

PATENT COOPERATION TREATY

From the:
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing (*day/month/year*)
22 August 2018

Applicant's or agent's file reference
P1500PC00

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/AU2018/050585

International filing date (*day/month/year*)
13 June 2018

Priority date (*day/month/year*)
14 June 2017

International Patent Classification (IPC) or both national classification and IPC
A61F 5/058 (2006.01) A61F 5/055 (2006.01) A47C 16/00 (2006.01)

Applicant
FREEDOM PHYSIOTHERAPY WA PTY LTD

1. This opinion contains indications relating to the following items:
- Box No. I Basis of the opinion
 - Box No. II Priority
 - Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - Box No. IV Lack of unity of invention
 - Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
 - Box No. VI Certain documents cited
 - Box No. VII Certain defects in the international application
 - Box No. VIII Certain observations on the international application
2. **FURTHER ACTION**
- If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.
- If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
- For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA

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AUSTRALIA
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Date of completion of this opinion
22 August 2018

Authorised Officer

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Box No. I **Basis of this opinion**

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

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Box No. II Priority

1. The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.

2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

The claimed priority date is found to be valid.

Claim 10 is not entitled to the earliest priority date of either priority documents (AU 2017904237 or AU 2017902263) as these documents do not contain adequate disclosure of the feature of a strap provided to connect between the distal ends of the first and second arms. For the purposes of this international search report, the priority date for the above feature of claim 10 is the international filing date of the PCT application: 13 June 2018. For the remaining claims, claims 1-9 and 11 are disclosed in AU 2017902263, thereby having an earliest priority date of 14 June 2017, claims 12-17 are disclosed in AU 2017904237 and have an earliest priority date of 19 October 2017.

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Box No. IV Lack of unity of invention

1. In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- paid additional fees
 - paid additional fees under protest and, where applicable, the protest fee
 - paid additional fees under protest but the applicable protest fee was not paid
 - not paid additional fees
2. This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- complied with
 - not complied with for the following reasons:

See Supplemental Box for Details

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- all parts
 - the parts relating to claims Nos.

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

1. Statement

Novelty (N)	Claims 2 to 10 and 14 to 17	YES
	Claims 1 and 11 to 13	NO
Inventive step (IS)	Claims 2 to 5 and 14 to 17	YES
	Claims 1, 6 to 10 and 11 to 13	NO
Industrial applicability (IA)	Claims 1 to 17	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS:

CITATIONS

D1: WO 2016/197178 A1 (HAIRY TURTLE PTY LTD) 15 December 2016

D2: KR 10-1454665 B1 (JUNG et al.) 03 November 2014

D3: US 2015/0150711 A1 (UNIVERSITY OF LIMERICK) 04 June 2015

D4: KR 10-1623049 B1 (MUN et al) 20 May 2016

D5: US 2013/0221168 A1 (BERNARDONI) 29 August 2013

D6: US 2016/0220410 A1 (HWANG) 04 August 2016

NOVELTY (N)

Claims 1 and 11 to 13 lack novelty and do not meet the requirements of Article 33(2) of the PCT in view of the cited prior art documents.

Claims 1 and 11 to 13 lack novelty and do not satisfy Article 33(2) of the PCT in view of document D1.

With respect to claim 1, D1 discloses a cushioned support (abstract) comprising: a chest engaging member (7, Figs. 8, 13) provided to rest on an upper area of the chest of a user below the jaw, the chest engaging member comprising a U-shaped first elongate member (7, Figs. 4, 6); [0022];

a neck support (adjustable strap, 13) (Figs. 8, 13) extending from the chest engaging member around a rear side of the neck of the user [0066]; strap is attached to the hinge members (4a, 4b) which are connected to the chest engaging member (7);

a jaw support member (1, Figs. 8, 13) connected to the chest engaging member (hinges 4a, 4b), the jaw support member comprising a U-shaped second elongate member [0022] (1, Figs. 4, 6);

wherein the jaw support member is pivotable (hinges 4a, 4b) between a first (closed) position in which the jaw support member is adjacent to the chest engaging portion [0017] (Fig. 1), and a second (open) position, in which the jaw support member moves away from the chest engaging member such that the user may rest their chin on the jaw support member (Figs. 8, 9, 13). The device of D1 enables the user to rest the jaw on the jaw support member. It is considered that the extent to which a user's chin rests against the lower arms of the U-shape of the jaw support member is dependent on the size of a user's face relative to the support member. It is considered that no structural changes of the device in D1 would be required for a user to rest at least a portion of the chin against the lower arms of the jaw support.

The first and second elongate members (7, 1) comprising flat elongate members (inner surface 7a, 1a) having corresponding shapes [0018] such that in the closed configuration, a surface of the second elongate member is adjacent and parallel to a surface of the first elongate member along the lengths thereof [0017, 0053] Fig. 1.

It is considered that D1 discloses all the essential features of claim 1.

With regard to the appended claims, D1 discloses:

Claim 11: D1 discloses a releasable locking joint between the first and second ends of both the jaw and chest support members for adjusting the degree of rotation between the chest and jaw support members [0032, 0053] (Fig. 4).

Claim 12: D1 discloses the locking joints between the jaw and chest supports are rotatably adjusted using a ratchet mechanism [0033].

Claim 13: D1 discloses two actuators (knobs, 5a, 5b, Fig. 2) provided adjacent to the connection between the first and second elongate members, wherein the locking mechanism is moveable from the first to the second position by operation of the mechanical knobs [0053, 0055, 0056].

Certain dependent claims 2 to 10 and 14 to 17 are considered to be novel and satisfy Article 33(2) of the PCT in view of the cited prior art documents.

With respect to claim 2 to 5, whilst D1 provides the features of claim 1, this document does not recite the second elongate member is rotatable about an axis passing through the first and second ends of the first elongate member.

With respect to claims 6 to 10, D1 does not disclose a neck support comprising first and second arms extending outwardly away from the first and second ends of the first elongate member.

With respect to claims 14 to 17, D1 does not disclose the ends of the second elongate member including cylindrical end portions having openings for receiving protrusions on the end of the first elongate member, wherein the locking mechanism is provided within the openings.

Therefore, claims 2 to 10 and 14 to 17 are considered to be novel and satisfy Article 33(2) of the PCT in view of the cited prior art documents.

INVENTIVE STEP (IS)

Claims 1 and 11 to 13 lack an inventive step and do not satisfy Article 33(3) of the PCT.

Claims 1 and 11 to 13 lack novelty in view of document D1, and therefore these claims are also considered to lack an inventive step. An invention is considered to be obvious in view of it being disclosed.

Claims 6 to 10 are considered to lack an inventive step, being obvious when D1 is read in combination with document D2.

The problem addressed by the specification is the need to provide improved means for a wearable device for supporting the jaw. D1 discloses all of the essential features of claim 1 (see novelty discussion) and further provides a neck support in the form of a strap for preventing the device from falling off [0066]. Claim 6 differs from D1 in the neck support comprising first and second arms extending outwardly away from first and second ends of the first elongate member, while claim 7 further provides that the first and second arms comprise relatively flat curved members, such that the arms curve around the rear of the neck of the user. Document D2 discloses a neck support comprising a first and second arms extending outwardly away from the jaw and chest supporting members to prevent the device from falling off (Fig. 2, [0019]), wherein the arms are relatively flat curved members that curve around the neck (Fig. 2).

It is considered that a person skilled in the art would, with the desire to provide a support device that was comfortable to wear around the neck, regard the neck supports of D2 as an obvious variation of a strap and thus be motivated to combine the disclosure of D1 with D2 and arrive at the solution without an inventive step.

Claim 8: manufacturing techniques wherein members are integrally formed are known in the art (i.e. injection moulding). It is considered that a person skilled in the art would regard the manufacturing of the first elongate member and the first and second arms being integrally formed from a resilient flexible material to be an obvious and routine manufacturing process in light of common general knowledge of the art.

With regard to claims 9 and 10, because the additional features are disclosed by document D2, these features cannot contribute to a patentable inventive step. Document D2 discloses distal ends of supports (50) are detachably coupled to each other by a connecting portion (53) that is disclosed in D2 as Velcro tape [0019] Fig. 2. It is considered the tape functions as a strap that connects the two arms and that a gap is present between the arms when the tape is removed and the arms are uncoupled.

Claims 2 to 5 and 14 to 17 involve an inventive step and therefore comply with PCT Article 33(3).

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Claim 2 is considered to possess an inventive step and satisfy Article 33(3) of the PCT. Claim 2 provides the feature of the second elongate member rotatable about an axis passing through the first and second ends of the first elongate member. The prior art does not suggest or teach towards such an arrangement. Therefore, claims 3 to 5 being appended to a claim that possesses an inventive step are also considered to have an inventive step.

Claim 14 is considered to provide an inventive step and satisfy Article 33(3) of the PCT. Claim 14 provides the feature of the second elongate member including cylindrical end portions having openings for receiving protrusions on ends of the first elongate member and wherein the locking mechanism is provided within the openings. Claims 15 to 17 being appended to a claim that provides an inventive step are also considered to be inventive.

INDUSTRIAL APPLICABILITY (IA)

The invention defined in the claims is considered to meet the requirements of Industrial Applicability under Article 33(4) of the PCT because it can be made by, or used in, industry.

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Box No. VIII Certain observations on the international application

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

Claim 2 is not clear as it is appended to itself. For the purposes of this report, I have considered that claim 2 is appended to claim 1.

Claim 3 is also not clear as this claim is appended to claim 4, where claim 4 is appended to claim 3. For the purposes of this report, I have considered the claim 3 is appended to claim 2.

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Supplemental Box

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Continuation of: **Box IV**

This International Application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept.

This Authority has found that there are different inventions based on the following features that separate the claims into distinct groups:

- Claims 1 to 10 are directed to a jaw support with a chest engaging member, neck support, jaw support member and first and second elongate members. The feature of the second elongate member rotatable about an axis passing through the first and second ends of the first elongate member is specific to this group of claims.
- Claims 11 to 17 are directed to a jaw support with a chest engaging member, neck support, jaw support member, first and second elongate members and a locking mechanism. The feature of the locking mechanism is specific to this group of claims.

PCT Rule 13.2, first sentence, states that unity of invention is only fulfilled when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding special technical features. PCT Rule 13.2, second sentence, defines a special technical feature as a feature which makes a contribution over the prior art.

When there is no special technical feature common to all the claimed inventions there is no unity of invention.

In the above groups of claims, the identified features may have the potential to make a contribution over the prior art but are not common to all the claimed inventions and therefore cannot provide the required technical relationship. The only feature common to all of the claimed inventions and which provides a technical relationship among them is claim 1.

However this feature does not make a contribution over the prior art because it is disclosed in:

D1 WO 2016/197178 A1 (HAIRY TURTLE PTY LTD) 15 Dec 2016

Therefore in the light of this document this common feature cannot be a special technical feature. Therefore there is no special technical feature common to all the claimed inventions and the requirements for unity of invention are consequently not satisfied *a posteriori*.