

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 March 2004 (25.03.2004)

PCT

(10) International Publication Number
WO 2004/025006 A1

(51) International Patent Classification⁷: **D01F 8/00**

(21) International Application Number:
PCT/KR2002/001381

(22) International Filing Date: 23 July 2002 (23.07.2002)

(25) Filing Language: Korean

(26) Publication Language: English

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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METHOD OF PREPARING A BODY-STIMULATING SYNTHETIC RESIN

(57) Abstract: Disclosed is a method of preparing a body-stimulating synthetic resin, comprising the step of forming a gel-phase adhesive material by mixing one or more selected from medically effective powdered materials including loess, jade, pozzolan, chitosan and natural medicines from herb, and powdered gold or silver, or PVC at a proper ratio, and then adding a magnetic material to the mixture. The gel-phase adhesive material may be further supplemented with an organic solvent and a thickening agent to prepare thin ink. Fabrics, to which the gel-phase adhesive material is attached or which are coated with the thin ink including the material, effective in preventing and treating geriatric diseases or promoting health of people, are thus prepared.



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Title of Invention

A METHOD OF PREPARING A BODY-STIMULATING SYNTHETIC
RESIN

5 Technical Field

The present invention relates to a method of preparing a body-stimulating synthetic resin, comprising the steps of forming a gel-phase adhesive material by mixing one or more selected from medically effective powdered materials including ceramic, loess, chitosan and natural medicines extracted from herbs, powdered gold or silver, and PVC in a proper ratio, forming a thin ink by adding a magnetic material, an organic solvent and a thickening agent to the mixture, and printing the adhesive material or coating the ink on a fabric, thus stimulating a human body and being efficacious in preventing and curing geriatric diseases or promoting health of people.

15 Background Art

As is well known, industrial development has caused many persons to suffer from various geriatric diseases caused by stress due to excessive brain works.

It is a well-known fact that modern medicine science does not have any proper method for curing or preventing geriatric diseases and stress caused by fatigue.

Recently, based on oriental medical science and folk remedies, it has been revealed that several materials such as magnet, elvan, jade, chitosan, gold, silver, etc. are effective against geriatric diseases, in accordance with their properties obtained by being close to them or sticking them to a human body. Thus, health-promoting substances in various forms such as cosmetics, soaps, dots attached to clothes, containing the above materials have been produced on a commercial scale.

The efficacies of these materials are not scientifically proved, but many medical statistics show that the above-described materials based on folk remedies

are efficacious against geriatric diseases. Accordingly, the use of these materials has been suggested, and much research for scientifically proving the effectiveness of these materials has been carried out.

5 In order to receive the medical effects of these materials, the materials are attached in the form of protrusions to socks, gloves, underwear such as panties, etc., thus serving as a body-stimulator having medical effects as well as acupressure effects.

However, these protrusions achieve the acupressure effects and a skid-proof effect rather than a curative effect.

10 Korean Patent Publication No. 1994-8968 discloses dots, which are made of a mixture containing powdered magnet, powdered copper, ceramic, and PVC, and then fixedly attached to the surfaces of socks, etc. When a user wears socks provided with the dots, a magnetic force or far infrared rays emitted from the dots stimulates the skin of a user's body, thus removing stress and obtaining a curative
15 remedy to geriatric diseases.

In this patent, the mixture containing powdered magnet, powdered copper, ceramic, and PVC serving as adhesive means in a proper ratio are attached in the form of dots to socks or underwear, etc., and the dots protruded from the surface of the socks or the underwear emit the magnetic force or far infrared rays so that the
20 medically curative effect is obtained. However, it is difficult to attach the dots made of the above mixture to an object, and the attached dots are easily broken. Particularly, it is difficult to increase the emission amount of the magnetic force or the far infrared rays up to a desired value. Further, the emitted magnetic force or far infrared rays quickly disappears, thus causing a difficulty in maintaining the
25 curative effect of the dots for a long period of time.

That is, in case that iron oxide, added to the mixture in order to emit the magnetic force, is powdered so that particles of the powdered iron oxide are very small, so as to have a size of 3 microns, the magnetic force emitted from the dots made of the mixture easily disappears.

30 Further, PVC, added to the mixture as an adhesive material, accelerates the disappearance of the magnetic force. The reason is that the magnetic forces emitted from the dots made of the mixture containing ingredients with different properties are not uniform. Accordingly, it is difficult to obtain a magnetic force

suitable to cure a wounded part. Further, since the addition of iron oxide, powdered elvan, chitosan, and/or loess reduces an adhesive property of the dots to an object, the dots are easily detached from the object.

5 Particularly, the above-described additives promote the oxidation of the iron oxide, thus accelerating the disappearance of the magnetic force.

Since the magnetic force emitted from the dots disclosed by this patent rapidly disappears because of the above problems, the dots are not sufficient to obtain a desired medical effect. Further, the promotion of the oxidation of the iron oxide added to the dots causes rust on the surfaces of the dots, thus easily
10 detaching the dots from the object and reducing the curative effect of the dots.

Korean Patent Laid-open No. 10-2001-0035464 by the same inventor(s) discloses a method for manufacturing a fabric using minerals, an enzyme solution, seashells, etc. In this patent, the minerals, etc. are simply mixed to an adhesive resin.

15 Disclosure of the Invention

Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to provide a method of preparing a body-stimulating synthetic resin, comprising the steps of forming a gel-phase adhesive material by mixing one or more selected from medically
20 effective powdered materials including loess, ceramic, pozzolan, chitosan and natural medicines from herbs, and powdered gold or silver, and PVC in a proper ratio, so that a molded body stimulator is attached to a fabric by the adhesive material; forming a thin ink by mixing one or more selected from medically effective powdered materials including natural medicines extracted from herbs,
25 chitosan, jade, ceramic, copper, loess in approximately 20~30 % by weight, PVC in approximately 60~70 % by weight, powdered gold or silver in small quantities, an organic solvent, and a thickening agent, so that the ink is printed on a fabric by a conventional screen printing method and clothes are made of the fabric or so that the ink is coated on a yarn and a fabric is woven out of the yarn.

30 It is another object of the present invention to provide a method of preparing a body-stimulating synthetic resin, in which iron oxide is molded to have

a desired size so that the constitution of a magnetic material is randomly adjusted, i.e., a double-sided multipolar or double-side unipolar type, or an anisotropic or isotropic type in order to improve the effect of magnetic force and the oxidation of iron oxide is prevented, thus improving the health promotional effect thereof.

5 In accordance with one aspect of the present invention, the above and other objects can be accomplished by the provision of a method of preparing a body-stimulating synthetic resin, comprising the step of forming a medically effective gel-phase adhesive material by mixing one or more selected from powdered materials, and PVC, wherein a molded material is attached to a fabric
10 using the adhesive material.

In accordance with another aspect of the present invention, there is provided a method of preparing a body-stimulating synthetic resin, comprising the step of forming a medically effective thin ink by mixing one or more selected from medically effective powdered materials, PVC, an organic solvent, and a
15 thickening, wherein the ink is printed on a fabric or coated on a yarn for forming the fabric.

In accordance with yet another aspect of the present invention, there is provided a method of preparing a body-stimulating synthetic resin, in which a magnetic material made of iron oxide together with the molded material is attached
20 to a fabric, thus improving the medical effects due to the magnetic force and enhancing the preventive or curative effect.

Best Mode for Carrying Out the Invention

Now, preferred examples of the present invention for achieving the above
25 objects will be described in detail.

Example 1

There is performed a first step for preparing a gel-phase medically effective adhesive material by mixing one or more selected from powdered natural materials extracted from herbs, chitosan, powdered jade, ceramic, copper and loess in
30 approximately 30~40 % by weight, PVC in approximately 60~70 % by weight, and powdered gold or silver in small quantities.

Then, there is performed a second step for attaching a magnetic material to the surface of a fabric using the above-obtained adhesive material.

Example 2

5 A thin ink is prepared by adding an organic solvent and a thickening agent in a proper ratio to the medically effective adhesive material obtained by the above first step of example 1. A fabric provided with a body-stimulator is obtained by screen-printing a fabric with the ink or coating a yarn with the ink. When a person wears clothes made of the fabric, the clothes serve to remove stress from the person
10 and prevent or cure geriatric diseases of the person.

More specifically, the body-stimulating ink, i.e., the medically effective thin ink, is obtained by a first step for adding the organic solvent in approximately 20~30 % by weight and the thickening agent in approximately 1~2 % by weight to one or more selected from powdered natural materials extracted from herbs,
15 chitosan, powdered jade, ceramic, copper and loess in approximately 20~30 % by weight, PVC in approximately 50~60 % by weight, and powdered gold or silver in small quantities.

Then, the fabric is obtained by a second step for printing the fabric with the above-obtained body-stimulating thin ink by a conventionally known screen-printing
20 method. Accordingly, the fabric removes stress from users, and prevents or cures geriatric diseases of the users based on the medical effect of the body-stimulating ink, thus contributing to the promotion of national health.

Alternatively, the fabric may be obtained by another second step for coating
25 a yarn with the above-obtained body-stimulating thin ink and weaving the fabric out of the yarn. Accordingly, living necessities such as clothes, mattresses, sheets and mats, made of the fabric provided with the body stimulator exhibit the medical effects due to the body stimulator.

Example 3

30 Powdered magnet, being effective to stimulate the human body, with magnetic flux density of approximately 200~500 gaussses or more, is diluted by the gel-phase adhesive material of the ink obtained by examples 1 and 2, and then attached to or printed on the surface of a fabric using the adhesive material or the

ink.

The fabric attached with above adhesive material or coated with the above ink enhances the medical effect by a magnetic force emitted from the magnet, thus being more effective for preventing or curing geriatric diseases.

5

Hereinafter, the above examples of the present invention will be described in more detail.

In case of example 1, when one selected from powdered natural materials extracted from herbs, chitosan, powdered jade, ceramic, copper and loess in approximately 30~40 % by weight, PVC in approximately 60~70 % by weight, and powdered gold or silver in small quantities are mixed, the adhesive material is obtained in a gel-phase with an adhesive property due to the properties of PVC, and has medical effects due to the above medically effective materials.

Here, the above medical effects may be enhanced by selecting two or more of the powdered natural materials extracted from herbs, chitosan, powdered jade, ceramic, copper and loess and mixing them, and the adhesive property may be enhanced by adjusting the mixing ratio of the adhesive material according to the desired medical effects and the kinds of the adhesive material.

For example, the root of Pueraria is efficacious against muscular pain, i.e., myalgia, the root of Licorice serves as a cough remedy, an expectorant and a pain-killer, mustard serving as a cough remedy and an expectorant is efficacious against chronic bronchial trouble, i.e., bronchitis, the fruit of Chinese matrimony vine serving as an antiphlogistic agent is efficacious against asthenia, lung disease and diabetes, and the young antlers of the deer serving as a tonic medicine is efficacious against neurasthenia. These materials may be selectively selected or combinatorially mixed, if necessary.

Chitosan, as well-known, is a natural antibiotic substance, thus being excellent in sterilization, and having a deodorizing effect as well as a hyperthermia effect due to the emission of far infrared rays. It has been scientifically proven that jade, ceramic, copper and loess emit far infrared rays in large quantities, thus having healthy effects such as the discharge of waste material from human body and the relief of pain, and improving the motor ability. Accordingly, the above materials may be mixed in a proper ratio so as to obtain these effects.

30

A small-sized ring material or a magnetic material is attached to the surface of a fabric using the obtained adhesive material with the above medical effects by one method selected from a manual attachment method, or a mechanical and automatic attachment method.

5 In this example, since the magnetic material is attached to the surface of the fabric using the adhesive material, the magnetic material serving as the body stimulator is protruded from the surface of the fabric by a large distance, thus enhancing the body-stimulating effects and the acupressure effects, and simultaneously the adhesive material achieves the medical effects.

10 The adhesive material is attached to the surface of the fabric by pressure, thus filling gaps between yarns of the fabric and preventing the detachment from the fabric due to the enhancement of the adhesive property. Further, in case that through holes are formed in the magnetic material, the attachment of the magnetic material to the surface of the fabric is enhanced. Accordingly, it is possible to
15 maintain the attachment of the magnetic material to the fabric for a long period of time and activate the magnetic force generated from the magnetic material.

The magnetic material of the present invention is attached to underwear such as brassieres, girdles and pants, socks, shoes, soles of shoes, sleeping eye masks, hair bands, mattresses, sheets, waist belts, article belts, and magnetic bio-
20 patch, thus stimulating a human body by means of the acupressure effects and generating the magnetic force and the medical effects over a portion of the human body to be cured. Accordingly, it is possible to effectively prevent and cure various geriatric diseases.

25 Example 2 describes the medically effective ink prepared using body stimulating materials such as natural medicines.

That is, the medically effective thin ink is prepared by adding the organic solvent in approximately 20~30 % by weight and the thickening agent in approximately 1~2 % by weight to one or more selected from powdered natural materials extracted from herbs, chitosan, powdered jade, ceramic, copper and loess
30 in approximately 20~30 % by weight, PVC in approximately 50~60 % by weight, and powdered gold or silver in small quantities.

As described above, the above thin ink contains powdered natural materials extracted from herbs, loess, gold, silver, etc., thus having medical effects based on

their original properties. The mixture is powdered by a first grinding step using a grinder and a second grinding step for finely grinding first powdered materials so that the diameters of the particles of the powders are less than one-third of the fineness of a yarn desired to be coated.

5 The above thin ink is prepared by mixing the above medically effective powdered materials, PVC, the organic agent, and the thickening agent in a proper ratio, and the fabric is obtained by printing the surface of the fabric with the ink by the conventional screen-printing method. When clothes made of the fabric are worn, the geriatric diseases of users can be prevented and cured.

10 Alternatively, the fabric provided is obtained by coating a yarn with the ink and weaving the fabric out of the yarn via a conventional weaving method including a general or conjugated weaving step, a drawing step, a twisting step, a cutting step, and a spinning step.

15 In this case, instead of the coating of the yarn with the ink, the yarn may be dipped in the thin ink for a designated period of time.

That is, a bunch of yarns are dipped in a tank filled with the thin ink so that the thin ink permeates through the yarns, thus being formed as the yarns containing the body stimulator.

20 Clothes and living necessities, which are made of the fabric weaved from the obtained yarn, emit of the far infrared rays by means of the body stimulator and have the medical effects generated from the natural materials, thus being effectively used to prevent and cure geriatric diseases based on stress and contributing to the promotion of national health.

25 Example 3 describes powdered magnet with magnetic flux density of approximately 200~500 gauss or more which is diluted by the gel-phase adhesive material or the coating ink obtained by examples 1 or 2, and then attached to or printed on the fabric using the adhesive material or the ink.

30 The magnetic material serving as the body stimulator is attached to the fabric using the adhesive material under the condition that the magnetic material is protruded from the surface of the fabric, thus providing the acupressure effects. The medically effective materials contained in the adhesive material causes the medical effects. Accordingly, it is possible to stimulate the human body and have the medical effects on the human body.

The adhesive material is attached to the surface of the fabric by pressure, thus filling gaps between yarns of the fabric and preventing the detachment from the fabric due to the enhancement of the adhesive property. Further, in case that through holes are formed in the magnetic material, the attachment of the magnetic material to the surface of the fabric is enhanced. Accordingly, it is possible to maintain the attachment of the magnetic material to the fabric for a long period of time and activate the magnetic force generated from the magnetic material.

Industrial Applicability

As apparent from the above description, the present invention provides a method of preparing a body-stimulating synthetic resin, comprising the steps of forming a gel-phase adhesive material by mixing one or more selected from medically effective powdered materials including natural medicines extracted from herbs, jade, ceramic, powdered magnet, powdered gold and silver, and PVC in a proper ratio, forming a thin ink by adding an organic solvent and a thickening agent to the mixture, and printing the adhesive material or coating the ink on a fabric, thus stimulating a wearer's body and being efficacious in preventing and curing geriatric diseases or promoting health of people.


Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

Claims:

- 5 1. A method of preparing a body-stimulating synthetic resin, comprising the step of forming a medically effective gel-phase adhesive material by mixing one or more selected from powdered materials including natural medicines extracted from herbs, chitosan, jade, ceramic, copper and loess in approximately 30~40 % by weight, PVC in approximately 60~70 % by weight, and powdered gold or silver in small quantities.
- 10 2. A method of preparing a body-stimulating synthetic resin, comprising the step of forming a medically effective thin ink by mixing one or more selected from medically effective powdered materials including natural medicines extracted from herbs, chitosan, jade, ceramic, copper, loess and magnetic in approximately 20~30 % by weight, PVC in approximately 50~60 % by weight, powdered gold or silver in small quantities, an organic solvent in approximately 20~30 % by weight, and a thickening agent in approximately of 1~2 % by weight.
- 15 3. The method of preparing a body-stimulating synthetic resin as set forth in claim 1,
wherein the powdered materials include a powdered magnetic material.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR02/01381

A. CLASSIFICATION OF SUBJECT MATTER	
IPC7 D01F 8/00	
According to International Patent Classification (IPC) or to both national classification and IPC	
B. FIELDS SEARCHED	
Minimum documentation searched (classification system followed by classification symbols) IPC7 D01F 1/10, A61N 2/06, A41B 11/00	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched KR, JP : IPC as above	
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)	
C. DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages
X	KR 93-21229 A (NAMGUNG, KYU YOUNG) 22 NOVEMBER 1993(22.11.1993)(Family None) see the whole document
X	KR 20-176636 U (LEE, DONG JAE) 15 APRIL 2000(15.04.2000)(Family None) see the whole document
Y	JP 01-207403 A (HARUMATSUKU K K) 21 AUGUST 1989(21.08.1989)(Family None) see the whole document
Y	JP 03-76801 A (DAIKURE K K) 2 APRIL 1991(02.04.1991)(Family None) see the whole document
Y	JP 08-260230 A (NAKAMURA KENJI) 8 OCTOBER 1996 (08.10.1996)(Family None) see the whole document
A	US 3,976,581 A (THE PROCTER & GAMBLE CO.) 24 AUGUST 1976(24.08.1976) (Family None) see the whole document
A	US 6,211,308 A (HENKEL CORP.) 3 APRIL 2001(03.04.2001)(Family None) see the whole document
	Relevant to claim No.
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Date of the actual completion of the international search	Date of mailing of the international search report
23 APRIL 2003 (23.04.2003)	24 APRIL 2003 (24.04.2003)
Name and mailing address of the ISA/KR	Authorized officer
 Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	HONG, Jae Young Telephone No. 82-42-481-5622
