

# AUSTRALIAN PATENT OFFICE

## SEARCH REPORT

Applicant's or agent's file reference <b>KK.123f</b>		
Application No. <b>TH 0000001234</b>	Application Filing Date ( <i>day/month/year</i> ) <b>30 June 2008</b>	(Earliest) Priority Date ( <i>day/month/year</i> ) <b>15 August 2007</b>
Applicant <b>WANAPANPINIT, Somboon</b>		

This search report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☒ **Certain claims were found unsearchable** (See Box I)
2. ☒ **Unity of invention is lacking** (See Box II)
3. ☐ The application contains disclosure of a **nucleotide and/or amino acid sequence listing** and the search was carried out on the basis of the sequence listing
 

☐ filed with the application  
☐ furnished by the applicant separately from the application,  
☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in application as filed
4. With regard to the **title**, ☐ the text is approved as submitted by the applicant.  

☒ the text has been established by this Office to read as follows:  
**Flat plate heat exchanger modules**
5. With regard to the **abstract**, ☐ the text is approved as submitted by the applicant  

☒ the text has been established by this Office as it appears in Box III
6. The figure of the **drawings** to be published with the abstract is Figure No. 1
 

☐ as suggested by the applicant.  
☐ because the applicant failed to suggest a figure  
☒ because this figure better characterises the invention  
☐ None of the figures

## AUSTRALIAN PATENT OFFICE

## SEARCH REPORT

Application No.

TH 0000001234

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This search report has not been established in respect of certain claims (Article 17(2)(a)) for the following reasons:

1. ☐ Claims Nos.

because they relate to non-patentable subject matter not required to be searched by this Office, namely:

2. ☒ Claims Nos. **18-20**

because they relate to parts of the application that does not comply with the prescribed requirements to such an extent that no meaningful search can be carried out, specifically:

The claims appear to be non-idiomatic translations of the original with a lack of antecedents, incorrect phrasing and a general lack of clarity that renders the scope of the claims incomprehensible.

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This Office found multiple inventions in this application, as follows:

This 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.

In assessing whether there is more than one invention claimed, I have given consideration to those features which can be considered to potentially distinguish the claimed combination of features from the prior art. Where different claims have different distinguishing features they define different inventions.

This Office has found that there are different inventions as follows:

- Claims 1-11 are directed to a solar collector module including a tube sheet connected to a header, with the end of the tube sheet protruding a distance into the header. It is considered that the protrusion of the sheet a distance into the header comprises a first distinguishing feature.
- Claims 12-17 are directed to a solar collector module including a tube sheet connected to a header in which the tube sheet and header are attached to an insulated substrate by means of a plurality of snap-locking anchors. It is considered that the attachment of the sheet and header to the substrate by snap-locking anchors comprises a second distinguishing feature.

(continued on the extra sheet)

☒ Accordingly, this Office is reporting only on the main invention of claims **1-11**, or

☐ Since little extra effort was involved, this Office is reporting on the inventions of claims .

## AUSTRALIAN PATENT OFFICE

## SEARCH REPORT

Application No.

TH 0000001234

**Box III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)**

A heat exchanger module, such as a solar collector module, comprising a tube sheet connected to a header. The tube sheet passes through an opening in the header so that the end of the sheet protrudes a distance into the header, the header opening being united to the surface of the tube sheet so that the tendency of the tube sheet to burst or split open in the region of the junction of the tube sheet and header is minimised when the module is under fluid pressure.

## AUSTRALIAN PATENT OFFICE

## SEARCH REPORT

Application No.

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**A. CLASSIFICATION OF SUBJECT MATTER**

According to International Patent Classification (IPC)

Int. Cl. **G01F 11/04** (2006.01)**G01F 15/14** (2006.01)**G05D 9/00** (2006.01)**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

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

Electronic data base consulted during the search (name of data base and, where practicable, search terms used)

WPI, EPODOC: IPC G01F 11/-, 15/-, G05D 9/00 &amp; Keywords (float, resist, sensor) and like terms

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3207388 A (WADDINGTON) 25 July 1965 column 2 lines 30-49	1-6
X	DE 2947734 A (CIBA-GEIGY AG) 12 June 1980 Figs. 5,6	1-5, 9, 10
X	JP 05-100000 A (NIPPON STEEL CORP) 23 April 1993 Figures 1-3 and translation from <a href="http://www.ipdl.inpit.go.jp/homepg_e.ipdl">http://www.ipdl.inpit.go.jp/homepg_e.ipdl</a>	1-11



Further documents are listed in the continuation of Box C



See patent family annex

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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

"E" earlier application or patent but published on or after the international filing date

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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

"O" document referring to an oral disclosure, use, exhibition or other means

"&amp;" document member of the same patent family

"P" document published prior to the international filing date but later than the priority date claimed

Date of submission of the request to the Australian Patent Office

24 July 2008

Date of completion of the search report

30 July 2008

Date of mailing of the search report

Name and mailing address

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## AUSTRALIAN PATENT OFFICE

## SEARCH REPORT

EXTRA SHEET

Application No.

TH 0000001234

**SUPPLEMENTAL BOX  
CONTINUATION OF BOX II:**

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.

Each of the abovementioned groups of claims has a different distinguishing feature and they do not share any feature which could satisfy the requirement for being a special technical feature. Because there is no common special technical feature it follows that there is no technical relationship between the identified inventions. Therefore the claims do not satisfy the requirement of unity of invention *a priori*.

**AUSTRALIAN PATENT OFFICE****SEARCH REPORT****PATENT FAMILY MEMBERS****Application No.****TH 0000001234**

Patent Document Cited in Search Report			Patent Family Member		
US	3207388	CH	440006	GB	1044517
DE	2947734	CA	1149815	FR	2442840
		JP	55085576	US	4282353
JP	05-100000	NONE			
Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.					
END OF ANNEX					