Title: A HYGIENIC BAND EQUIPPED WITH A MAGNET

Abstract: A hygienic band with magnets attached or built in is disclosed. More particularly, the present invention is related to a hygienic band in which a plurality of weak magnets having magnetism are compactly attached in accordance with a predetermined principle, so as to not only solve or relieve premenstrual syndrome (PMS) including nausea, displeasure, and pains, but also prevent release of menstrual blood in a clot state by loosening clots of the menstrual blood, thereby relieving menstrual pains at each part of the body.
A HYGIENIC BAND EQUIPPED WITH A MAGNET

[Technical Field]

The present invention relates to a hygienic band with magnets attached or built in, and more particularly to a hygienic band in which a plurality of weak magnets are compactly attached or inserted, so as to not only solve premenstrual syndrome (PMS) by promoting blood circulation around the vulva and the womb, but also relieve menstrual pain by preventing release of menstrual blood in a clot state by helping the menstrual blood clots get loosened.

[Background Art]

In general, menstruation of women means bleeding from the endometrium occurring periodically. A hygienic band is used to hygienically dispose of the menstrual blood. The hygienic band generally comprises a waterproof outer cover disposed at a bottom layer to prevent permeation of the menstrual blood, an absorbent layer for absorbing the menstrual blood, an unwoven fabric layer made of a soft material for direct contact with a skin, and a dual-side adhesive tape disposed at the lowermost layer for fixation to underclothes. When a user wears the general hygienic band comprising in which unwoven fabric layer, the absorbent layer, the waterproof outer cover are accumulated in this order, the menstrual blood released from the body is passed through the unwoven fabric layer, soaked into the absorbent layer and then obstructed by the waterproof outer cover. Thus, the hygienic band prevents the menstrual blood from flowing out and staining the underclothes.

However, such a general hygienic band as described above functions only as a cover for preventing leakage of the menstrual blood. In other words, the general
hygienic band does not have any other functions such as relieving menstrual pain or
loosening clots of the menstrual blood when the menstrual blood is released in the clot
state. Therefore, most of menstruating women have been suffering from the menstrual
pain. Nevertheless, they often endure the pain even without taking pills like a
painkiller because the menstrual pain is not a bacterial symptom that requires medication.
Moreover, the clot of menstrual blood brings unpleasant feelings to whom wearing the
hygienic band, thereby deteriorating wearing comfort of the hygienic band.

Meanwhile, it is widely known that magnetic poles (N pole and S pole) have
various positive effects for a human body, including promotion of blood circulation and
metabolism, maintenance and recover of functions of each part of the human body, and
relief of pains. Accordingly, various products such as a magnet bracelet or belt, a
magnet mat, and magnet underclothes that utilize the above effects of the magnet have
been developed and put on the market.

[Disclosure of Invention]

[Technical Problem]

However, there has not been suggested a hygienic band applying a magnet so far.
During menstruation, muscles in the womb shrink to discharge the menstrual blood and
this causes excessive secretion of prostaglandin which is a hormone relevant to this
operation. Since bloodstreams to the other peripheral parts except for the womb are
hindered by the excessive prostaglandin, oxygen may not be favorably and sufficiently
supplied to terminal organs, thereby incurring ischemia at the terminal organs and
dropping the body temperature. Also, the muscle shrinkage and the lack of oxygen
cause the menstrual pain. If the magnet having the positive effects is applied to the
hygienic band, the blood circulation will be promoted by the magnetism and oxygen will
be sufficiently supplied into blood vessels, consequently preventing the drop of body
temperature and relieving the menstrual pain. This theory has been proved through
clinical experiments performed with a number of impregnable women.

【Technical Solution】

5 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 hygienic band attached or built in
with magnets which are known to have various effects such as promoting blood
circulation and metabolism and relieving pain, the hygienic band in which a plurality of
magnets having a coin or thin bar shape or rubber magnets are attached compactly in
such a manner that N poles and S poles are alternately arranged one by one, so as to not
only relieve premenstrual syndrome (PMS) including nausea, displeasure and pains, but
also prevent release of menstrual blood in a clot state by loosening clots of the menstrual
blood, thereby relieving menstrual pains at each part of the body.

【Advantageous Effects】

15 According to the present invention, a plurality of magnets having various effects
such as promotion of blood circulation and metabolism and relief of pain, are
manufactured in the form of a coin or a thin bar and attached or built in a hygienic band
in such a manner that N poles and S poles are alternately arranged one by one.
Magnetism is maximally enhanced through the above arrangement, and therefore PMS
and menstrual pain can be relieved. Also, by loosening clots of menstrual blood
released, an unpleasant feeling can be reduced, thereby improving wearing comfort of
the hygienic band.

【Description of Drawings】

The accompanying drawings illustrate preferred embodiments of the present
invention. This invention may, however, be embodied in different forms and should not be construed as limited to the embodiments set forth in the drawings.

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a perspective view of a hygienic band according to an embodiment of the present invention;

Figs. 2 is a plan view showing the arrangement of magnets attached to or built in the hygienic band;

Figs. 3 is another plan view showing the arrangement of magnets attached to or built in the hygienic band;

Fig. 4 is a longitudinal sectional view of Fig. 2; and

Fig. 5 is a sectional view of an insertion-type hygienic band according to another embodiment of the present invention.

【Best Mode】

Hereinafter, a certain embodiment of the present invention will be described in detail with reference to the accompanying drawings.

Fig. 1 is a perspective view of a hygienic band according to an embodiment of the present invention. Fig. 2 is a plan view showing the arrangement of magnets attached to or built in the hygienic band and Fig. 3 is another plan view showing the arrangement of magnets attached to or built in the hygienic band. Fig. 4 is a longitudinal sectional view of Fig. 3. As shown in Figs. 1 through 3, the hygienic band 1 according to the present invention comprises an unwoven fabric layer 2 made of a soft material for direct contact with a skin, an absorbent layer 3 disposed under the unwoven fabric layer
2 to absorb menstrual blood, a waterproof outer cover 4 disposed under the absorbent layer 2 to prevent the menstrual blood from permeating through and leaking to the outside, and dual-side adhesive tapes 6 and 6a attached to a lower surface of wings 5 and 5a extended from the waterproof outer cover 4, respectively. A dedicated space 7 is formed between the absorbent layer 3 and the waterproof outer cover 4, and a plurality of magnets 8 in the form of a thin bar are compactly built in the space 7. More specifically, the magnets 8 are arranged in a pair of rows in such a manner that the respective magnet pairs are arranged to have opposite poles alternately, for example, in order of N-S, S-N, N-S, S-N and then the same. Coin-type magnets 8a may be used instead of the thin-bar magnets 8. Also, the thin-bar magnets 8 and the coin magnets 8a may be implemented by rubber magnets.

**[Mode for Invention]**

Fig. 4 shows an insertion-type hygienic band, which is called a 'tampon', according to another embodiment of the present invention. The insertion-type hygienic band 1a comprises an unwoven fabric layer 2a made of a soft material for direct contact with a skin, and an absorbent layer 3a disposed at an inner side of the unwoven fabric layer 2a to absorb menstrual blood. A dedicated space 7a is formed inside, that is, between the unwoven fabric layer 2a and the absorbent layer 3a so that a plurality of the magnets 8 in the form of a thin bar can be built in the space 7a. Here, the magnets 8 are arranged in a pair of rows in such a manner that the respective magnet pairs are arranged to have opposite poles alternately, for example, in order of N-S, S-N, N-S, S-N and then the same. The coin-type magnets 8a may be used instead of the thin-bar magnets 8. Also, the thin-bar magnets 8 and the coin magnets 8a may be implemented by rubber magnets.
[Industrial Applicability]

Using the dual-side adhesive tapes 6 and 6a attached to the waterproof outer cover 4 and the wings 5 and 5a extended from the waterproof outer cover 4, a user attaches the above-structured hygienic band to an inside of the underclothes and puts on the underclothes. Here, since the plurality of thin-bar magnets 8 or the coin magnets 8a inserted in the space 7 between the absorbent layer 3 and the waterproof outer cover 4 are formed into thin slices, wearing comfort of the hygienic band is not deteriorated in comparison with conventional hygienic bands. In addition, as well as preventing leakage of the menstrual blood during the wearing which is the function of general conventional hygienic bands, the hygienic band according to the present invention is further capable of reducing the PMS and the menstrual pain by the magnets 8 and 8a inserted in the space 7 between the absorbent layer 3 and the waterproof outer cover 4 because of magnetism of the magnets 8 and 8a that promotes blood circulation and supply of oxygen into blood vessels. Furthermore, the magnets 8 and 8a helps loosen the menstrual blood clots so that the wearing comfort can be improved. These effects are proved through experiments performed with a number of impregnable women.

As to the magnet poles arrangement, more specifically, if the first pair of the magnet rows are arranged in order of N pole and S pole, the second pair are then arranged in order of S pole and N pole, and the third pair are arranged in order of N pole and S pole again to have the opposite poles between the neighboring rows. Thus, by compactly and repetitively arranging weak magnets having relatively weaker magnetism rather than strong magnets, the above effects, that is, promotion of blood circulation and oxygen supply, and relief of various PMS and the menstrual pain, can be expected.

Meanwhile, according to another embodiment, the principle of the present
invention can be applied to the insertion-type hygienic band 1a, which is called a
'tampon' as shown in Fig. 4. Moreover, a pantyliner or a panty (not shown) may adopt
the principle of the present invention for the same effects.

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]

[Claim 1] A hygienic band 1 comprising an unwoven fabric layer 2 made of a soft material for direct contact with the with a skin, an absorbent layer 3 disposed under the unwoven fabric layer 2 to absorb menstrual blood, a waterproof outer cover 4 disposed under the absorbent layer 2 to prevent the menstrual blood from flowing to the outside, and dual-side adhesive tapes 6 and 6a attached to a lower surface of wings 5 and 5a extended from the waterproof outer cover 4, the hygienic band 1 further comprising:

a dedicated space 7 formed between the absorbent layer 3 and the waterproof outer cover 4; and

a plurality of magnets 8 in the form of a thin bar, built in the space 7 and arranged in a pair of rows in such a manner that the respective magnet pairs are arranged to have opposite poles alternately, for example, in order of N-S, S-N, N-S, S-N and then the same.

[Claim 2] The hygienic band according to claim 1, wherein a plurality of coin-type magnets 8a are built in the space 7 formed between the absorbent layer 3 and the waterproof outer cover 4, and arranged in a pair of rows in such a manner that the respective magnet pairs are arranged to have opposite poles alternately, for example, in order of N-S, S-N, N-S, S-N and then the same.

[Claim 3] The hygienic band according to any one of claim 1 and claim 2, wherein a plurality of rubber magnets are built in the space 7 formed between the absorbent layer 3 and the waterproof outer cover 4.
[Claim 4] The hygienic band according to claim 1, comprising an insertion-type hygienic band 1a formed by an unwoven fabric layer 2a and an absorbent layer 3a disposed at an inner side of the unwoven fabric layer 2a, and further comprising:

a dedicated space 7a formed at the inner side between the unwoven fabric layer 2a and the absorbent layer 3a; and

a plurality of thin-bar magnets 8, coin magnets 8a, or rubber magnets attached or built in the space 7a.

[Claim 5] The hygienic band according to claim 1, to which a panty or a pantyliner may be applied.
A. CLASSIFICATION OF SUBJECT MATTER

A61L 15/42(2006.01)i

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)

IPC 8 : A61L 15/18, 15/48, A41B 9/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR : IPC AS ABOVE

Electronic data base consulted during the interntutional search (name of data base and, where practicable, search terms used)
eKIPASSS (KIPO internal) "KEY WORDS : SANITARY NAPKIN, MAGNETIC, SILICA, AND SIMILAR TERMS"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
</table>

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:
  "A" document defining the general state of the art which is not considered to be of particular relevance
  "E" earlier application or patent but published on or after the international filing date
  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
  "O" document referring to an oral disclosure, use, exhibition or other means
  "P" document published prior to the international filing date but later than the priority date claimed

"P" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
05 FEBRUARY 2007 (05.02.2007)

Date of mailing of the international search report
07 FEBRUARY 2007 (07.02.2007)

Name and mailing address of the ISA/KR
Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea
Faesimilie No. 82-42-472-7140

Authorized officer
KIM, JUNG HEE
Telephone No. 82-42-481-8191

Form PCT/ISA/210 (second sheet) (April 2005)
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>KR 10-2001-0104509 A</td>
<td>26 NOV 2001</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>WO 0208393 A1</td>
<td>24 OCT 2002</td>
</tr>
<tr>
<td>KR 20-0235296 Y1</td>
<td>11 JUN 2001</td>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>

Form PCT/ISA/210 (patent family annex) (April 2005)