

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

13 NOV 2018

Applicant's or agent's file reference
32.0001.WO01

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US 18/48382

International filing date (day/month/year)

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Priority date (day/month/year)

29 August 2017 (29.08.2017)

International Patent Classification (IPC) or both national classification and IPC

IPC(8) - A61N 1/16, C01D 3/22, H05K 9/00 (2018.01)

CPC - H05K 9/0081, H05K 9/0088

Applicant **BREAKWALL TECHNOLOGY LLC**

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300	Date of completion of this opinion 22 October 2018	Authorized officer Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774
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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
- the international application in the language in which it was filed.
 - a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a)).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
- a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- the entire international application.
- claims Nos. 5-9, 12-49, 53, 57, 62-71, 76

because:

- the said international application, or the said claims Nos. _____ relate to the following subject matter which does not require an international search (*specify*):

- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 5-9, 12-49, 53, 57, 62-71, 76 are so unclear that no meaningful opinion could be formed (*specify*):

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

- the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

- no international search report has been established for said claims Nos. 5-9, 12-49, 53, 57, 62-71, 76

- a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

- furnish a sequence listing in the form of an Annex C/ST.25 text file, and such listing was not available to the International Searching Authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.

- furnish a sequence listing on paper or in the form of an image file complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.

- pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rule 13^{ter}.1(a) or (b).

- See Supplemental Box for further details.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>3-4, 11, 50-52, 54-56, 60-61, and 73-75</u>	YES
	Claims	<u>1-2, 10, 58-59, and 72</u>	NO
Inventive step (IS)	Claims	<u>none</u>	YES
	Claims	<u>1-4, 10-11, 50-52, 54-56, 58-61, and 72-75</u>	NO
Industrial applicability (IA)	Claims	<u>1-4, 10-11, 50-52, 54-56, 58-61, and 72-75</u>	YES
	Claims	<u>none</u>	NO

2. Citations and explanations:

Claim 1 lacks novelty under PCT Article 33(2) as being anticipated by US 2002/0179860 A1 to Smith (hereinafter 'Smith').

Regarding claim 1, Smith teaches a composition (para [0005], 'light, flexible (or elastic) radiation shielding material... that provides effective radiation attenuation') comprising an electromagnetic reduction material (para [0005], 'comprises ... a metal'; para [0011], 'The metal is selected to provide effective radiation attenuation to the radiation shielding material') and a polymer (para [0005], 'The radiation shielding material comprises a rubber component'; para [0011], 'the rubber is selected to provide sufficient flexibility to the radiation shielding').

Claim 2 lacks novelty under PCT Article 33(2) as being anticipated by US 2009/0214810 A1 to Smirnov (hereinafter 'Smirnov')

Regarding claim 2, Smirnov teaches an electromagnetic protection device (para [0009], 'housing for an electronic device that emits electromagnetic radiation is provided ... that protect the user against incident electromagnetic radiation') comprising: a. an object capable of emanating electromagnetic radiation (para [0009], 'Examples of electronic devices that may benefit from the housing include wireless telephones, cordless telephones, audio players such as MP3 players and others, wireless headsets, headphones, computers, televisions and the like'; para [0031], 'a cellular telephone housed in a polymeric material of the present invention'), b. an electromagnetic reduction material encompassing the object (para [0009], 'The housing, upon exposure to incident electromagnetic radiation, emits subtle electromagnetic oscillations at probiotic frequencies that protect the user against incident electromagnetic radiation'), said electromagnetic reduction material comprising an inorganic salt (para [0009], 'The housing includes ... barium sulfate, and magnesium sulfate') and a polymer (para [0009], 'The housing includes a polymeric material including a polyamide').

Claims 10 and 72 lack novelty under PCT Article 33(2) as being anticipated by KR 10-0917318 B1 to Park (hereinafter 'Park'; references to Park hereinafter are taken from a machine-translation of the document to English).

Regarding claim 10, Park teaches an electromagnetic reduction material (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... 'the harmful-wave-shielding composition comprises ...') comprising Himalayan salt (pg 6 para 2, 'comprises ... rock salt'; pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function') and a glass (pg 6 para 2, 'comprises ... fumed silica').

Regarding claim 72, Park teaches an electromagnetic reduction material (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... 'the harmful-wave-shielding composition comprises ...') comprising a glass (pg 6 para 2, 'comprises ... fumed silica') wherein Himalayan salt is blended with the glass (pg 6 para 2, 'comprises ... rock salt ... fumed silica ... mixed'; pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'; pg 9 para 1, 'The harmful-wave shielding composition according to the present invention is prepared by mixing the above-mentioned components').

Claims 58-59 lack novelty under PCT Article 33(2) as being anticipated by DE 20-2006-013063 U1 to Optativus GmbH (hereinafter 'Optativus'; references to Optativus hereinafter are taken from a machine-translation of the document to English).

Regarding claim 58, Optativus teaches an electromagnetic protection device (pg 3 para 5, 'therapeutic device ... to effect a bioenergetic irradiation of the human body, which acts essentially positively on the aura of a human being') comprising a multi-film layer (pg 13 para 2, '[Figure] 1 shows a cross section'; Figure 1 illustrates that the device is a stack of layers) of Himalayan salt (pg 11 para 3, 'a special form of halite is used, namely the crystal-clear, cube shaped crystals ... often referred to as the so-called "Himalayan salt"'); pg 13 para 4, 'the frame (7) has a cavity which is filled with halites (2) and / or other crystals or gemstones') and a polymer film (pg 14 para 1, 'The glass wall (4) has a coating (3) which has a light-scattering effect ... coating and films of perfluorinated hydrocarbons, such as. As polytetrafluoroethylene with a very low interfacial energy suitable').

Regarding claim 59, Optativus teaches the electromagnetic protection device of claim 58, and further teaches there is one Himalayan salt film (pg 11 para 3, 'a special form of halite is used, namely ... "Himalayan salt"'); pg 13 para 4, 'the frame (7) has a cavity which is filled with halites'; Figure 1, illustrating that there is exactly one salt layer (7)) and one polymer film (pg 14 para 1, 'The glass wall (4) has a coating (3) ... of perfluorinated hydrocarbons, such as... polytetrafluoroethylene'; Figure 1, illustrating that there is exactly one polymer layer (3)).

**** Continued in the Supplemental Box below ****

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 51: '... wherein the polymer is PC/ABS' lacks clarity because the acronym is not defined. For the purpose of completing this ISR, claim 51 is interpreted as '... wherein the polymer is polycarbonate, acrylonitrile-butadiene-styrene, or a combination thereof'.

Claims 51 and 52 depends improperly from claims appearing later than themselves. For the purpose of completing this ISR, Claims 51 and 52 and interpreted as depending from claims 50 and 51 respectively.

Claim 60: 'a polymer film layer in between each layer of Himalayan salt' lacks clarity, because the meaning of 'between' can only be established in reference to two or more things. For the purpose of completing this ISR, claim 60 is interpreted as '... with a polymer film layer in between each neighboring pair of layers of Himalayan salt'.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:
Box V(2) Citations and Explanations:

Claims 73-75 lack an inventive step under PCT Article 33(3) as being obvious over Park.

Regarding claim 73, Park teaches the electromagnetic protection device of claim 72. Park does not teach the percent by mass of Himalayan salt is between about 1 % and about 20%. It would have been obvious to one of ordinary skill in the art to determine an optimal proportion of Himalayan salt as a matter of routine experimentation.

Regarding claim 74, Park teaches the electromagnetic protection device of claim 72. Park does not teach the percent by mass of Himalayan salt is between about 5 % and about 20%. It would have been obvious to one of ordinary skill in the art to determine an optimal proportion of Himalayan salt as a matter of routine experimentation.

Regarding claim 75, Park obviates the electromagnetic protection device of claim 74. Park does not teach the percent by mass of Himalayan salt is about 10%. It would have been obvious to one of ordinary skill in the art to determine an optimal proportion of Himalayan salt as a matter of routine experimentation.

Claims 3, 4, 50, and 54-56 lack an inventive step under PCT Article 33(3) as being obvious over Smirnov, in view of Park.

Regarding claim 3, Smirnov teaches the electromagnetic reduction material of claim 2. Smirnov does not teach the inorganic salt comprises sodium chloride. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising: an electromagnetic reduction material (pg 6 para 2, 'the harmful-wave-shielding composition comprises ...'), said electromagnetic reduction material comprising an inorganic salt wherein the salt is sodium chloride (pg 6 para 2, 'comprises ... rock salt'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Smirnov by incorporating the particular salt taught by Park, because Smirnov is directed to an electromagnetic protection device that leverages the electromagnetic-protective properties of salt, and Park teaches a salt composition purported to have improved electromagnetic-protective properties.

Regarding claim 4, Smirnov teaches the electromagnetic reduction material of claim 2. Smirnov does not teach the inorganic salt is Himalayan salt. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising: an electromagnetic reduction material (pg 6 para 2, 'the harmful-wave-shielding composition comprises ...'), said electromagnetic reduction material comprising an inorganic salt (pg 6 para 2, 'comprises ... rock salt'), wherein the inorganic salt is Himalayan salt (pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Smirnov by incorporating the particular salt taught by Park, because Smirnov is directed to an electromagnetic protection device that leverages the electromagnetic-protective properties of salts, and Park teaches a salt purported to have particularly good electromagnetic-protective properties.

Regarding claim 50, Smirnov teaches an electromagnetic protection device (para [0009], 'housing for an electronic device that emits electromagnetic radiation is provided ... that protect the user against incident electromagnetic radiation') comprising: a. an object capable of emanating electromagnetic radiation (para [0009], 'Examples of electronic devices that may benefit from the housing include wireless telephones, cordless telephones, audio players such as MP3 players and others, wireless headsets, headphones, computers, televisions and the like'; para [0031], 'a cellular telephone housed in a polymeric material of the present invention'), b. an electromagnetic reduction material encompassing the object (para [0009], 'The housing, upon exposure to incident electromagnetic radiation, emits subtle electromagnetic oscillations at probiotic frequencies that protect the user against incident electromagnetic radiation'), said electromagnetic reduction material comprising an inorganic salt (para [0009], 'The housing includes ... barium sulfate, and magnesium sulfate') and a polymer (para [0009], 'The housing includes a polymeric material including a polyamide'). Smirnov does not teach the inorganic salt is Himalayan salt. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising: an electromagnetic reduction material (pg 6 para 2, 'the harmful-wave-shielding composition comprises ...'), said electromagnetic reduction material comprising an inorganic salt (pg 6 para 2, 'comprises ... rock salt'), wherein the inorganic salt is Himalayan salt (pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Smirnov by incorporating the particular salt taught by Park, because Smirnov is directed to an electromagnetic protection device that leverages the electromagnetic-protective properties of salts, and Park teaches a salt purported to have particularly good electromagnetic-protective properties.

***** Continued in the Supplemental Box below *****

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:
Box V(2) Citations and Explanations:

Regarding claim 54, Smimov teaches an electromagnetic protection device (para [0009], 'housing for an electronic device that emits electromagnetic radiation is provided ... that protect the user against incident electromagnetic radiation') comprising: a. an object capable of emanating electromagnetic radiation (para [0009], 'Examples of electronic devices that may benefit from the housing include wireless telephones, cordless telephones, audio players such as MP3 players and others, wireless headsets, headphones, computers, televisions and the like'; para [0031], 'a cellular telephone housed in a polymeric material of the present invention'), b. a polymer comprising between about 1 % and about 20% salt (para [0009], 'The housing includes a polymeric material including a polyamide, barium sulfate, and magnesium sulfate in an amount suitable to reduce exposure to such radiation'; para [0019]-[0020], 'In another embodiment the ratio of barium sulfate to polyamide is about 10-15 grams per 100 grams of polyamide ... the ratio of magnesium sulfate to polyamide is 3-7 grams per 100 grams polyamide'; the range of salt concentrations thus described is between 13/113 and 22/122, ~12-18 wt%), wherein the electromagnetic radiation emanating from the object is reduced by the polymer (para [0009], 'The housing, upon exposure to incident electromagnetic radiation, emits subtle electromagnetic oscillations at probiotic frequencies that protect the user against incident electromagnetic radiation'; para [0041], 'demonstrates the ability of the polymeric material of the present invention to reduce the effects of electromagnetic radiation ... using a variety of wireless mobile phones'; para [0045], 'polymeric material protected the "phantom head" against the intensity of the electromagnetic radiation'). Smimov does not teach the salt is Himalayan salt. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising Himalayan salt (pg 6 para 2, 'comprises ... rock salt'; pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Smimov by incorporating the particular salt taught by Park, because Smimov is directed to an electromagnetic protection device that leverages the electromagnetic-protective properties of salts, and Park teaches a salt purported to have particularly good electromagnetic-protective properties.

Regarding claim 55, Smimov and Park teaches the electromagnetic protection device of claim 54, and Smimov further teaches the polymer may be formed to the desired shape (para [0023], 'the polymeric materials of the present invention may be cast or molded ... in any suitable size or shape using known casting or molding techniques') and may be formed to cover just one side of an electronic device (para [0024], 'In some embodiments the polymeric material does not make up the entire housing but instead only a portion of the housing ... the front, back, top, bottom, side or any portion thereof'). Smimov does not specifically teach forming the polymer into a plaque. It would have been obvious to one of ordinary skill in the art, when implementing the molding of a polymer into a shape that would shield a single side of an electronic device, to mold the polymer into a plaque as a matter of routine optimization.

Regarding claim 56, Smimov teaches an electromagnetic protection device (para [0009], 'housing for an electronic device that emits electromagnetic radiation is provided ... that protect the user against incident electromagnetic radiation') comprising a polymer comprising between about 1 % and about 20% salt (para [0009], 'The housing includes a polymeric material including a polyamide, barium sulfate, and magnesium sulfate in an amount suitable to reduce exposure to such radiation'; para [0019]-[0020], 'In another embodiment the ratio of barium sulfate to polyamide is about 10-15 grams per 100 grams of polyamide ... the ratio of magnesium sulfate to polyamide is 3-7 grams per 100 grams polyamide'; the range of salt concentrations thus described is between 13/113 and 22/122, ~12-18 wt%). Smimov does not teach the salt is Himalayan salt. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising Himalayan salt (pg 6 para 2, 'comprises ... rock salt'; pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Smimov by incorporating the particular salt taught by Park, because Smimov is directed to an electromagnetic protection device that leverages the electromagnetic-protective properties of salts, and Park teaches a salt purported to have particularly good electromagnetic-protective properties.

Claim 11 lacks an inventive step under PCT Article 33(3) as being obvious over Park, in view of Smimov.

Regarding claim 11, Park teaches the electromagnetic reduction material of claim 10. Park does not teach the Himalayan salt is adhered to the polymer or glass. Smimov teaches an electromagnetic reduction material (para [0009], 'housing for an electronic device that emits electromagnetic radiation is provided... The housing, upon exposure to incident electromagnetic radiation, emits subtle electromagnetic oscillations at probiotic frequencies that protect the user against incident electromagnetic radiation') comprising an inorganic salt (para [0009], 'The housing includes ... barium sulfate, and magnesium sulfate') and a polymer (para [0009], 'The housing includes a polymeric material including a polyamide'). Smimov further teaches the salt is adhered to the polymer (para [0021], 'bonds between the polymer backbone and the barium sulfate or magnesium sulfate ... formation ... may include mixing magnesium sulfate, barium sulfate and the polyamide ... and adding the mixture to a compounding machine ... to melt the polyamide and to absorb or combine with the magnesium sulfate and barium sulfate'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Park by adhering the salt to its carrier, as taught by Smimov, because Smimov teaches that adhering the salt to a moldable matrix material enables the electromagnetic reduction material to be molded into useful shapes (para [0023], 'the polymeric material may be formed in any suitable size or shape using known casting or molding techniques'), thereby broadening the utility of the material.

***** Continued in the Supplemental Box below *****

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In case the space in any of the preceding boxes is not sufficient.

Continuation of:
Box V(2) Citations and Explanations:

Claims 58 and 60-61 lack an inventive step under PCT Article 33(3) as being obvious over US 2012/0236528 A1 to Le et al (hereinafter 'Le'), in view of Park.

Regarding claim 58, Le teaches an electromagnetic protection device (para [0005], 'a flexible multilayer electromagnetic interference shield is provided') comprising a multi-film layer (para [0005], 'the multilayer stack comprises pairs of layers') of electromagnetic reducing material (para [0005], 'a thin film layer of a second ferromagnetic material'; para [0021], 'Magnetic materials with high RF permeability can provide EMI shielding') and a polymer film (para [0005], 'a spacing layer'; para [0028], 'The spacing layers can include at least one acrylic polymer'). Le does not teach the electromagnetic reducing material is Himalayan salt. Park teaches an electromagnetic protection device (pg 6 para 2, 'a harmful-wave blocking member for shielding various harmful waves such as ... electromagnetic waves ... includes a main body in which a storage unit is formed inwardly and a lid...') comprising Himalayan salt (pg 6 para 2, 'comprises ... rock salt'; pg 8 para 1-2, 'typical example of rock salt is Himalayan rock salt ... a fossil in which the ancient plants and seaweed have been hardened together ... known to have mysterious efficacy ... it emits a large amount of negative ion power ... excellent air cleaning function'). It would have been obvious to one of ordinary skill in the art to modify the teachings of Le by using Himalayan salt as the electromagnetic reducing material as taught by Park, because Le is directed to using a layer of electromagnetic reducing material, and Park teaches Himalayan salt is a particularly effective electromagnetic reducing material.

Regarding claim 60, Le and Park obviate the electromagnetic protection device of claim 58, and Le further teaches there is at least 2 films of Himalayan salt with a polymer film layer in between each neighboring pair of layers of Himalayan salt (para [0040], 'FIG 1 is a schematic drawing of one embodiment ... Multilayer stack 108 that includes two spacer layers 105 and two layers of second ferromagnetic material 107 are disposed upon first ferromagnetic layer 104. At least one of spacing layers 105 includes an acrylic polymer'; figure 1 illustrates there are least 2 films of ferromagnetic material 107, with a polymer film layer between them; recall the ferromagnetic material of Le was replaced with Himalayan salt when Le and Park were combined).

Regarding claim 61, Le and Park obviate the electromagnetic protection device of claim 60, and Le further teaches there are 4 layers of Himalayan salt (para [0027], 'the ferromagnetic material layers may be of the same ... compositions'; para [0042], 'FIG. 3 is a schematic illustration of yet another embodiment. ... first electromagnetic layer 304 ... three spacer layers 305 and three layers of second ferromagnetic material 307'; recall the ferromagnetic material of Le was replaced with Himalayan salt when Le and Park were combined).

Claims 51-52 lack an inventive step under PCT Article 33(3) as being obvious over Smirnov in view of Park, in further view of US 2007/0243349 A1 to Chang (hereinafter 'Chang').

Regarding claim 51, Smirnov and Park obviate the electromagnetic protection device of claim 50. Smirnov and Park do not teach the the polymer is polycarbonate, acrylonitrile-butadiene-styrene, or a combination thereof. Chang teaches an electromagnetic reduction material for encompassing a radiation-emitting object (para [0009], 'a wear-resistive housing for a portable electronic device, in which the housing is made of a wear resistive plastic molding material'; para [0010], 'the housing may contain other additives to provide ... negative ion generation, ... anti-EMI effect'), said electromagnetic reduction material comprising a material with similar purported function to Himalayan salt (para [0010], 'the housing may contain other additives to provide effects or characteristics such as ... negative ion generation ... anti-EMI effect,'); para [0028], 'Examples of such material for negative ion generation include tourmaline and mixture of tourmaline and clay, which may be added into the molding or coating material in powder form'; para [0030], 'Examples of such anti-EMI material include iron oxide, carbon powder, ...') and a polymer (para [0009], 'plastic molding material'), wherein the polymer is polycarbonate, acrylonitrile-butadiene-styrene, or a combination thereof (para [0025], 'additive may be added into a low cost plastic injection molding material such as PC, ABS, or PMMA'). It would have been obvious to one of ordinary skill in the art to modify the invention of Smirnov and Park by using polycarbonate and/or acrylonitrile-butadiene-styrene as the polymer, as taught by Chang, because Smirnov and Park are directed to an electronic device case made from a molded polymer into which is dispersed a purported negative-ion-generating, anti-EMI material, and Chang teaches that polycarbonate and acrylonitrile-butadiene-styrene are suitable polymers for use in an electronic device case made from a molded polymer into which is dispersed a purported negative-ion-generating, anti-EMI material.

Regarding claim 52, Smirnov, Park, and Chang obviate the electromagnetic protection device of claim 51. Smirnov further teaches the weight percentage of salt is between 0.001 % and 99.99% by weight (para [0019], 'preferred ratio of barium sulfate to polyamide is 20 grams barium sulfate to 100 grams nylon'; para [0020], 'preferred ratio of magnesium sulfate to polyamide is 10 grams per 100 grams polyamide').

Claims 1-4, 10-11, 50-52, 54-56, 58-61 and 72-75 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.