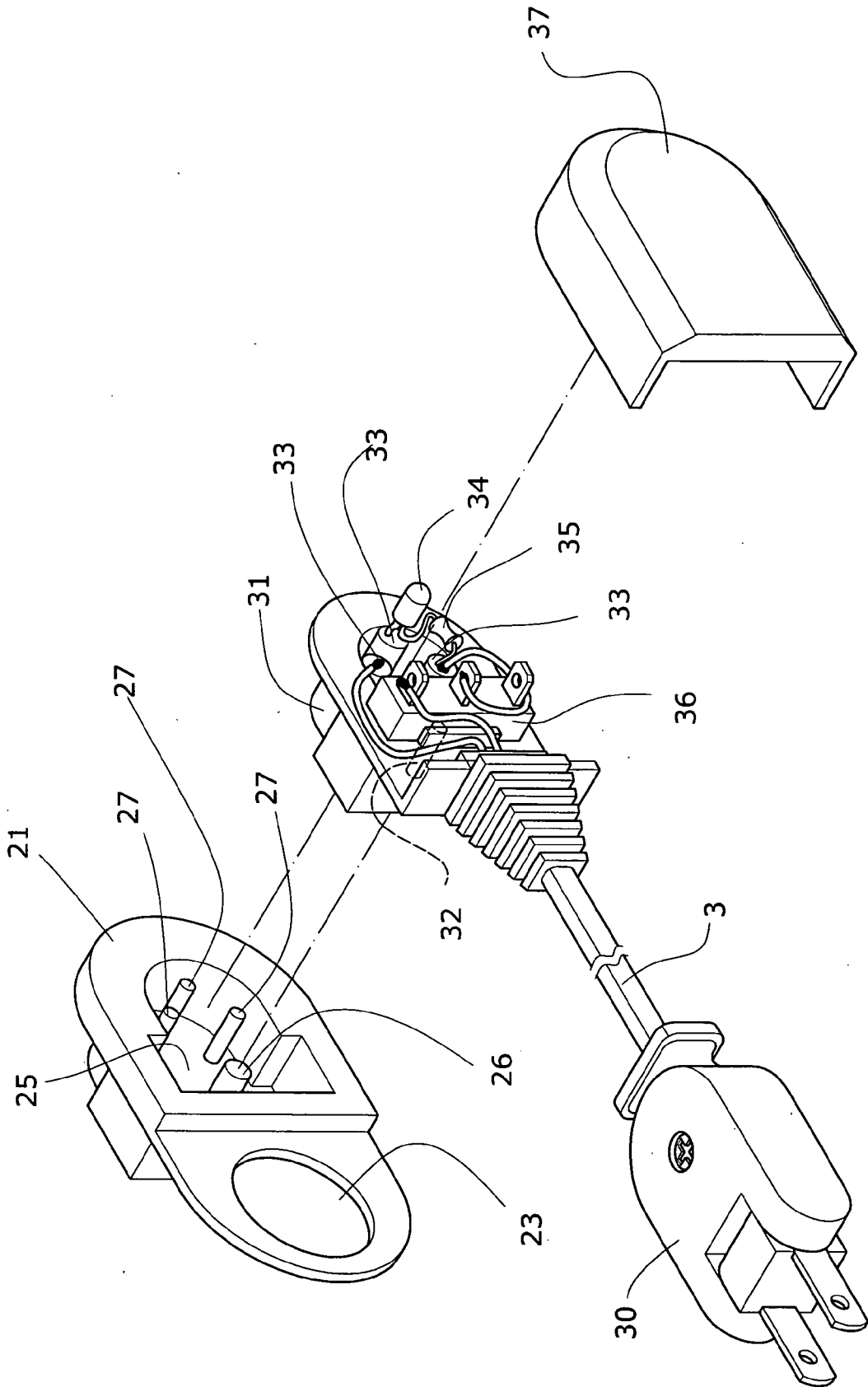


Fig. 4

SHOE STRUCTURE WITH HEATING FUNCTION

BACKGROUND OF THE INVENTION

[0001] I. Field of the Invention

[0002] This invention relates generally to a shoe structure and, more specifically, to a shoe structure with heating function that keeps warm of and massages users' feet, also achieves sterilization, shock-absorb and deodorization effects.

[0003] II. Description of the Prior Art

[0004] Heretofore, it is known that modern people have multiple pairs of shoes due to rapid advancement of shoe industry; shoes can protect feet, help us across rough country sides and cold rivers; to keep feet warm is very important for those people in cold regions, a pair of warm keeping shoes is essential.

[0005] However the body of the known shoes consist mainly of a vamp, outsole; most of the vamps are made of leather or plastic artificial leather, outsoles are made of leather or rubber; the vamp has only single layer, and the outsole has only insoles, such structure is very difficult to keep feet warm.

SUMMARY OF THE INVENTION

[0006] It is therefore a primary object of the invention to provide a shoe structure with heating function that keeps warm of and massages users' feet, also achieves sterilization, shock-absorb and deodorization effects

[0007] In order to achieve the objective set forth, a shoe structure with heating function in accordance with the present invention comprises a vamp, outsole, power wires and heat conductive liquid. The outsole has two electrical conductive slices, heat conductive liquid or heat conductive powder liquid internally; an outer charger shell, an inner charger shell, a temperature control and input connectors are installed on one side of the outsole; an indentation slot is on the outer charger shell; one end of the power wires is a power plug, the other end is a charging connector and output connectors.

[0008] Based on the structure described above, users can plug the charging connector into charger, the electrical conductive slices convert electrical power into heat in the heat conductive liquid; the temperature control cuts off the electrical current flow, users can unplug the charging connector and put on the present invention to keep feet warm, also achieves sterilization, shock-absorb and deodorization effects.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The accomplishment of the above-mentioned object of the present invention will become apparent from the following description and its accompanying drawings which disclose illustrative an embodiment of the present invention, and are as follows:

[0010] FIG. 1 is an assembly view of the present invention;

[0011] FIG. 2 is a cross-sectional view of the present invention;

[0012] FIG. 3 is a cross-sectional view of a further embodiment of the present invention;

[0013] FIG. 4 is a cross-sectional view of the prior art;

DESCRIPTION OF THE PREFERRED EMBODIMENT

[0014] Referring to FIG. 1 to FIG. 4, the present invention comprises a vamp 1, outsole 2, power wires 3 and heat conductive liquid 4. The function of each component is described as following:

[0015] The outsole 2 has a impermeable container; two electrical conductive slices 20 are installed inside the impermeable container, the impermeable container also contains the heat conductive liquid 4; an outer charger shell 21 and an inner charger shell 22 are installed on one side of the outsole 2, the outer charger shell 21 and the inner charger shell 22 are clipped onto the outside and inside of the outsole 2 respectively; an injection hole 23 is on one side of the inner charger shell 22, a temperature control 24 is also on one side of the inner charger shell 22; an indentation slot 25 is on the outer charger shell 21, a protruding pillar 26 and three input connectors 27 are inside the indentation slot 25; the three input connectors 27 are connected to two electrical conductive slices 20 and the temperature control 24 respectively.

[0016] One end of the power wires 3 is a power plug 30, the other end is a charging connector 31 and a rear cover 37; the charging connector 31 corresponds to the indentation slot 25, one side of the charging connector 31 has a plugging hole 32 and three output connectors 33, the plugging hole 32 and three output connectors 33 correspond to the protruding pillar 26 and three input connectors 27 inside the indentation slot 25; an LED 34 and a resistor 35 are installed inside the charging connector 31, a micro-switch 36 is installed beneath the plugging hole 32; the LED 34, the resistor 35 and the micro-switch 36 connect to three output connectors 33 electrically.

[0017] Based on the structure described above, users can inject heat conductive liquid 4 into the impermeable container of the outsole 2 through the injection hole 23, then plug the charging connector 31 and the power plug 30 into the indentation slot 25 and the power outlet respectively; at the same time, the protruding pillar 26 and three input connectors 27 are plugged into the plugging hole 32 and three output connectors 33 respectively; the micro-switch 36 is activated after the protruding pillar 26 plugged into the plugging hole 32 that makes power current flow to electrical conductive slices 20 through the input connector 33 and output connector 27, the conductivity of the heat conductive liquid 4 has the temperature control 24, micro-switch 36 and electrical conductive slices 20 form a current loop, the current flows between the electrical conductive slices 20 and convert electrical power into heat in the heat conductive liquid 4; with the good heat conductivity of the heat conductive liquid 4, heat is spread evenly and rapidly; while heating, the LED 34 is on until certain temperature, the temperature control 24 cuts off current loop that stops electrical current flow to the electrical conductive slices 20, stops the heating of the heat conductive liquid 4 and turns off the LED 34 to tell users the heating process of the heat conductive liquid 4 inside the impermeable container of the outsole 2 is done, users can unplug the charging connector 31 and put on the present invention to keep feet warm.

[0018] The heat conductive liquid 4 is a heat conductive powder liquid, the heat conductive powder liquid is a liquid with heat conductive powder to have the temperature rise up faster and have longer heat preservation.

[0019] During heating, germs and bacteria inside shoes are eliminated, the remaining bad odor vapors; the present invention achieves sterilization, shock-absorb and deodorization effects.

[0020] The liquid inside the outsoles flows along with the users' steps and circulates constantly to massage users' feet.

[0021] While a preferred embodiment of the invention has been shown and described in detail, it will be readily understood and appreciated that numerous omissions, changes and additions may be made without departing from the spirit and scope of the invention.

What is claimed is:

- 1. A shoe structure with heating function comprising:
 - a vamp 1, an outsole 2, power wires 3 and heat conductive liquid 4, said outsole 2 has a impermeable container, two electrical conductive slices 20 are installed inside the impermeable container, the impermeable container also contains said heat conductive liquid 4, an outer charger shell 21 and an inner charger shell 22 are installed on one side of said outsole 2, said outer charger shell 21 and said inner charger shell 22 are clipped onto the outside and inside of said outsole 2

respectively, an injection hole 23 is on one side of said inner charger shell 22, a temperature control 24 is also on one side of said inner charger shell 22, an indentation slot 25 is on said outer charger shell 21, a protruding pillar 26 and three input connectors 27 are inside said indentation slot 25, said three input connectors 27 are connected to two said electrical conductive slices 20 and said temperature control 24 respectively;

one end of said power wires 3 is a power plug 30, the other end is a charging connector 31 and a rear cover 37, said charging connector 31 corresponds to said indentation slot 25, one side of said charging connector 31 has a plugging hole 32 and three output connectors 33, said plugging hole 32 and three said output connectors 33 correspond to said protruding pillar 26 and three said input connectors 27 inside said indentation slot 25, an LED 34 and a resistor 35 are installed inside said charging connector 31, a micro-switch 36 is installed beneath said plugging hole 32, said LED 34, said resistor 35 and said micro-switch 36 connect to three said output connectors 33 electrically.

- 2. The shoe structure with heating function recited in claim 1, wherein the impermeable container contains heat conductive powder liquid, said heat conductive powder liquid is a liquid with heat conductive powder.

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