
Title

FAR INFRARED ANION COMPLEX SANITARY NAPKIN AND PAD

Background of the Present Invention

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Field of Invention

The present invention involves a kind of sanitary napkin and pad, especially a far infrared anion complex sanitary napkin and pad.

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Background of Related Arts

According to the investigation, the majority of women contract varying degrees of the gynecological inflammation. The genital itch is caused by easy infection of candida albicans, which is due to the hormonal change during menstruation that causes the decrease of the acidity in the vagina, on top of the impermeability of the sanitary napkin, and the poor air circulation in the vaginal area turning the vagina into a culture medium for bacteria. This symptom is worse during the sultry and humid weather. The menstruation also sends out unpleasant smell that greatly affects female's daily life and work. Therefore, the functions about anti-inflammation and deodorization for the sanitary napkin are gaining more and more public's attention. At present, regarding the solution for anti-inflammation and deodorization effects on the sanitary napkin, the most common practice is to add anti-inflammation medicine directly onto the sanitary napkin. However, when using this kind of sanitary napkin, the medicine directly affects the surrounding area of the vagina which may

cause allergic reaction, some side effects or discomfort to the contacted area. The menstruation may also reduce the efficacy of the medicine. As a result, this kind of sanitary napkin is not suitable for wide application.

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Summary of the Present Invention

The present invention is to provide a far infrared anion complex sanitary napkin and pad with good effects of sterilization, anti-inflammation, and deodorization without
10 irritation.

The present invention is implemented through the following technology plan:

The present invention discloses a far infrared anion complex sanitary napkin and pad comprising multi-layer structure,
15 from upper to lower layer, including a web layer, an absorbent layer, a waterproof coating layer, and an adhesive layer. Wherein all layers are stuck firmly together characterized by: comprising a floral essential layer and a far infrared anion fiber layer attached together firmly. The said floral
20 essential layer is paper/fabric layer soaked with extracted floral essential solution; the said far infrared anion fiber layer is weaved of mixing anion mother grain, far infrared mother grain, and homopolymer carrier or spinning liquid. The anion mother grain is comprised of nano grade mineral powder
25 (diameter less than 10nm) that activates anion in the air. The far infrared mother grain is comprised of nano grade mineral powder (diameter less than 10nm) that activates far infrared. Both anion mother grain and far infrared grain hold 8-10 percent of total weight respectively.

30 The said nano grade mineral powder is nano grade tourmaline

micro-powder (diameter less than 10nm) that activates anions in the air. The nano grade mineral powder is nano grade far infrared ceramic micro-powder (diameter less than 10nm) which activates far infrared. The said far infrared anion fiber
5 layer automatically releases anions and far infrared. Comparing the far infrared anion fiber with the conventional surface coating method, the far infrared produced by this kind of fiber has better durability. When the far infrared mother grain becomes humid upon contacting with human body, it
10 releases the far infrared that penetrates the subcutaneous tissue of human body. The far infrared enhances human body's micro-circulatory system, the metabolism and the immunity. Anions also have good disinfecting effect. Negative oxygen ions have higher activity that can destruct the cell membrane
15 of the bacterium or the activity of the protoplasm enzyme. Moreover, once the anions bond with the bacteria, the bacterial structure is changed, or the energy is converted which leads to bacteria death and disables the ability to produce new bacterin. Thus, it serves the purposes of
20 disinfection and sterilization. Anion powder can ionize the air, and it also has the thermoelectric and piezoelectric characteristics. Therefore, under minor changes of temperature and pressure, it creates the voltage difference between anion crystals. The static voltage could be up to one
25 million volts which will create an electric field. The high voltage ionizes the air in the electric field, and the electrons that are hit will stick to nearby water and oxygen molecules, which transform to air anions, which are negative hydrogen ion and negative oxygen ion. Both negative ions have

the features of disinfection, sterilization, and prevention of many gynecological diseases. Anion lining has the advantages of softness, water resistance, and obvious effect of anion. Especially with added infrared emission material, the far infrared anion fibers can produce anion and infrared that will improve the blood circulation, aid in sleep, and enhance the health benefits of the product. Therefore, utilizing this technology on the sanitary napkin and pad will help to improve the micro-circulation around the vagina, to increase the amount of biological enzyme, to increase the acidic secretion in the vagina, and to adjust the PH value. All these effects are beneficial to female's health.

The floral essential solution is made from a floral mixture which is calculated by weight percentage -- lily 3~8, honeysuckle 8~14, chrysanthemum 3~8, peony 4~9, Chinese rose 3~8, clove 2~6, neryl 3~8, flos farfarae 1~6, lotus 3~8, jasmine, 8~16, rose 5~10, paeoniflorin 6~10, flos albiziae 3~8, yellow plum 3~6, peppermint 5~12, licorice 4~10, mugwort 3~8, sweetflag 4~8, lavender 3~12, and lemongrass 2~10. The mixture is going through extraction to obtain blended essential oil; then it's diluted to 1000~1200 times. The floral essential solution has the features of antibacterial, sterilization, and skin benefits. It also has the ability to increase the amount of oxygen that anion can carry, which prominently manifests the idea of health.

The far infrared anion complex sanitary napkin and pad also includes a Chinese herbal essential layer. The Chinese herbal essential layer is paper/fabric layer soaked with Chinese herbal essential solution.

The Chinese herbal essential solution is made from a mixture

of Chinese herbs which are calculated by weight percentage
-- habitat 5~12, scrophulariaceous 8~16, angelica 4~8,
honeysuckle 8~16, forsythia 5~12, baicalin 5~12, red paeony
4~8, tree paeony bark 5~12, poria 5~12, licorice 1~5,
5 kurarinone 6~15, common cnidium fruit 12~18, belvedere fruit
12~18, densefruit pittany root-bark 12~18, pricklyash peel
4~8, halite 1~4. The mixture is then cooked, filtered, and
purified to obtain the Chinese herbal essential solution. The
Chinese herbal essential solution has remarkable beneficial
10 effects on female's outer genital itch, abnormal leucorrhea,
and vaginitis.

Nano-silver and bamboo vinegar or bamboo charcoal are added
into the absorbent layer. The addition includes nano-silver
(diameter less than 20nm) 0.01~5, bamboo vinegar 0.1~10, or
15 bamboo charcoal 0.1~10. The amount of the nano-silver on the
absorbent layer is 1~400 μ g/cm². The nano-silver has the
characteristics of durable effects, wide spectrum, strong
antibacterial effect, better stabilization, better effect
upon interacting with water, non-toxic, and no pollution to
20 the environment. The more important is that it has the ability
to release far infrared, which would work with the far infrared
anion fiber layer in the sanitary napkin and pad to improve
the effect of sterilization, anti-inflammation and
deodorization. The ethanol material in the bamboo vinegar has
25 the features of skin cleansing and sterilization. Therefore,
the bamboo vinegar has the benefits of sterilization, itch
relief, and deodorization. The acetic acid, ethyl oxide, and
alcohol in the bamboo charcoal have the benefits of
deodorization, disinfection, and moisture absorption.

The paper/fabric layer is tissue layer, non-woven fabric layer or puffy cotton layer.

The floral essential layer is below the web layer and above the far infrared anion fiber layer.

- 5 The Chinese herbal essential layer is above the absorbent layer and below the far infrared anion fiber layer.

The adhesive layer is stripe interrupted adhesive layer. Such design improves airflow.

- The advantages of present invention are: (1) the floral
10 essential solution not only has the features of sterilization, anti-inflammation, and skin benefits, but also blocks the medicine in the lower layer to directly irritate the contacted skin; (2) the floral essential layer sticking firmly with the far infrared anion fiber layer has the ability to increase
15 the amount of oxygen that anion can carry, which is beneficial to female's health; (3) the Chinese herbal essential solution has a remarkable beneficial effect on female's outer genital itch, abnormal leucorrhea, and vaginitis; (4) the far infrared mother grain in the far infrared anion fiber layer facilitates
20 the micro-circulation around the vagina, increase the amount of biological enzyme, the acidic secretion in the vagina, adjust the PH value, and increase the immunity of female's body. The anion launched from anion mother grain has the features of disinfection, sterilization, and prevent many
25 gynecological diseases. (5) The additional nano-silver and bamboo vinegar or bamboo charcoal in the absorbent layer have the features of sterilization, anti-inflammation, and deodorization. The effect would be greatly enhanced when using with far infrared anion fiber layer in the sanitary napkin
30 and pad; (6) when comparing the far infrared anion fiber with

the conventional surface coating method, the fiber producing far infrared has better durability.

Brief Description of the Drawings

- 5 Fig. 1 is the new structure scheme of the present invention;
Fig. 2 is the sectional scheme of the far infrared anion complex sanitary napkin and pad in Implementations 1, 3, and 5;
Fig. 3 is the sectional scheme of the far infrared anion complex sanitary napkin in Implementations 2, 4, and 6;
10 Fig. 4 is the sectional scheme of the far infrared anion complex sanitary napkin and pad in Implementation 7;
Fig. 5 is the sectional scheme of the far infrared anion complex sanitary napkin and pad in Implementation 8.

15 Implementation

Implementation 1: Fig 1 and 2 are demonstrating a multi complex structure of the far infrared anion complex sanitary napkin and pad. From upper to lower layer, it includes a web layer 1, a floral essential layer 2, a far infrared anion fiber layer 3, a Chinese herbal essential layer 4, an absorbent layer 5,
20 3, a Chinese herbal essential layer 4, an absorbent layer 5, a waterproof coating layer 6, and an adhesive layer 7. All layers are stuck firmly together.

The floral essential layer 2 is non-woven fabric soaked with the extracted floral essential solution. The floral
25 essential solution is made from a floral mixture which is calculated by weight percentage -- lily 5, honeysuckle 9, chrysanthemum 4, peony 6, Chinese rose 5, clove 2, neryl 4, flos farfarae 5, lotus 6, jasmine, 10, rose 8, paeoniflorin 7, flos albiziae 4, yellow plum 5, peppermint 8, licorice 6,

mugwort 5, sweetflag 6, lavender 8, and lemongrass 6. The mixture is going through extraction to obtain blended essential oil; then it's diluted to 1000 times. The floral essential solution has the features of disinfection, sterilization, and skin benefits. It also has the ability to increase the amount of oxygen that anion can carry. The said Chinese herbal essential layer 4 is non-woven fabric soaked with the extracted Chinese herbal essential solution. The said Chinese herbal essential solution is made from a mixture of Chinese herbs which are calculated by weight percentage -- habitat 9, scrophulariaceous 12, angelica 6, honeysuckle 12, forsythia 9, baicalin 9, redpaeony 6, tree paeony bark 9, poria 9, licorice 3, kurarinone 10, common cnidium fruit 15, belvedere fruit 15, densefruit pittany root-bark 15, pricklyash peel 6, halite 2. The mixture is then cooked, filtered, and purified to obtain the Chinese herbal essential solution. The Chinese herbal essential solution has a remarkable beneficial effect on female's outer genital itch, abnormal leucorrhea, and vaginitis.

The said far infrared anion fiber layer 3 is weaved of mixing anion mother grain, far infrared mother grain, and homopolymer carrier or spinning liquid. The anion mother grain is comprised of nano grade tourmaline micro-powder that activates anions in the air. The far infrared mother grain is comprised of nano grade far infrared ceramic micro-powder that activates far infrared. Both anion mother grain and far infrared grain hold 9 percent of total weight respectively. The far infrared anion fiber layer 3 can automatically release anion and far infrared.

The absorbent layer 5 is added with nano-silver and bamboo charcoal. The additives include 0.1 portion of nano-silver (diameter less than 20nm), 1 portion of bamboo vinegar, and 1 portion of bamboo charcoal. The amount of the nano-silver
5 adhered to the absorbent layer is 80 μ g/cm².

The adhesive layer 7 is stripe interrupted adhesive layer. Such design improves airflow.

Implementation 2: As the far infrared anion complex sanitary napkin and pad shown in Fig 3, the discrepancy between this
10 implementation and Implementation 1 is the Chinese herbal essential layer 4 is omitted.

Implementation 3: Fig 1 and 2 demonstrate a multi-complex structure of the far infrared anion complex sanitary napkin and pad. From upper to lower layer, it includes a web layer
15 1, a floral essential layer 2, a far infrared anion fiber layer 3, a Chinese herbal essential layer 4, an absorbent layer 5, a waterproof coating layer 6, and an adhesive layer 7. All layers are stuck firmly together.

The floral essential layer 2 is puffy cotton layer that soaked
20 with extracted floral essential solution. The floral essential solution is made from a floral mixture which is calculated by weight percentage -- lily 3, honeysuckle 8, chrysanthemum 3, peony 4, Chinese rose 3, clove 2, neryl 3, flos farfarae 1, lotus 3, jasmine 8, rose 5, paeoniflorin 6,
25 flos albiziae 3, yellow plum 3, peppermint 5, licorice 4, mugwort 3, sweetflag 4, lavender 3, and lemongrass 2. The mixture is going through extraction to obtain blended essential oil; then it's diluted to 1200 times. The floral essential solution has the features of disinfection,

sterilization, and skin benefits. It also has the ability to increase the amount of oxygen that anion can carry; the Chinese herbal essential layer 4 is puffy cotton layer soaked with extracted Chinese herbal essential solution. The Chinese
5 herbal essential solution is made from a mixture of Chinese herbs which are calculated by weight percentage -- habitat 5, scrophulariaceae 8, angelica 4, honeysuckle 8, forsythia 5, baicalin 5, red paeony 4, tree paeony bark 5, poria 5, licorice 1, kurarinone 6, common cnidium fruit 12, belvedere
10 fruit 12, densefruit pittany root-bark 12, pricklyash peel 4, halite 1. The mixture is then cooked, filtered, and purified to obtain the Chinese herbal essential solution. The Chinese herbal essential solution has a remarkable beneficial effects on female's outer genital itch, abnormal leucorrhea, and
15 vaginitis.

The far infrared anion fiber layer 3 is weaved of mixing anion mother grain, far infrared mother grain, and homopolymer carrier or spinning liquid. The anion mother grain is comprised of nano grade tourmaline micro-powder that
20 activates anions in the air. The far infrared mother grain is comprised of nano grade far infrared ceramic micro-powder that activates far infrared. Both anion mother grain and far infrared grain hold 8 percent of total weight respectively. The far infrared anion fiber layer 3 can automatically release
25 anion and far infrared.

The absorbent layer 5 is added with nano-silver and bamboo charcoal. The additives include 0.01 portion of nano-silver (diameter less than 20nm) and 0.1 portion of bamboo charcoal. The amount of the nano-silver adhered to the absorbent layer

is 5 μ g/cm².

The adhesive layer 7 is stripe interrupted adhesive layer. Such design improves airflow.

Implementation 4: As the far infrared anion complex sanitary napkin and pad shown in Fig 3, the discrepancy between this implementation and Implementation 3 is the Chinese herbal essential layer 4 is omitted.

Implementation 5: Fig. 1 and 2 demonstrate a multi-complex structure of the far infrared anion complex sanitary napkin and pad. From upper to lower layer, it includes a web layer 1, a floral essential layer 2, a far infrared anion fiber layer 3, a Chinese herbal essential layer 4, an absorbent layer 5, a waterproof coating layer 6, and an adhesive layer 7. All layers are stuck firmly together.

15 The floral essential layer 2 is puffy cotton layer soaked with extracted floral essential solution. The said floral essential solution is made from a floral mixture which is calculated by weight percentage -- lily 3, honeysuckle 8, chrysanthemum 3, peony 4, Chinese rose 3, clove 2, neryl 3, flos farfarae 1, lotus 3, jasmine 8, rose 5, paeoniflorin 6, flos albiziae 3, yellow plum 3, peppermint 5, licorice 4, mugwort 3, sweetflag 4, lavender 3, and lemongrass 2. The mixture is going through extraction to obtain blended essential oil; then it's diluted to 1100 times. The floral essential solution has the features of disinfection, sterilization, and skin benefits. It also has the ability to increase the amount of oxygen that anion can carry. The Chinese herbal essential layer 4 is puffy cotton layer soaked with extracted Chinese herbal essential solution. The Chinese herbal essential solution is made from a mixture of Chinese

herbs which are calculated by weight percentage -- habitat 5, scrophulariaceae 8, angelica 4, honeysuckle 8, forsythia 5, baicalin 5, red paeony 4, tree paeony bark 5, poria 5, licorice 1, kurarinone 6, common cnidium fruit 12, belvedere fruit 12, densefruit pittany root-bark 12, pricklyash peel 4, halite 1. The mixture is then cooked, filtered, and purified to obtain the Chinese herbal essential solution. The Chinese herbal essential solution has a remarkable beneficial effects on female's outer genital itch, abnormal leucorrhea, and vaginitis.

The far infrared anion fiber layer 3 is weaved of mixing anion mother grain, far infrared mother grain, and homopolymer carrier or spinning liquid. The anion mother grain is made of nano grade tourmaline micro-powder that activates anions in the air. The far infrared mother grain is made of nano grade far infrared ceramic micro-powder that activates far infrared. Both anion mother grain and far infrared grain hold 10 percent of total weight respectively. The far infrared anion fiber layer 3 can automatically release anion and far infrared.

The absorbent layer 5 is added with nano-silver and bamboo charcoal. The additives include 5 portion of nano-silver (diameter less than 20nm), 10 portion of bamboo vinegar, and 10 portion of bamboo charcoal. The amount of the nano-silver adhered to the absorbent layer is 400µg/cm².

The adhesive layer 7 is stripe interrupted adhesive layer. Such design improves airflow.

Implementation 6: As the far infrared anion complex sanitary napkin and pad shown in Fig 3, the discrepancy between this implementation and Implementation 5 is the Chinese herbal essential layer 4 is omitted.

Implementation 7: As shown in Fig. 4, the discrepancy between this implementation and Implementation 1 is: The structure of the far infrared anion complex sanitary napkin and pad from upper to lower layers are: a web layer 1, a far infrared anion
5 fiber layer 3, a floral essential layer 2, a Chinese herbal essential layer 4, an absorbent layer 5, a waterproof coating layer 6, and an adhesive layer 7.

Implementation 8: As the far infrared anion complex sanitary napkin and pad shown in Fig 3, the discrepancy between this
10 implementation and Implementation 7 is the Chinese herbal essential layer 4 is omitted.

The present invention is not restricted to above implementations only. As long as the implementations are mentioned in this specification, it can be implemented.

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What is claimed is:

1. A far infrared anion complex sanitary napkin and pad comprising multi-layer structure, from upper to lower layer, including a web layer, an absorbent layer, a waterproof
5 coating layer, and an adhesive layer wherein all layers are stuck firmly together characterized by: comprising a floral essential layer and a far infrared anion fiber layer attached together firmly; said floral essential layer is paper/fabric layer soaked with extracted floral essential solution; said
10 far infrared anion fiber layer is weaved of mixing anion mother grain, far infrared mother grain, and homopolymer carrier or spinning liquid; said anion mother grain comprising nano grade mineral powder that activates anion in the air; said far infrared mother grain comprising nano grade mineral powder
15 that activates far infrared; both said anion mother grain and said far infrared grain hold 8-10 percent of total weight respectively.

2. The far infrared anion complex sanitary napkin and pad
20 according to Claim 1, wherein said far infrared anion complex sanitary napkin and pad is characterized by said nano grade mineral powder which activates anion in the air is nano grade tourmaline micro-powder, and said nano grade mineral powder which activates far infrared is nano grade far infrared
25 ceramic micro-powder.

3. The far infrared anion complex sanitary napkin and pad according to Claim 1, wherein said far infrared anion complex sanitary napkin and pad is characterized by said floral
30 essential solution made from a floral mixture which is

calculated by weight percentage -- lily 3~8, honeysuckle 8~14, chrysanthemum 3~8, peony 4~9, Chinese rose 3~8, clove 2~6, neryl 3~8, flos farfarae 1~6, lotus 3~8, jasmine, 8~16, rose 5~10, paeoniflorin 6~10, flos albiziae 3~8, yellow plum 3~6, 5 peppermint 5~12, licorice 4~10, mugwort 3~8, sweetflag 4~8, lavender 3~12, and lemongrass 2~10; said floral mixture is going through extraction to obtain blended essential oil; then said blended essential oil is diluted to 1000~1200 times.

10 4. The far infrared anion complex sanitary napkin and pad according to Claim 1, wherein said far infrared anion complex sanitary napkin and pad comprises said Chinese herbal essential layer; said Chinese herbal essential layer is paper/fabric layer soaked with Chinese herbal essential 15 solution.

5. The far infrared anion complex sanitary napkin and pad according to Claim 4, wherein said far infrared anion complex sanitary napkin and pad is characterized by said Chinese 20 herbal essential solution is made from a mixture of Chinese herbs which are calculated by weight percentage -- habitat 5~12, scrophulariaceae 8~16, angelica 4~8, honeysuckle 8~16, forsythia 5~12, baicalin 5~12, red paeony 4~8, tree paeony bark 5~12, poria 5~12, licorice 1~5, kurarinone 6~15, common 25 cnidium fruit 12~18, belvedere fruit 12~18, dense fruit pittany root-bark 12~18, prickly ash peel 4~8, halite 1~4; said mixture of Chinese herbs is then cooked, filtered, and purified to obtain said Chinese herbal essential solution.

6. The far infrared anion complex sanitary napkin and pad according to Claim 1, 2, 3, 4, or 5, wherein said far infrared anion complex sanitary napkin and pad is characterized by said absorbent layer is added with nano silver and bamboo vinegar
5 or bamboo charcoal.

7. The far infrared anion complex sanitary napkin and pad according to Claim 6, wherein said far infrared anion complex sanitary napkin and pad is characterized by additives include
10 0.001~5 portion of said nano silver (diameter less than 20nm), 0.1~10 portion of said bamboo vinegar, or 0.1~10 portion of said bamboo charcoal; amount of said nano silver adhered to said absorbent layer is 1~400 μ g/cm².

15 8. The far infrared anion complex sanitary napkin and pad according to Claim 7, wherein said far infrared anion complex sanitary napkin and pad comprises said paper/fabric layer which is tissue layer, non-woven layer or puffy cotton layer.

20 9. The far infrared anion complex sanitary napkin and pad according to Claim 8, wherein said far infrared anion complex sanitary napkin and pad is characterized by said floral essential layer is below said web layer and above said far infrared anion fiber layer.

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10. The far infrared anion complex sanitary napkin and pad according to Claim 9, wherein said far infrared anion complex sanitary napkin and pad is characterized by said Chinese herbal essential layer is above said absorbent layer and below
30 said far infrared anion fiber layer.