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90/008,869	10/05/2007	6886553	68803(302728?)	1108

24504 7590 01/13/2012

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EXAMINER	
WILLIAMS, CATHERINE SERKE	
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The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HEATMAX, INC.
Patent Owner and Appellant

Appeal 2012-002361
Reexamination Control 90/008,869
Patent 6,886,553 B2
Technology Center 3900

Before ROMULO H. DELMENDO, JEFFREY B. ROBERTSON, and JOSIAH C. COCKS, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Heatmax, Inc., the owner of United States Patent 6,886,553 B2 (hereinafter the "'553 Patent[1]"), appeals under 35 U.S.C. §§ 134(b) and 306 from a final rejection of claims 1-4, 8-16, 18, and 19.[2] We have jurisdiction under 35 U.S.C. §§ 134(b) and 306.

We AFFIRM-IN-PART and REVERSE-IN-PART.

STATEMENT OF THE CASE

The current reexamination was ordered based on a Request for *Ex Parte* Reexamination filed by William L. Brooks of Edwards, Angell, Palmer and Dodge, LLP on October 5, 2007 (Order Granting Request for *Ex Parte* Reexamination mailed December 10, 2007).

The '553 Patent states that the invention relates to a self-contained personal warming apparatus (col. 1, ll. 6-8).

Claim 1 on appeal reads as follows:

> 1. A self-contained, disposable, single-use heat generating apparatus, comprising:
>
> a heat generating pack comprising:
>
> a first bag layer having a first surface area;
>
> a second bag layer having a second surface area, said second bag layer being fixed to said first bag layer, such that said first bag layer and said second bag layer [defining]define a pouch therebetween;
>
> a heat generating agent disposed in said pouch, said heat generating agent arranged and configured to consume air at a

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[1] The '553 Patent issued to Daniel H. Yim on May 3, 2005 based on Application 10/405,668 filed on April 1, 2003.

[2] *See* Appeal Brief filed on February 15, 2011, hereinafter "App. Br.," 2; Final Office Action mailed October 15, 2010.

predetermined air consumption rate in an exothermic reaction; and

at least one of said first surface area and said second surface area comprises an air permeable surface area having a predetermined airflow rate at which air is introduced to said heat generating agent, said predetermined airflow rate being arranged and configured to be less than said predetermined air consumption rate such that said heat generating agent remains substantially evenly distributed within said pouch, wherein one of said first surface area and said second surface area comprises an air permeable surface area and the other of said first surface area and said second surface area comprises an air impermeable surface area, wherein said air impermeable surface area comprises a low coefficient of friction.

(App. Br., Claims App'x. A1.)

The Examiner relied upon the following as evidence of unpatentability (Examiner's Answer mailed March 25, 2011, hereinafter "Ans.," 3, 5, 7-11, 13):

Yates	5,928,275	July 27, 1999
Koiso	JP 58-92752	June 2, 1983
Ohbiki	JP 5-30432	Aug. 4, 1993
Tsuji	JP 7-90030	Oct. 4, 1995

The Patent Owner relied upon the following as evidence of non-obviousness:

Declaration of Uma Ramachandran filed on May 19, 2008 (hereinafter "Ramachandran Declaration" or "Ramachandran Decl.").

The Examiner rejected the claims as follows:

I. Claims 1-3, 8-10, 14-16, 18, and 19 under 35 U.S.C. § 102(b) as anticipated by Tsuji (Ans. 5-7);

II. Claims 1-4, 10, 14, and 18 under 35 U.S.C. § 102(b) as anticipated by Ohbiki (Ans. 7-8);

III. Claims 1-3, 8-12, 14-16, and 18 under 35 U.S.C. § 102(b) as anticipated by Koiso (Ans. 8-9);

IV. Claims 1-3, 8-10, 12, 14-16, 18, and 19 under 35 U.S.C. § 103(a) as unpatentable over Tsuji (Ans. 9);

V. Claims 1-4, 10, 12, 14, and 18 under 35 U.S.C. § 103(a) as unpatentable over Ohbiki (Ans. 10);

VI. Claims 1-3, 8-12, 14-16, and 18 under 35 U.S.C. § 103(a) as unpatentable over Koiso (Ans. 10-11);[3]

VII. Claim 4 under 35 U.S.C. § 103(a) as unpatentable over Tsuji or Koiso in view of Ohbiki (Ans. 11);

VIII. Claim 13 under 35 U.S.C. § 103(a) as unpatentable over Tsuji, Ohbiki, or Koiso, each in view of Yates (Ans. 11-13); and

IX. Claims 11, 15, and 16 under 35 U.S.C. § 103(a) as unpatentable over Koiso in view of Tsuji (Ans. 13).[4]

---

[3] The Examiner also refers to United States Patent 5,187,814 to Gold issued on February 23, 1993 (Ans. 3, 10). Gold, however, was not included in any of the statements of the rejections. Accordingly, we do not consider it as part of the evidence supporting the Examiner's rejections. *In re Hoch*, 428 F.2d 1341, 1342 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection.").

REJECTIONS BASED ON TSUJI AS A PRINCIPAL REFERENCE

ISSUES

The Examiner asserted that the limitation "surface area comprises a low coefficient of friction" (claim 1) is interpreted to mean that "the surface materials and structure are configured such that one can easily slide the [heat generating] pack into a pocket" (Ans. 4). According to the Examiner, Tsuji's rayon non-woven fabric "(3) has an agreeable feeling in the case of using it as a packet warmer" and "the rayon non-woven fabric will have a low coefficient of friction since it is disclosed in Tsuji to be inserted into a pocket during use and the figures show the surface area as being smooth" (Ans. 6). Alternatively, the Examiner asserted that a person of ordinary skill in the art would have found it obvious to incorporate "any low coefficient of friction material including a low coefficient of friction polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso *as a simple substitution of one material for another*" (Ans. 10; emphasis added).

The Patent Owner contends that the Examiner has not demonstrated that Tsuji anticipates the disputed claim limitation because: (i) the mere fact that Tusji's rayon non-woven fabric has an "agreeable feeling" when used as a packet warmer "does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction"; and (ii) "[m]erely exhibiting a smooth surface or texture . . . does not ensure that the surface

---

[4] In our opinion below, our citations to Koiso, Ohbiki, and Tsuji are to the English language translations found in the record.

exhibits a low coefficient of friction such as to allow an object to easily slide into a pocket" (App. Br. 7-8; *see also* App. Br. 8-10). Specifically, the Patent Owner argues that surface smoothness alone would not necessarily result in a surface with "a low coefficient of friction" relative to the pocket because "[t]he coefficient of friction depends on the materials used and results from the contact between two surfaces" (Reply Br. 2, filed May 25, 2011; App. Br. 8). Regarding obviousness, the Patent Owner contends that the Examiner failed to articulate a reason why a person of ordinary skill in the art would have combined the prior art references in the manner claimed (App. Br. 17-18).

Thus, the dispositive issues arising from these contentions are:

(1) Did the Examiner demonstrate that a surface area of Tsuji's rayon non-woven fabric would necessarily comprise "a low coefficient of friction," as recited in the independent claims (e.g., claim 1)?

(2) Did the Examiner articulate sufficient reasoning with some rational underpinning to support a conclusion that a person of ordinary skill in the art would have used polyethylene or polypropylene in Tsuji in order to arrive at a device encompassed by the appealed claims?

FINDINGS OF FACT ("FF")

1. Figure 3 of the '553 Patent is reproduced below:

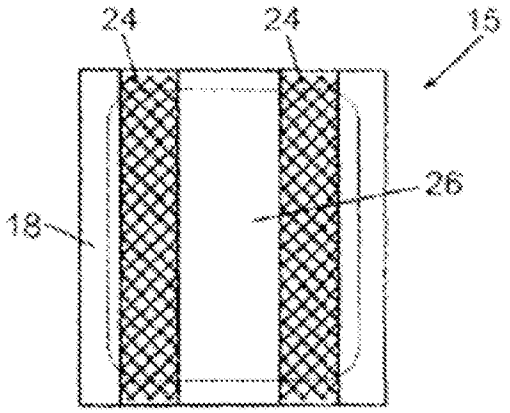


Fig. 3

Figure 3 above depicts a plan view of a bag layer 15 of the claimed warming apparatus, in which the bag layer comprises an air permeable surface area 24 and an air impermeable surface area 26 (col. 2, ll. 47-48; col. 4, ll. 33-36).

2. In the "DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS" section, the '553 Patent specifically identifies polyethylene or polypropylene as exemplary materials suitable for use as impermeable surface area 26, as follows: "The air impermeable surface area 26 of the bag layer 15 can comprise polyethylene, polypropylene, or any suitable material" (col. 2, ll. 52-53; col. 4, ll. 46-48).

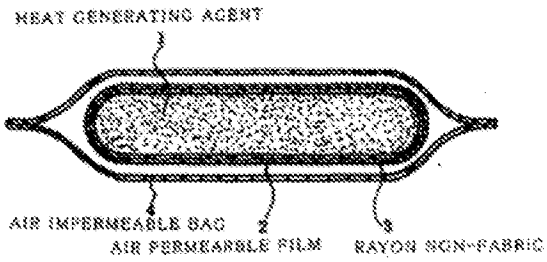
3. The '553 Patent defines the term "low coefficient of friction" as follows: "It is preferable that the air impermeable surface area 26 exhibits a low coefficient of friction, such as to allow the heat generating pack . . . to easily slide into a pocket (not

shown) formed in a glove, sock, belt for holding heat generating packs in position, or the like" (col. 4, ll. 48-52).

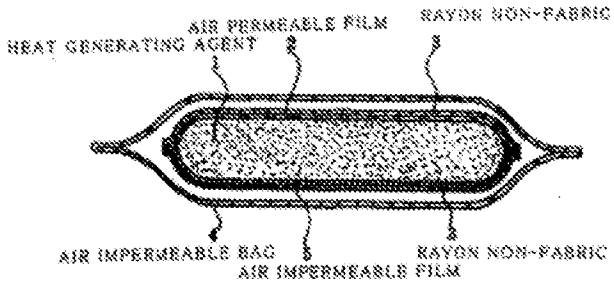
4. Tsuji discloses "a warming apparatus which assures a proper supply amount of oxygen to a heat generating agent, and thereby maintains a caloric value per time properly and further elongates a duration time and furthermore has a good shape retaining property and a good wearing property during wearing use thereof" (pp. 2-3).

5. Tsuji's Figures 1 and 2 are reproduced below:

[FIG. 1]



[FIG. 2]



Tsuji's Figures 1 and 2 above depict sectional views of the disclosed warming apparatus including heat generating agent 1, air permeable film 2, rayon non-woven fabric 3, air impermeable bag 4, and air impermeable film 5 (pp. 6-7).

6. Tsuji teaches that "[t]he rayon non-woven fabric 3 is used for assuring an agreeable feeling and an appropriate heat insulation property in the case of using as a pocket warmer" (p. 4).

PRINCIPLES OF LAW

"During reexamination, as with original examination, the PTO must give claims their broadest reasonable construction consistent with the specification . . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation." *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). Nevertheless, "this interpretation must be consistent with the one that those skilled in the art would reach." *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). *See also In re Baker Hughes, Inc.*, 215 F.3d 1297, 1303 (Fed. Cir. 2000) (explaining that interpretation of claim language must be "reasonable in light of the totality of the written description.").

Inherency of a characteristic attributed to a claimed device may not be established by mere possibilities or probabilities. *See, e.g., In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981).

ANALYSIS

We begin our analysis with claim construction of the disputed claim limitation "low coefficient of friction" (claim 1). The '553 Patent Specification informs one skilled in the relevant art that the characteristic "low coefficient of friction" attributed to the air impermeable surface area allows the heat generating pack "to easily slide into a pocket . . . formed in a glove, sock, belt for holding heat generating packs in position, or the like"

(FF 1, 3). While the limitation is arguably broad, the '553 Patent discloses, as part of the "DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS," polyethylene and polypropylene as suitable air impermeable surface area materials (FF 2). Thus, we construe the phrase "low coefficient of friction" to mean a degree of friction that would approximate (or not significantly deviate from) the coefficient of friction that would be present when air impermeable materials such as polyethylene or polypropylene are placed in contact with materials commonly used to form pockets.

Having construed the disputed claim limitation, we turn to the Examiner's anticipation rejection. The Examiner relied on Tsuji's disclosure that the rayon non-woven fabric 3 has an "agreeable feeling in the case of using it as a pocket warmer" and that the surface topography of the rayon non-woven fabric 3 appears to be smooth (Ans. 6; FF 4-6). These findings, however, are insufficient to demonstrate that Tsuji's rayon non-woven fabric 3 would inherently or necessarily have a "low coefficient of friction," as that term would be understood by one skilled in the relevant art. In this case, the Examiner failed to identify sufficient evidence establishing that coefficient of friction depends solely on an "agreeable feeling" and/or surface smoothness. To the contrary, it would reasonably appear that one of ordinary skill in the art would have understood that other factors such as the materials of construction of the contacting surfaces may also affect the coefficient of friction.

Because the Examiner's inherency theory is based on mere possibilities or probabilities, we cannot uphold any of the rejections that rely on Tsuji as inherently disclosing the disputed claim limitation.

With respect to obviousness, we agree with the Patent Owner that the Examiner's rejection is not well founded. While the Examiner argues that the use of "a low coefficient of friction polyethylene or a low coefficient of friction polypropylene" in Tsuji is a matter of "simple substitution of one material for another" (Ans. 10), the Examiner failed to articulate a reason with some rational underpinning as to why a person of ordinary skill in the art would have substituted non-woven rayon with polyethylene or polypropylene. Here, the Examiner failed to make the requisite factual findings necessary to show that polyethylene or polypropylene would be interchangeable with a non-woven rayon for Tsuji's purposes (FF 6).

Therefore, we cannot affirm the Examiner's obviousness rejections.

REJECTIONS BASED ON OHBIKI AS A PRINCIPAL REFERENCE

ISSUES

The Examiner asserted that "[w]hile the surface area materials [of Ohbiki's apparatus] are not disclosed[,] these materials are considered to have a low coefficient of friction since they are used in the construction of the film for the pack as shown in figures 1 through 5 and as shown these surfaces make a smooth surface area that can easily be slid into a pocket of a user" (Ans. 7-8). Alternatively, the Examiner asserted that a person of ordinary skill in the art would have found it obvious to incorporate "any low coefficient of friction material including a low coefficient of friction

polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso *as a simple substitution of one material for another*" (Ans. 10; emphasis added).

The Patent Owner contends that the Examiner erred because the smooth surface area of Ohbiki's apparatus does not support an inference that the air-impermeable surface area material has a low coefficient of friction (App. Br. 11). Regarding obviousness, the Patent Owner contends that the Examiner failed to articulate a reason why a person of ordinary skill in the art would have combined the prior art references in the manner claimed (App. Br. 17-18).

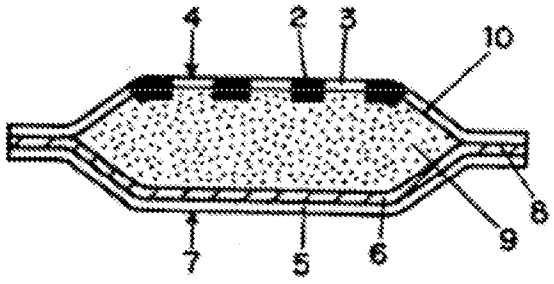
Thus, the dispositive issues are:

(3) Did the Examiner demonstrate that a surface area of Ohbiki's apparatus comprises a "low coefficient of friction" as recited in the appealed claims?

(4) Did the Examiner articulate sufficient reasoning with some rational underpinning to support a conclusion that a person of ordinary skill in the art would have used polyethylene or polypropylene in Ohbiki in order to arrive at a device encompassed by the appealed claims?

ADDITIONAL FINDING OF FACT

7. Ohbiki's Figure 1 is reproduced below:



Ohbiki's Figure 1 above depicts a containment bag for a heat generating agent including a non-thermally fused portion of a porous film 2, a thermally fused portion of a porous film 3, a porous film wrapping material 4, a non-woven fabric 5, an air-impermeable film 6, an air-impermeable wrapping material 7, a heat sealed portion 8, a heat generating agent 9, and a through hole 10 (p.18).

ANALYSIS

The Examiner's rejections based on Ohbiki as a principal reference fare no better than the rejections based on Tsuji. Again, the Examiner has relied on the surface topography as shown in Ohbiki's drawings to account for the "low coefficient of friction" limitation (FF 7). However, the Examiner has not identified sufficient evidence establishing that a person of ordinary skill in the art would have understood that coefficient of friction depends solely on surface smoothness.

With respect to obviousness, we agree with the Patent Owner that the Examiner failed to establish a prima facie case of obviousness. While the

Examiner argues that the use of "a low coefficient of friction polyethylene or a low coefficient of friction polypropylene" in Ohbiki is a matter of "simple substitution of one material for another" (Ans. 10), the Examiner failed to articulate a reason with some rational underpinning as to why a person of ordinary skill in the art would have considered Ohbiki's materials to be interchangeable with polyethylene or polypropylene in the context of the functions and/or purposes disclosed in Ohbiki.

Therefore, we cannot affirm these rejections.

REJECTIONS BASED ON KOISO AS A PRINCIPAL REFERENCE

ISSUE

The Examiner found that Koiso describes every limitation of claims 1-3, 8-12, 14-16, and 18 (Ans. 8-9). Specifically, the Examiner found that Koiso necessarily discloses an air-impermeable surface area with a low coefficient of friction because the reference discloses a smooth film made of polyethylene or polypropylene – the same materials disclosed as suitable in the '553 Patent (Ans. 9, 16-17).

The Patent Owner argues that "[o]ne of ordinary skill in the art will appreciate that the use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on many various parameters such as, for example, the selected film density and concentration of surface lubricant associated with these polymers" (App. Br. 14). In support, the Patent Owner relies on the testimony found in the Ramachandran Declaration.

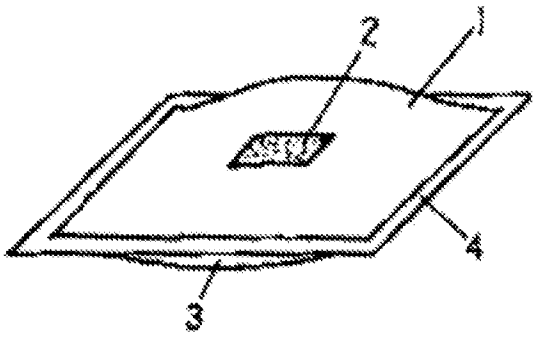
Thus, the dispositive issue is:

(5) Did the Examiner err in finding that Koiso's film made of polyethylene or polypropylene would reasonably appear to possess a "low coefficient of friction"?

ADDITIONAL FINDINGS OF FACT

8. Koiso describes an exothermic body including a bag that houses an exothermic composition, which generates heat when contacted with oxygen in the air (p. 1).

9. Koiso's Figure 1 is reproduced below:



Koiso's Figure 1 above depicts an exothermic body, wherein the body includes air impermeable films 1 and 3, which are bonded together at their peripheral edges 4, and microscopic pore film 2 that forms an air permeable portion (pp. 5-6).

10. Koiso discloses, inter alia, polyethylene or polypropylene as suitable materials for the air impermeable film (p. 4; Ramachandran Decl., ¶ 5).

11. The '553 Patent criticizes pouches having a self-adhesive layer that "can not be easily inserted into pockets formed in socks, gloves, mittens, specially designed belts, or the like for use" (col. 1, ll. 50-53).

12. Uma Ramachandran is an employee of the Patent Owner (Ramachandran Decl., ¶¶ 1).

13. Ramachandran states (Ramachandran Decl., ¶ 6):

> The *Koiso* reference fails to disclose providing a low coefficient of friction material. The use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on such parameters as the selected film density and concentration of surface lubricant associated with these polymers. The *Koiso* reference fails to address these parameters.

14. Ramachandran does not include any experimental tests or technical explanations or reasoning supporting the assertions made in the Declaration.

15. Ramachandran fails to identify any *specific* polyethylene or polypropylene that would not have "a low coefficient of friction." (Ramachandran Decl., ¶ 6)

16. Ramachandran does not testify that Koiso's product was manufactured with a typical polyethylene or polypropylene surface and found to lack the characteristic of being easily slidable into a pocket.

PRINCIPLES OF LAW

In *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977), a predecessor of our reviewing court explained (internal citations and footnotes omitted; italics added):

> Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product . . . Whether the rejection is based on 'inherency' under 35 USC 102, on 'prima facie obviousness' under 35 USC 103, jointly or alternatively, the burden of proof is the same, *and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products*.

ANALYSIS

The Patent Owner has argued the rejections based on Koiso as a principal reference on the same or similar grounds (App. Br. 13-16, 19). In addition, the Patent Owner has not provided any arguments in support of the separate patentability of any particular claim. Accordingly, we confine our discussion to claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Patent Owner contends that Koiso's description of a polyethylene or polypropylene surface material does not anticipate a "low coefficient of friction" surface material, as recited in claim 1 (App. Br. 14). Specifically, the Patent Owner relies on Ramachandran's testimony that the coefficient of friction of polyethylene or polypropylene depends on parameters such as film density and surface lubricant concentration and therefore the recited "low coefficient of friction" characteristic is not necessarily present in the prior art (App. Br. 14; FF 13).

We are not persuaded that the Examiner erred. The inventor did not limit the terms "low coefficient of friction" with any particular numerical degree of friction either in the claim itself or by way of a definition in the Specification. Rather, the inventor informed the person of ordinary skill in the art that the limitation "low coefficient of friction" reads on any degree of friction, provided that the heat pack "easily slide[s] into a pocket" (FF 3). Additionally, in describing preferred embodiments, the inventor stated that any polyethylene and polypropylene – without any limitation as to density or lubricant content – are non-limiting examples of polymers suitable as air impermeable surface area materials (FF 2). Koiso plainly describes the same type of heat pack in the form of an exothermic body that has a relatively smooth surface topography and includes air impermeable polyethylene or polypropylene surfaces (FF 8-10). These facts, coupled with the PTO's inability to manufacture and/or test products, form a sufficient basis upon which to shift the burden of proof to the Patent Owner to show that Koiso's product would be difficult to slide into a pocket. *Best*, 562 F.2d at 1255.

The Patent Owner failed to satisfy that burden. Here, the Patent Owner relied on the Ramachandran Declaration. Ramachandran's testimony, however, is that of an interested party and, as pointed out by the Examiner (Ans. 16-17), is devoid of any supporting experimental evidence or technical reasoning. For example, the testimony lacks any detailed explanation or supporting evidence on why it is believed that only polyethylenes and polypropylenes of a certain film density and surface lubricant concentration would have a "low coefficient of friction" (FF 12-

16). Notably, the Declaration lacks any test data or a detailed technical explanation reasonably demonstrating that Koiso's heat pack with polyethylene or polypropylene would be difficult to slide into a pocket (FF 16). Accordingly, Ramachandran's testimony amounts to mere conclusory statements, which are entitled to little, if any, weight.

Moreover, we find, as did the Examiner (Ans. 16-17), that Ramachandran's testimony is inconsistent with the inventor's disclosure in the '553 Patent. The '553 Patent plainly teaches the characteristic of being difficult to insert into a pocket (in the context of prior art pouches that include a self-adhesive) as undesirable (FF 11). That description reasonably informs one skilled in the relevant art that the invention described in the '553 Patent is limited to apparatuses that can easily slide into a pocket. In describing suitable surface materials for the claimed apparatus, the '553 Patent places no limitation on the density or the surface lubricant content for polyethylene or polypropylene (FF 2). Thus, on this record, we do not find it credible that only certain polyethylenes and polypropylenes having particular densities and lubricant contents would be suitable, as Ramachandran would have us believe.

In view of the foregoing, we sustain the rejections based on Koiso as a principal reference.

DECISION

Rejections I, II, IV, V, VII (Tsuji in view of Ohbiki), and VIII (Tsuji or Ohbiki in view of Yates) are reversed.

Rejections III, VI, VII (Koiso in view of Ohbiki), VIII (Koiso in view of Yates), and IX are affirmed.

Therefore, the Examiner's decision to reject claims 1-4, 8-16, and 18 is affirmed, but the decision to reject claim 19 is reversed.

Requests for extensions of time in this *ex parte* reexamination proceeding are governed by 37 C.F.R. § 1.550(c). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART & REVERSED-IN-PART

rvb

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Technology Center 3900

Before ROMULO H. DELMENDO, JEFFREY B. ROBERTSON, and JOSIAH C. COCKS, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

Heatmax, Inc., the owner of United States Patent 6,886,553 B2 (hereinafter the "'553 Patent[1]"), appeals under 35 U.S.C. §§ 134(b) and 306 from a final rejection of claims 1-4, 8-16, 18, and 19.[2] We have jurisdiction under 35 U.S.C. §§ 134(b) and 306.

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STATEMENT OF THE CASE

The current reexamination was ordered based on a Request for *Ex Parte* Reexamination filed by William L. Brooks of Edwards, Angell, Palmer and Dodge, LLP on October 5, 2007 (Order Granting Request for *Ex Parte* Reexamination mailed December 10, 2007).

The '553 Patent states that the invention relates to a self-contained personal warming apparatus (col. 1, ll. 6-8).

Claim 1 on appeal reads as follows:

> 1. A self-contained, disposable, single-use heat generating apparatus, comprising:
>
> a heat generating pack comprising:
>
> a first bag layer having a first surface area;
>
> a second bag layer having a second surface area, said second bag layer being fixed to said first bag layer, such that said first bag layer and said second bag layer [defining]define a pouch therebetween;
>
> a heat generating agent disposed in said pouch, said heat generating agent arranged and configured to consume air at a

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[1] The '553 Patent issued to Daniel H. Yim on May 3, 2005 based on Application 10/405,668 filed on April 1, 2003.

[2] *See* Appeal Brief filed on February 15, 2011, hereinafter "App. Br.," 2; Final Office Action mailed October 15, 2010.

predetermined air consumption rate in an exothermic reaction; and

at least one of said first surface area and said second surface area comprises an air permeable surface area having a predetermined airflow rate at which air is introduced to said heat generating agent, said predetermined airflow rate being arranged and configured to be less than said predetermined air consumption rate such that said heat generating agent remains substantially evenly distributed within said pouch, wherein one of said first surface area and said second surface area comprises an air permeable surface area and the other of said first surface area and said second surface area comprises an air impermeable surface area, wherein said air impermeable surface area comprises a low coefficient of friction.

(App. Br., Claims App'x. A1.)

The Examiner relied upon the following as evidence of unpatentability (Examiner's Answer mailed March 25, 2011, hereinafter "Ans.," 3, 5, 7-11, 13):

Yates	5,928,275	July 27, 1999
Koiso	JP 58-92752	June 2, 1983
Ohbiki	JP 5-30432	Aug. 4, 1993
Tsuji	JP 7-90030	Oct. 4, 1995

The Patent Owner relied upon the following as evidence of non-obviousness:

Declaration of Uma Ramachandran filed on May 19, 2008 (hereinafter "Ramachandran Declaration" or "Ramachandran Decl.").

The Examiner rejected the claims as follows:

I. Claims 1-3, 8-10, 14-16, 18, and 19 under 35 U.S.C. § 102(b) as anticipated by Tsuji (Ans. 5-7);

II. Claims 1-4, 10, 14, and 18 under 35 U.S.C. § 102(b) as anticipated by Ohbiki (Ans. 7-8);

III. Claims 1-3, 8-12, 14-16, and 18 under 35 U.S.C. § 102(b) as anticipated by Koiso (Ans. 8-9);

IV. Claims 1-3, 8-10, 12, 14-16, 18, and 19 under 35 U.S.C. § 103(a) as unpatentable over Tsuji (Ans. 9);

V. Claims 1-4, 10, 12, 14, and 18 under 35 U.S.C. § 103(a) as unpatentable over Ohbiki (Ans. 10);

VI. Claims 1-3, 8-12, 14-16, and 18 under 35 U.S.C. § 103(a) as unpatentable over Koiso (Ans. 10-11);[3]

VII. Claim 4 under 35 U.S.C. § 103(a) as unpatentable over Tsuji or Koiso in view of Ohbiki (Ans. 11);

VIII. Claim 13 under 35 U.S.C. § 103(a) as unpatentable over Tsuji, Ohbiki, or Koiso, each in view of Yates (Ans. 11-13); and

IX. Claims 11, 15, and 16 under 35 U.S.C. § 103(a) as unpatentable over Koiso in view of Tsuji (Ans. 13).[4]

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[3] The Examiner also refers to United States Patent 5,187,814 to Gold issued on February 23, 1993 (Ans. 3, 10). Gold, however, was not included in any of the statements of the rejections. Accordingly, we do not consider it as part of the evidence supporting the Examiner's rejections. *In re Hoch*, 428 F.2d 1341, 1342 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection.").

REJECTIONS BASED ON TSUJI AS A PRINCIPAL REFERENCE

ISSUES

The Examiner asserted that the limitation "surface area comprises a low coefficient of friction" (claim 1) is interpreted to mean that "the surface materials and structure are configured such that one can easily slide the [heat generating] pack into a pocket" (Ans. 4). According to the Examiner, Tsuji's rayon non-woven fabric "(3) has an agreeable feeling in the case of using it as a packet warmer" and "the rayon non-woven fabric will have a low coefficient of friction since it is disclosed in Tsuji to be inserted into a pocket during use and the figures show the surface area as being smooth" (Ans. 6). Alternatively, the Examiner asserted that a person of ordinary skill in the art would have found it obvious to incorporate "any low coefficient of friction material including a low coefficient of friction polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso *as a simple substitution of one material for another*" (Ans. 10; emphasis added).

The Patent Owner contends that the Examiner has not demonstrated that Tsuji anticipates the disputed claim limitation because: (i) the mere fact that Tusji's rayon non-woven fabric has an "agreeable feeling" when used as a packet warmer "does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction"; and (ii) "[m]erely exhibiting a smooth surface or texture . . . does not ensure that the surface

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[4] In our opinion below, our citations to Koiso, Ohbiki, and Tsuji are to the English language translations found in the record.

exhibits a low coefficient of friction such as to allow an object to easily slide into a pocket" (App. Br. 7-8; *see also* App. Br. 8-10). Specifically, the Patent Owner argues that surface smoothness alone would not necessarily result in a surface with "a low coefficient of friction" relative to the pocket because "[t]he coefficient of friction depends on the materials used and results from the contact between two surfaces" (Reply Br. 2, filed May 25, 2011; App. Br. 8). Regarding obviousness, the Patent Owner contends that the Examiner failed to articulate a reason why a person of ordinary skill in the art would have combined the prior art references in the manner claimed (App. Br. 17-18).

Thus, the dispositive issues arising from these contentions are:

(1) Did the Examiner demonstrate that a surface area of Tsuji's rayon non-woven fabric would necessarily comprise "a low coefficient of friction," as recited in the independent claims (e.g., claim 1)?

(2) Did the Examiner articulate sufficient reasoning with some rational underpinning to support a conclusion that a person of ordinary skill in the art would have used polyethylene or polypropylene in Tsuji in order to arrive at a device encompassed by the appealed claims?

FINDINGS OF FACT ("FF")

1. Figure 3 of the '553 Patent is reproduced below:

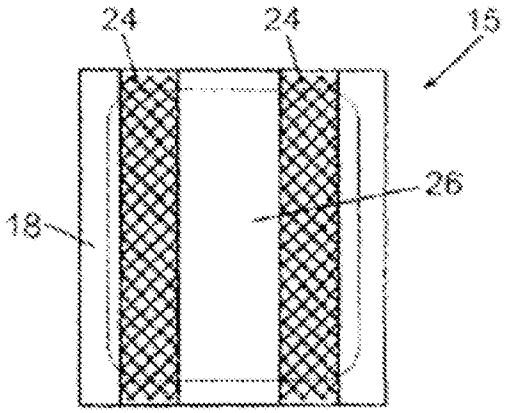


Fig. 3

Figure 3 above depicts a plan view of a bag layer 15 of the claimed warming apparatus, in which the bag layer comprises an air permeable surface area 24 and an air impermeable surface area 26 (col. 2, ll. 47-48; col. 4, ll. 33-36).

2. In the "DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS" section, the '553 Patent specifically identifies polyethylene or polypropylene as exemplary materials suitable for use as impermeable surface area 26, as follows: "The air impermeable surface area 26 of the bag layer 15 can comprise polyethylene, polypropylene, or any suitable material" (col. 2, ll. 52-53; col. 4, ll. 46-48).

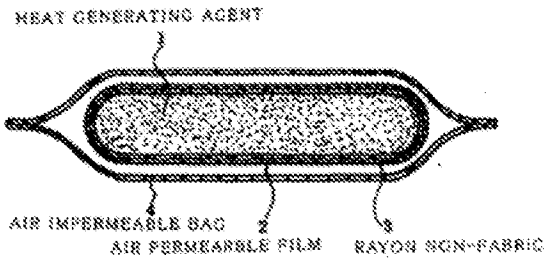
3. The '553 Patent defines the term "low coefficient of friction" as follows: "It is preferable that the air impermeable surface area 26 exhibits a low coefficient of friction, such as to allow the heat generating pack . . . to easily slide into a pocket (not

shown) formed in a glove, sock, belt for holding heat generating packs in position, or the like" (col. 4, ll. 48-52).

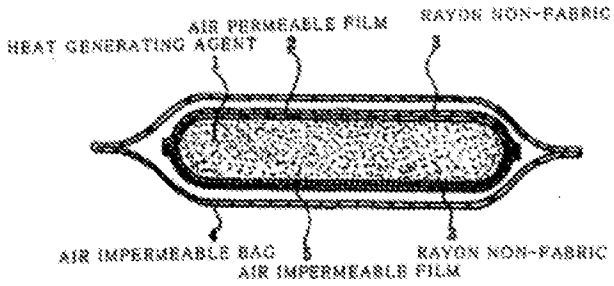
4. Tsuji discloses "a warming apparatus which assures a proper supply amount of oxygen to a heat generating agent, and thereby maintains a caloric value per time properly and further elongates a duration time and furthermore has a good shape retaining property and a good wearing property during wearing use thereof" (pp. 2-3).

5. Tsuji's Figures 1 and 2 are reproduced below:

[FIG. 1]



[FIG. 2]



Tsuji's Figures 1 and 2 above depict sectional views of the disclosed warming apparatus including heat generating agent 1, air permeable film 2, rayon non-woven fabric 3, air impermeable bag 4, and air impermeable film 5 (pp. 6-7).

6. Tsuji teaches that "[t]he rayon non-woven fabric 3 is used for assuring an agreeable feeling and an appropriate heat insulation property in the case of using as a pocket warmer" (p. 4).

PRINCIPLES OF LAW

"During reexamination, as with original examination, the PTO must give claims their broadest reasonable construction consistent with the specification . . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation." *In re ICON Health and Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). Nevertheless, "this interpretation must be consistent with the one that those skilled in the art would reach." *In re Cortright*, 165 F.3d 1353, 1358 (Fed. Cir. 1999). *See also In re Baker Hughes, Inc.*, 215 F.3d 1297, 1303 (Fed. Cir. 2000) (explaining that interpretation of claim language must be "reasonable in light of the totality of the written description.").

Inherency of a characteristic attributed to a claimed device may not be established by mere possibilities or probabilities. *See, e.g., In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981).

ANALYSIS

We begin our analysis with claim construction of the disputed claim limitation "low coefficient of friction" (claim 1). The '553 Patent Specification informs one skilled in the relevant art that the characteristic "low coefficient of friction" attributed to the air impermeable surface area allows the heat generating pack "to easily slide into a pocket . . . formed in a glove, sock, belt for holding heat generating packs in position, or the like"

(FF 1, 3). While the limitation is arguably broad, the '553 Patent discloses, as part of the "DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS," polyethylene and polypropylene as suitable air impermeable surface area materials (FF 2). Thus, we construe the phrase "low coefficient of friction" to mean a degree of friction that would approximate (or not significantly deviate from) the coefficient of friction that would be present when air impermeable materials such as polyethylene or polypropylene are placed in contact with materials commonly used to form pockets.

Having construed the disputed claim limitation, we turn to the Examiner's anticipation rejection. The Examiner relied on Tsuji's disclosure that the rayon non-woven fabric 3 has an "agreeable feeling in the case of using it as a pocket warmer" and that the surface topography of the rayon non-woven fabric 3 appears to be smooth (Ans. 6; FF 4-6). These findings, however, are insufficient to demonstrate that Tsuji's rayon non-woven fabric 3 would inherently or necessarily have a "low coefficient of friction," as that term would be understood by one skilled in the relevant art. In this case, the Examiner failed to identify sufficient evidence establishing that coefficient of friction depends solely on an "agreeable feeling" and/or surface smoothness. To the contrary, it would reasonably appear that one of ordinary skill in the art would have understood that other factors such as the materials of construction of the contacting surfaces may also affect the coefficient of friction.

Because the Examiner's inherency theory is based on mere possibilities or probabilities, we cannot uphold any of the rejections that rely on Tsuji as inherently disclosing the disputed claim limitation.

With respect to obviousness, we agree with the Patent Owner that the Examiner's rejection is not well founded. While the Examiner argues that the use of "a low coefficient of friction polyethylene or a low coefficient of friction polypropylene" in Tsuji is a matter of "simple substitution of one material for another" (Ans. 10), the Examiner failed to articulate a reason with some rational underpinning as to why a person of ordinary skill in the art would have substituted non-woven rayon with polyethylene or polypropylene. Here, the Examiner failed to make the requisite factual findings necessary to show that polyethylene or polypropylene would be interchangeable with a non-woven rayon for Tsuji's purposes (FF 6).

Therefore, we cannot affirm the Examiner's obviousness rejections.

REJECTIONS BASED ON OHBIKI AS A PRINCIPAL REFERENCE

ISSUES

The Examiner asserted that "[w]hile the surface area materials [of Ohbiki's apparatus] are not disclosed[,] these materials are considered to have a low coefficient of friction since they are used in the construction of the film for the pack as shown in figures 1 through 5 and as shown these surfaces make a smooth surface area that can easily be slid into a pocket of a user" (Ans. 7-8). Alternatively, the Examiner asserted that a person of ordinary skill in the art would have found it obvious to incorporate "any low coefficient of friction material including a low coefficient of friction

polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso *as a simple substitution of one material for another*" (Ans. 10; emphasis added).

The Patent Owner contends that the Examiner erred because the smooth surface area of Ohbiki's apparatus does not support an inference that the air-impermeable surface area material has a low coefficient of friction (App. Br. 11). Regarding obviousness, the Patent Owner contends that the Examiner failed to articulate a reason why a person of ordinary skill in the art would have combined the prior art references in the manner claimed (App. Br. 17-18).

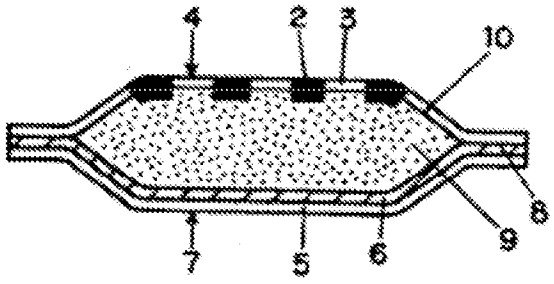
Thus, the dispositive issues are:

(3) Did the Examiner demonstrate that a surface area of Ohbiki's apparatus comprises a "low coefficient of friction" as recited in the appealed claims?

(4) Did the Examiner articulate sufficient reasoning with some rational underpinning to support a conclusion that a person of ordinary skill in the art would have used polyethylene or polypropylene in Ohbiki in order to arrive at a device encompassed by the appealed claims?

ADDITIONAL FINDING OF FACT

7. Ohbiki's Figure 1 is reproduced below:



Ohbiki's Figure 1 above depicts a containment bag for a heat generating agent including a non-thermally fused portion of a porous film 2, a thermally fused portion of a porous film 3, a porous film wrapping material 4, a non-woven fabric 5, an air-impermeable film 6, an air-impermeable wrapping material 7, a heat sealed portion 8, a heat generating agent 9, and a through hole 10 (p.18).

ANALYSIS

The Examiner's rejections based on Ohbiki as a principal reference fare no better than the rejections based on Tsuji. Again, the Examiner has relied on the surface topography as shown in Ohbiki's drawings to account for the "low coefficient of friction" limitation (FF 7). However, the Examiner has not identified sufficient evidence establishing that a person of ordinary skill in the art would have understood that coefficient of friction depends solely on surface smoothness.

With respect to obviousness, we agree with the Patent Owner that the Examiner failed to establish a prima facie case of obviousness. While the

Examiner argues that the use of "a low coefficient of friction polyethylene or a low coefficient of friction polypropylene" in Ohbiki is a matter of "simple substitution of one material for another" (Ans. 10), the Examiner failed to articulate a reason with some rational underpinning as to why a person of ordinary skill in the art would have considered Ohbiki's materials to be interchangeable with polyethylene or polypropylene in the context of the functions and/or purposes disclosed in Ohbiki.

Therefore, we cannot affirm these rejections.

REJECTIONS BASED ON KOISO AS A PRINCIPAL REFERENCE

ISSUE

The Examiner found that Koiso describes every limitation of claims 1-3, 8-12, 14-16, and 18 (Ans. 8-9). Specifically, the Examiner found that Koiso necessarily discloses an air-impermeable surface area with a low coefficient of friction because the reference discloses a smooth film made of polyethylene or polypropylene – the same materials disclosed as suitable in the '553 Patent (Ans. 9, 16-17).

The Patent Owner argues that "[o]ne of ordinary skill in the art will appreciate that the use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on many various parameters such as, for example, the selected film density and concentration of surface lubricant associated with these polymers" (App. Br. 14). In support, the Patent Owner relies on the testimony found in the Ramachandran Declaration.

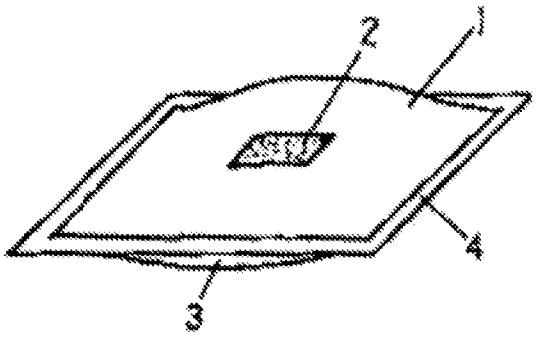
Thus, the dispositive issue is:

(5) Did the Examiner err in finding that Koiso's film made of polyethylene or polypropylene would reasonably appear to possess a "low coefficient of friction"?

ADDITIONAL FINDINGS OF FACT

8. Koiso describes an exothermic body including a bag that houses an exothermic composition, which generates heat when contacted with oxygen in the air (p. 1).

9. Koiso's Figure 1 is reproduced below:



Koiso's Figure 1 above depicts an exothermic body, wherein the body includes air impermeable films 1 and 3, which are bonded together at their peripheral edges 4, and microscopic pore film 2 that forms an air permeable portion (pp. 5-6).

10. Koiso discloses, inter alia, polyethylene or polypropylene as suitable materials for the air impermeable film (p. 4; Ramachandran Decl., ¶ 5).

11. The '553 Patent criticizes pouches having a self-adhesive layer that "can not be easily inserted into pockets formed in socks, gloves, mittens, specially designed belts, or the like for use" (col. 1, ll. 50-53).

12. Uma Ramachandran is an employee of the Patent Owner (Ramachandran Decl., ¶¶ 1).

13. Ramachandran states (Ramachandran Decl., ¶ 6):

> The *Koiso* reference fails to disclose providing a low coefficient of friction material. The use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on such parameters as the selected film density and concentration of surface lubricant associated with these polymers. The *Koiso* reference fails to address these parameters.

14. Ramachandran does not include any experimental tests or technical explanations or reasoning supporting the assertions made in the Declaration.

15. Ramachandran fails to identify any *specific* polyethylene or polypropylene that would not have "a low coefficient of friction." (Ramachandran Decl., ¶ 6)

16. Ramachandran does not testify that Koiso's product was manufactured with a typical polyethylene or polypropylene surface and found to lack the characteristic of being easily slidable into a pocket.

PRINCIPLES OF LAW

In *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977), a predecessor of our reviewing court explained (internal citations and footnotes omitted; italics added):

> Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product . . . Whether the rejection is based on 'inherency' under 35 USC 102, on 'prima facie obviousness' under 35 USC 103, jointly or alternatively, the burden of proof is the same, *and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products*.

ANALYSIS

The Patent Owner has argued the rejections based on Koiso as a principal reference on the same or similar grounds (App. Br. 13-16, 19). In addition, the Patent Owner has not provided any arguments in support of the separate patentability of any particular claim. Accordingly, we confine our discussion to claim 1. *See* 37 C.F.R. § 41.37(c)(1)(vii).

The Patent Owner contends that Koiso's description of a polyethylene or polypropylene surface material does not anticipate a "low coefficient of friction" surface material, as recited in claim 1 (App. Br. 14). Specifically, the Patent Owner relies on Ramachandran's testimony that the coefficient of friction of polyethylene or polypropylene depends on parameters such as film density and surface lubricant concentration and therefore the recited "low coefficient of friction" characteristic is not necessarily present in the prior art (App. Br. 14; FF 13).

We are not persuaded that the Examiner erred. The inventor did not limit the terms "low coefficient of friction" with any particular numerical degree of friction either in the claim itself or by way of a definition in the Specification. Rather, the inventor informed the person of ordinary skill in the art that the limitation "low coefficient of friction" reads on any degree of friction, provided that the heat pack "easily slide[s] into a pocket" (FF 3). Additionally, in describing preferred embodiments, the inventor stated that any polyethylene and polypropylene – without any limitation as to density or lubricant content – are non-limiting examples of polymers suitable as air impermeable surface area materials (FF 2). Koiso plainly describes the same type of heat pack in the form of an exothermic body that has a relatively smooth surface topography and includes air impermeable polyethylene or polypropylene surfaces (FF 8-10). These facts, coupled with the PTO's inability to manufacture and/or test products, form a sufficient basis upon which to shift the burden of proof to the Patent Owner to show that Koiso's product would be difficult to slide into a pocket. *Best*, 562 F.2d at 1255.

The Patent Owner failed to satisfy that burden. Here, the Patent Owner relied on the Ramachandran Declaration. Ramachandran's testimony, however, is that of an interested party and, as pointed out by the Examiner (Ans. 16-17), is devoid of any supporting experimental evidence or technical reasoning. For example, the testimony lacks any detailed explanation or supporting evidence on why it is believed that only polyethylenes and polypropylenes of a certain film density and surface lubricant concentration would have a "low coefficient of friction" (FF 12-

16). Notably, the Declaration lacks any test data or a detailed technical explanation reasonably demonstrating that Koiso's heat pack with polyethylene or polypropylene would be difficult to slide into a pocket (FF 16). Accordingly, Ramachandran's testimony amounts to mere conclusory statements, which are entitled to little, if any, weight.

Moreover, we find, as did the Examiner (Ans. 16-17), that Ramachandran's testimony is inconsistent with the inventor's disclosure in the '553 Patent. The '553 Patent plainly teaches the characteristic of being difficult to insert into a pocket (in the context of prior art pouches that include a self-adhesive) as undesirable (FF 11). That description reasonably informs one skilled in the relevant art that the invention described in the '553 Patent is limited to apparatuses that can easily slide into a pocket. In describing suitable surface materials for the claimed apparatus, the '553 Patent places no limitation on the density or the surface lubricant content for polyethylene or polypropylene (FF 2). Thus, on this record, we do not find it credible that only certain polyethylenes and polypropylenes having particular densities and lubricant contents would be suitable, as Ramachandran would have us believe.

In view of the foregoing, we sustain the rejections based on Koiso as a principal reference.

DECISION

Rejections I, II, IV, V, VII (Tsuji in view of Ohbiki), and VIII (Tsuji or Ohbiki in view of Yates) are reversed.

Rejections III, VI, VII (Koiso in view of Ohbiki), VIII (Koiso in view of Yates), and IX are affirmed.

Therefore, the Examiner's decision to reject claims 1-4, 8-16, and 18 is affirmed, but the decision to reject claim 19 is reversed.

Requests for extensions of time in this *ex parte* reexamination proceeding are governed by 37 C.F.R. § 1.550(c). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART & REVERSED-IN-PART

rvb

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/008,869	10/05/2007	6886553	68803(302728?)	1108

24504 7590 12/01/2011

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EXAMINER
WILLIAMS, CATHERINE SERKE

ART UNIT	PAPER NUMBER
3993	

MAIL DATE	DELIVERY MODE
12/01/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office
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THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP
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Appeal No: 2012-002361
Application: 90/008,869
Appellant: Daniel Yim

Board of Patent Appeals and Interferences
Docketing Notice

Application 90/008,869 was received from the Technology Center at the Board on November 30, 2011 and has been assigned Appeal No: 2012-002361.

In all future communications regarding this appeal, please include both the application number and the appeal number.

The mailing address for the Board is:

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UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

The facsimile number of the Board is 571-273-0052. Because of the heightened security in the Washington D.C. area, facsimile communications are recommended. Telephone inquiries can be made by calling 571-272-9797 and referencing the appeal number listed above.

By order of the Board of Patent Appeals and Interferences.

cc: Third Party Requester
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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/008,869	10/05/2007	6886553	68803(302728?)	1108

24504 7590 11/18/2011

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EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 11/18/2011

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Date:

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90008869
PATENT NO. : 6886553
ART UNIT : 3900

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

REPLY BRIEF NOTED

The reply brief filed **5/25/11** has been entered and considered.

No further response by the examiner is appropriate. The reexamination proceeding is being forwarded to the Board of Patent Appeals and Interferences for decision on the appeal.

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Control No. 90/008,869
Art Unit 3993

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In re *ex parte* Reexamination Application of:

U.S. Patent No. 6,886,553
Issued May 3, 2005

Confirmation No.: 1108

Group Art Unit: 3993

Control No.: 90/008,869

Examiner: Williams, Catherine Serke

Filed: October 5, 2007

TKHR Ref: 010887-1052

For: **SELF-CONTAINED PERSONAL WARMING APPARATUS AND METHOD OF WARMING**

REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner of Patents and Trademarks
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

This Reply Brief is timely submitted in response to the Examiner's Answer mailed March 25, 2011.

I. STATUS OF THE CLAIMS

Claims 1-4, 8-16, 18, and 19 remain pending in the present application. The Examiner's Answer maintains the rejections of the claims and generally repeats the arguments advanced during prosecution in addition to providing comments (in the "Response to Argument" Section, pages 13-19 of the Examiner's Answer) to the Appeal Brief, filed on February 15, 2011. With regard to the substantive remarks of the Examiner's Answer, Appellant respectfully disagrees and maintains the positions and arguments set forth in the Appeal Brief.

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As discussed in the Appeal Brief, the "agreeable feeling" described by *Tsuji* relates to application of the rayon non-woven fabric to a user. Even assuming, for the sake of argument, that the agreeable feeling is described in the context of the warming apparatus being used as a pocket warmer, this feature taught by *Tsuji* does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction. Specifically, the inference that a surface (*i.e.*, a rayon non-woven fabric) provides an agreeable feeling due to a low coefficient of friction surface is not supported by the *Tsuji* reference. FIGS. 1 and 2 from the *Tsuji* reference are sectional views of embodiments of the warming apparatus taught by *Tsuji*. Various components of the warming apparatus are shown, including the heat generating agent, an air impermeable bag, and an air permeable film. The figures do not disclose or suggest an air impermeable surface area that comprises a low coefficient of friction.

Merely exhibiting a smooth surface or texture as the Examiner alleges in *Tsuji* does not ensure that the surface exhibits a low coefficient of friction such as to allow an object to easily slide into a pocket. The coefficient of friction depends on the materials used and results from the contact between two surfaces. The specification of U.S.

Patent No. 6,886,553 describes an air impermeable surface area that exhibits a low coefficient of friction, such as to allow the heat generating pack to easily slide into a pocket formed in a glove, sock, or belt for holding heat generating packs in position. The Examiner maintains that the feature relating to a low coefficient of friction in various claims is exceedingly broad. However, merely asserting that the warming apparatus of *Tsuji* is smooth does not support a conclusion that the surface of the warming apparatus has a low coefficient of friction.

Similarly, *Ohbiki* fails to disclose or suggest an air impermeable surface area that comprises a low coefficient of friction. *Ohbiki* describes a disposable pocket warmer "which makes it possible to be bent to fit along the curved surfaces or the bending parts of a human body ... and gives a warm feeling to a wearer." (*Ohbiki*, page 4, lines 26-29). However, there is no mention or suggestion that the air impermeable surface of *Ohbiki* comprises a low coefficient of friction. The Office Action contends that FIGS. 1-5 of *Ohbiki* show the surfaces as being smooth and that can easily slide into a pocket of a user. Such an inference is not supported by the figures or any place in the disclosure of *Ohbiki*. FIG. 1 of *Ohbiki* is a sectional view showing a containment bag for a heat generating agent. The Examiner acknowledges that the surface area materials of *Ohbiki* are not disclosed, but instead, relies on the figures to allegedly depict a smooth surface area and thus discloses a low coefficient of friction. Such an inference is not supported.

In rejecting various claims based on the *Koiso* reference, the Examiner asserts that "*[t]he polyethylene and polypropylene disclosed are considered to be low coefficient of friction materials since they are used in the construction of the film for the pack and*

figures 1 and 2 show that these films make a smooth surface area that can easily be slid into a pocket of a user." (Final Office Action mailed October 15, 2010, page 8). Appellant respectfully disagrees. In the Examiner's Answer, the Examiner contends that the Ramachandran Declaration is "*demanding that further limitations be read into the claim limitations that are not supported by the broad disclosure of the '553 patent specification.*" (Examiner's Answer mailed March 25, 2011, page 17). However, the rejection by the Examiner is apparently premised on the alleged inherency of one or more undisclosed elements. The Examiner's position is contrary to the Rule 1.132 Declaration by Uma Ramachandran filed May 19, 2008. The test is whether one of skill in art would have recognized the missing element is "necessarily present." *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). One of ordinary skill in the art will appreciate that the use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on many various parameters such as, for example, the selected film density and concentration of surface lubricant associated with these polymers. Even in view of the broad interpretation taken by the Examiner with regards to "low coefficient of friction," *Koiso* fails to disclose or suggest the features relating to this feature in various claims.

CONCLUSION

For at least the reasons discussed in this Reply Brief and in the previously submitted Appeal Brief, Appellant respectfully requests that the Examiner's rejection of the claims on appeal be overturned by the Board.

Respectfully submitted,

Cynthia J. Lee
Reg. No. 46,033

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May 25, 2011

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TEL:	EMAIL: *maddie.weller@tkhr.com*

RE: Reply Brief

To Whom It May Concern:

Please find attached a Reply Brief and Certificate of Service for Application Control No. 90/008,869

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Date: May 25, 2011 Maddie M. Weller
Maddie M. Weller

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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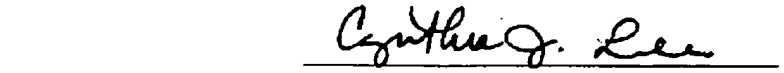
Respectfully submitted,



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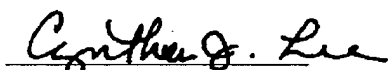

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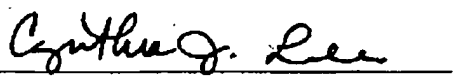

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
90/008,869	10/05/2007	6886553	68803(302728?)	1108

24504 7590 03/25/2011

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ATLANTA, GA 30339-5994

EXAMINER	
ART UNIT	PAPER NUMBER

DATE MAILED: 03/25/2011

Please find below and/or attached an Office communication concerning this application or proceeding.

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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

INTELLECTUAL PROPERTY PRACTICE GROUP
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Date:

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MAR 25 2011
CENTRAL REEXAMINATION UNIT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 90008869
PATENT NO. : 6886553
ART UNIT : 3900

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 90/008,869
Filing Date: October 5, 2007
Appellant(s): 6,886,553

Cynthia J. Lee
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 2/15/11 appealing from the Office action mailed 10/15/10.

(2) Related Appeals and Interferences

There are no related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-4,8-16 and 18-19 are subject to reexamination; claims 1-4,8-16 and 18-19 are presently rejected; and claims 5-7 and 17 have been cancelled.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

JP-7-90030	TSUJI	10-1995
JP-5-30432	OHBIKI	8-1993
JP-58-92752	KOISO	6-1983
USPN 5,187,814	GOLD ET AL	2-1993
USPN 5,928,275	YATES	7-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

Claim Interpretation

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard:

> The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." In re Am. Acad. of Sci. Tech. Ctr., 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the

> rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1).

Listed below are some claim terms and their broadest reasonable interpretation based on the specification:

1. "surface area comprises a low coefficient of friction" (see claim 1) and "surface area of the heat generating pack has a low coefficient of friction (see claim 14) are interpreted as the surface materials and structure are configured such that one can easily slide the pack into a pocket. This interpretation is supported by the '553 specification at column 4 lines 48-51 which states "It is preferable that the air impermeable surface area 26 exhibits a low coefficient of friction, such as to allow the heat generating pack 11 to easily slide into a pocket...".
2. "a low coefficient of friction material" (see claim 10) is interpreted as any material that would allow for the pack to easily slide into a pocket of a user. This interpretation is supported by the '553 specification at column 4 lines 46-52 which states the "...surface area 26 of the bag layer 15 can comprise...any suitable material..." and the "surface area 26 exhibits a low coefficient of friction such as to allow the heat generating pack 11 to easily slide into a pocket...".
3. "a low coefficient friction polyethylene" and "a low coefficient of friction polypropylene" (see claim 12) are interpreted as any polyethylene or polypropylene that when used to make the surface area would configure the surface to allow for the pack to easily slide into a pocket of a user. This

interpretation is supported by the '553 specification at column 4 lines 46-52 which states the "...surface area 26 of the bag layer 15 can comprise polyethylene, polypropylene..." and the "surface area 26 exhibits a low coefficient of friction such as to allow the heat generating pack 11 to easily slide into a pocket...".

Claim Rejections - 35 USC § 112

The rejection of claim 5 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention has been withdrawn in light of the amendment to the claims filed 6/30/10, specifically the cancellation of claim 5.

Claim Rejections –35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8-10, 14-16 and 18-19 are rejected under 35 U.S.C. 102(b) as anticipated by Tsuji.

Tsuji discloses a self-contained, disposable, single-use heat generating apparatus and method, comprising: a heat generating pack comprising: a first bag layer (see ref. No. 2 in figures 1 and 2) having a first surface area (see figures 1 and 2); a second bag layer (see ref. No.

2 in figure 1 or ref. No. 5 in figure 2) having a second surface area (see figures 1 and 2), said second bag layer being fixed to said first bag layer (see bend in the layer in figures 1 and 2) where the first and second bag layers have corresponding dimensions, such that said first bag layer and said second bag layer defining a pouch (see figures 1 and 2) there between; a heat generating agent (1) disposed in said pouch, said heat generating agent arranged and configured to consume air at a predetermined air consumption rate in an exothermic reaction (see translation page 2 last three lines through page 3 lines 1-2 and page 4 second paragraph); and at least one of said first surface area and said second surface area comprises an air permeable surface area having a predetermined airflow rate in which air is introduced to said heat generating agent (see translation page 3 [Means for solving the Problem] and page 4 fourth paragraph), said predetermined airflow rate being arranged and configured to be less than said predetermined air consumption rate such that said heat generating agent remains substantially evenly distributed within said pouch (see translation page 3 [Operation] and page 5 second full paragraph) wherein one of said first surface area and said second surface area comprises an air permeable surface area (2) and the other of said first surface area and said second surface area comprises an air impermeable surface area (5). See figure 2. The rayon non-woven fabric (3) provides a low coefficient for friction material for both sides of the pack include the one side of the heat generating pack having the impermeable surface area (5). See page 4 lines 11-13 which discusses that the fabric (3) has an agreeable feeling in the case of using it as a pocket warmer. It is considered that the rayon non-woven fabric will have a low coefficient of friction since it is disclosed in Tsuji to be inserted into a pocket during use and the figures show the surface area as being smooth. The air permeable surface comprises a microporous material (see translation page

4 fourth paragraph) and both layers may be permeable or one layer may be permeable (see figures 1 and 2). The device further includes a protective packaging (4) sealing the pack from air. Additionally, the air consumption rate is 10,000—100,000 sec. / 100 cc. See Translation claim 1.

Claims 1-4, 10, 14 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by Ohbiki.

Ohbiki discloses a self-contained, disposable, single-use heat generating apparatus, comprising: a heat generating pack comprising: a first bag layer having a first surface area (see figures 1-5); a second bag layer having a second surface area (see figures 1-5), said second bag layer being fixed to said first bag layer where the first and second bag layers have corresponding dimensions, such that said first bag layer and said second bag layer defining a pouch there between (see figures 1-5 and ref. No. 8); a heat generating agent disposed in said pouch (9), said heat generating agent arranged and configured to consume air at a predetermined air consumption rate in an exothermic reaction (see translation page 2 second to last paragraph); and at least one of said first surface area and said second surface area comprises an air permeable surface area having a predetermined airflow rate at which air is introduced to said heat generating agent, said predetermined airflow rate being arranged and configured to be less than said predetermined air consumption rate such that said heat generating agent remains substantially evenly distributed within said pouch (see translation page 8 last paragraph to page 9). The air permeable surface comprises a microporous material (see translation page 11 1st full paragraph) and both layers may be permeable and/or contain permeable and impermeable sections (see figures 1 through 5). While the surface area materials are not disclosed these

materials are considered to have a low coefficient of friction since they are used in the construction of the film for the pack as shown figures 1 through 5 and as shown these surfaces make a smooth surface area that can easily be slid into a pocket of a user. The microporous material comprises a fabric having a plurality of fibers forming an interlocking web, wherein at least a portion of the fibers are bonded to each other (see translation page 11 last 3 lines through page 12 line 1).

Claims 1-3, 8-12, 14-16 and 18 are rejected under 35 U.S.C. 102(b) as anticipated by Koiso.

Koiso discloses a self-contained, disposable, single-use heat generating apparatus, comprising: a heat generating pack comprising: a first bag layer having a first surface area (see figures 1-2); a second bag layer having a second surface area (see figures 1-2), said second bag layer being fixed to said first bag layer (see ref. No. 4) where the first and second bag layers have corresponding dimensions, such that said first bag layer and said second bag layer defining a pouch there between; a heat generating agent disposed in said pouch, said heat generating agent arranged and configured to consume air at a predetermined air consumption rate in an exothermic reaction (see translation page 2 last paragraph); and at least one of said first surface area and said second surface area comprises an air permeable surface area having a predetermined airflow rate at which air is introduced to said heat generating agent, said predetermined airflow rate being arranged and configured to be less than said predetermined air consumption rate such that said heat generating agent remains substantially evenly distributed within said pouch (see translation page 2 last paragraph through page 3 line 1), wherein one of

said first surface area and said second surface area comprises an air permeable surface area and the other of said first surface area and said second surface area comprises an air impermeable surface area, wherein said air impermeable surface area comprises a low coefficient of friction (see translation page 4 third paragraph and figures). The polyethylene and polypropylene disclosed are considered to be low coefficient of friction materials since they are used in the construction of the film for the pack and figures 1 and 2 show that these films make a smooth surface area that can easily be slid into a pocket of a user. The air permeable surface comprises a microporous material (see translation page 3 second paragraph) and both layers may be permeable or one layer may be permeable (see translation page 5 line 4-5). The pack has protective packaging in that it can be wrapped with an air impermeable film. See page 6 line 17+. It is considered inherent that this wrap must be removed in order for the device to function as disclosed.

Claim Rejections –35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 8-10, 12, 14-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji.

Claims 1-4, 10, 12, 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohbiki.

Claims 1-3, 8-12, 14-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koiso.

In the alternative and if it is found that any one of Tsuji, Ohbiki and Koiso, independently, does not meet the claim limitation of a surface area comprising a low coefficient of friction or a material having a low coefficient of friction, these limitations in addition to the low coefficient of friction material comprising one of a low coefficient friction polyethylene and a low coefficient of friction polypropylene are considered obvious.

Heat generating packs are well known in the art to be used as a heat source contained in a pocket of a user. See Tsuji translation page 1 first line of [Prior Art]. These packs are well known to be flexible and have smooth surfaces. See figures of Tsuji, Ohbiki and Koiso. Materials used to make polymer films, surfaces, or sheets in order to reduce friction are also well known in the art. See Gold column 3 lines 67-68.

Therefore, it would have been obvious by one skilled in the art to incorporate any low coefficient of friction material including a low coefficient of friction polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso as a simple substitution of one material for another. This simple substitution does not rise to the level of nonobviousness. "A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR v. Teleflex*, 82 USPQ2d 1385 at 1397. "[I]n many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a

puzzle." Id. The substitution of one known element for another would have yielded predictable results and therefore is obvious.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji, or Koiso in view of Ohbiki.

Both Tsuji and Koiso fail to disclose wherein the microporous material comprises a fabric having a plurality of fibers forming an inter-locking web, wherein at least a portion of said plurality of fibers are bonded to each other.

Ohbiki discloses microporous material comprising a fabric having a plurality of fibers forming an interlocking web, wherein at least a portion of the fibers are bonded to each other (see translation page 11 last 3 lines through page 12 line 1).

At the time of the invention, it would have been obvious to incorporate the microporous material of Ohbiki into the packs of Tsuji or Koiso. All references are in the field of exothermic heat generation for body warming applications; therefore, a combination is proper. It would have been reasonable by one having ordinary skill in the art to incorporate the microporous material of Ohbiki as a substitute for the microporous material of Tsuji or Koiso. One of ordinary skill in the art would have found it obvious to make this substitution since substitution of one known element for another would have yielded predictable results.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Tsuji, Ohbiki and Koiso in view of Yates.

Tsuji, Ohbiki and Koiso each fail to disclose inserting the heat generating pack into a pocket disposed in a belt.

However, Yates discloses a body warmer belt that includes a belt (2) configured to hold the heat generating pack (30) and a pocket (6) disposed in the belt for heat application, wherein the heat generating pack is configured to be inserted into the pocket (see figures 1 and 2). It is further noted that the Yates reference specifically mentions using a heat pack manufactured by patent owner, Heatmax, Inc. of Dalton, Ga. See column 2 lines 59-67.

At the time of the invention, it would have been obvious to incorporate the heat generating pack as taught by any one of Tsuji, Ohbiki and Koiso into the body warmer belt of Yates. All references are in the field of exothermic heat generation for body warming applications; therefore, a combination is proper. It would have been reasonable by one having ordinary skill in the art to incorporate the heat pack as taught by any one of Tsuji, Ohbiki and Koiso as a substitute for the heat pouch (30) in the belt as taught by Yates. Any one of Tsuji, Ohbiki and Koiso discloses the claimed invention except for the new limitation of a belt with pocket. Yates clearly shows that heat packs are well known in the art for use with belts having pockets. Therefore, because these heat packs were art recognized equivalents at the time of the invention was made, one of ordinary skill in the art would have found it obvious to substitute the heat pack of any one of Tsuji, Ohbiki and Koiso for the heat pack in the belt of Yates, since substitution of one known element for another would have yielded predictable results.

Claims 11 and 15-16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koiso in further view of Tsuji. In the alternative if it is found that Koiso does not teach a protective packaging, this limitation is considered obvious.

Tsuji discloses such a protective packaging for storage of the pack in order to keep air from reacting with the pack.

At the time of the invention, it would have been obvious for one skilled in the art to include protective packaging as taught by Tsuji into the invention of Koiso in view of Yates. Both inventions are analogous in the air of exothermic heat generation for body warming applications; therefore, a combination is proper. Additionally, one would have been motivated to make the combination in order to provide the storage and air deterrent properties of the packaging of Tsuji into the invention of Koiso in view of Yates.

(10) Response to Argument

In general, patent owner argues that the prior art individually, i.e. Tsuji, Ohbiki and Koiso, does not teach a material having a low coefficient of friction or a low coefficient of friction polyethylene or polypropylene. The claim terms of "surface area comprises a low coefficient of friction" (claims 1 and 14), "a low coefficient of friction material" (claim 10) and "a low coefficient of friction polyethylene and a low coefficient of friction polypropylene" (claim 12) are exceedingly broad. This broad nature of these limitations is supported by the '553 patent disclosure which provides little more than just using the terms "low coefficient of friction". The '553 patent specification provides no quantitative information in order to determine what is meant by a low coefficient of friction. Rather the specification provides

qualitative description in order to define the low coefficient of friction, i.e. "easily slide into a pocket". The claim interpretation for these limitations as described above is commiserate with the scope of the invention as disclosed in the '553 specification. This interpretation has been applied to the prior art and the prior art meets these broad claim limitations.

Appellant argues on pages 6-8 of their Appeal Brief that the disclosure in Tusji regarding the agreeable feeling of the fabric of the heat pack and the figures showing the surface area of the heat pack being smooth does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction. Appellant further states:

> Merely exhibiting a smooth surface or texture (as the Examiner alleges in Tsuji) does not ensure that the surface exhibits a low coefficient of friction such as to allow an object to easily slide into a pocket. The coefficient of friction depends on the materials used and results from the contact between two surfaces. The specification of U.S. Patent No. 6,886,553 describes an air impermeable surface area that exhibits a low coefficient of friction, such as to allow the heat generating pack to easily slide into a pocket formed in a glove, sock, or belt for holding heat generating packs in position. The fact that a rubber surface is smooth, for example, does not automatically suggest that the rubber surface, when placed in contact with another smooth surface (e.g., another rubber surface), exhibits a low coefficient of friction. Merely asserting that the warming apparatus of Tsuji is smooth does not support a conclusion that the surface of the warming apparatus has a low coefficient of friction. Thus, Tsuji does not explicitly (or otherwise) teach all of the elements of claim 1, as required to support a rejection of anticipation.

However, the prior art must only disclose a material exhibiting a low coefficient of friction so the material allows the heat pack to easily slide into a pocket. While Appellant in their arguments mentions "coefficient of friction depends on the materials used and results from the contact between two surfaces", that interaction is neither claimed nor at a minimum disclosed. Rather, Appellant has chosen to make a broad based assertion that the material has a low coefficient of friction, not providing a range of values or reference points, and instead has

defined that the test for a material having a low coefficient of friction is if the material of the heat pack allows the pack to easily slide into a pocket. Clearly, Tusji meets this test. While Appellant emphasized the portion of the rejection directed to an agreeable feeling and the figures showing the surface area as being smooth, Appellant did not highlight the disclosure in Tusji teaching inserting the heat pack into a pocket during use. It is the combination of an agreeable feeling of the fabric, an over all smooth surface, and the explicit disclosure of inserting the heat pack into a pocket during use that indicates the material of Tusji will necessarily have a low coefficient of friction, at least as defined by Appellant in the '553 specification.

Appellant argues on pages 11-12 of their Appeal Brief that Ohbiki does not teach a material having a low coefficient of friction. Specifically, Appellant contends that the rejection relying on the figures showing the surface area of the heat pack being smooth does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction.

However, the prior art must only disclose a material exhibiting a low coefficient of friction so the material allows the heat pack to easily slide into a pocket. In support of these limitation, the '553 patent specification only requires that the material allow for easy insertion into a pocket and the drawings of the '553 patent show an outer material with a smooth surface. Clearly, Ohbiki meets the requirements as set forth in the '553 patent drawings. Appellant has chosen to maintain the broadness of the limitations thereby allowing prior art that depicts a similar surface to read on the claim limitation of a low coefficient of friction. The figures of Ohbiki depict a heat pack capable of sliding into a pocket and nothing in the drawings indicates that the pack would not easily slide into a pocket.

Appellant argues on pages 14-15 of their Appeal Brief that the disclosure in Koiso does not correspond to providing an air impermeable surface area that comprises a low coefficient of friction and further is contrary to the Declaration by Uma Ramachandrean filed 5/19/08. Generally, patent owner asserts that the materials in Koiso do not inherently have a low coefficient of friction. Specifically, patent owner repeats the Ramachandrean Declaration in arguing that "one of ordinary skill in the art will appreciate, the use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on such parameters as the selected film density and concentration of surface lubricant associated with these polymers."

Regarding the Ramachandrean Declaration filed 5/19/08 under 37 CFR 1.132, this declaration is insufficient to overcome the above rejections because: the evidence presented is insufficient to overcome the rejections and is not commiserate with the scope of the claims. The assertions presented in the Ramachandrean Declaration are not substantiated by any evidence. The declaration states "The use of such polymers as polyethylene and polypropylene does not automatically correspond with providing a low coefficient of friction material as the coefficient of friction of these polymers depends on such parameters as the selected film density and concentration of surface lubricant associated with these polymers." However, these statements are not supported by any evidence substantiating these statements and these statements are not supported by the general disclosure in the '553 patent specification. The '553 patent disclosure is silent as to film density and concentration of surface lubricant. The only disclosure provided for one skilled in the art to understand what patent owner means by "low coefficient of friction"

is that it can easily be slid into a pocket. Looking to the specification, the only description of this limitation can be found at column 4 lines 48-52 and again at lines 60-65 which both state "It is preferable that the air impermeable surface area 26 exhibits a low coefficient of friction, such as to allow the heat generating pack 11 to easily slide into a pocket...". As to the material for the impermeable surface area 26, the '553 specification sets forth, also in column 4, that the material may be "polyethylene, polypropylene or any suitable material". There is no further description or specifications of these materials in the remainder of the '553 specification. Therefore, one can reasonably conclude after reviewing the '553 specification that polyetheylene or polypropylene or any suitable material providing a low coefficient of friction surface is intended by the claim limitation. The Ramachandrean Declaration is demanding that further limitations be read into the claim limitations that are not supported by the broad disclosure of the '553 patent specification.

Furthermore, the rejection of claim 12 under 35 U.S.C. 112 first paragraph was withdrawn upon a further review of the newly added claim limitation and the disclosure in the '553 specification. Patent owner argues that the new claim limitations of "a low coefficient of friction polyethylene and a low coefficient of friction polypropylene" have support in the '553 patent specification. The support resides in two sentences of the specification which basically list that polyethylene and polypropylene can be used to make the surface area and the resulting surface area has a low coefficient of friction. The 112 first paragraph rejection was withdrawn and the claim limitation was interpreted in light of the exceedingly broad disclosure of the limitations in the specification. If patent owner believes that these limitations should be afforded

a more narrow interpretation, then the 112 first paragraph rejection should be re-applied to the claims.

In response to applicant's argument that there is no teaching, suggestion, motivation or reasoning to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, it would have been obvious by one skilled in the art to incorporate any low coefficient of friction material including a low coefficient of friction polyethylene or a low coefficient of friction polypropylene into any one of the devices of Tsuji, Ohbiki and Koiso as a simple substitution of one material for another. Any low coefficient of friction material including polyethylene or polyproplyene would have yielded predictable results by equally containing the heat generating components from the external environment and providing an outer cover that could easily slide into a pocket of the user. Additionally, one may have chosen to substitute any low coefficient of friction material including polyethylene or polypropylene due to increased availability, low cost or ease of manufacture. Furthermore, simple substitution is well established to not rise to the level of nonobviousness. Additionally, "A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR v. Teleflex*, 82 USPQ2d 1385 at 1397. "[I]n many cases a person of ordinary skill will be

able to fit the teachings of multiple patents together like pieces of a puzzle." Id. The substitution of one known element for another would have yielded predictable results and therefore is obvious.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Catherine S. Williams/

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