



(43) International Publication Date  
7 January 2016 (07.01.2016)

- (51) International Patent Classification:  
*F03B 13/18* (2006.01) *F03B 13/26* (2006.01)
- (21) International Application Number:  
PCT/GB2015/051951
- (22) International Filing Date:  
3 July 2015 (03.07.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
1411908.5 3 July 2014 (03.07.2014) GB  
1420209.7 13 November 2014 (13.11.2014) GB
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- (81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,  
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,

DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,  
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,  
KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG,  
MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM,  
PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC,  
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ,  
TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU,  
TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE,  
DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU,  
LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,  
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, KM, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments (Rule 48.2(h))

(88) Date of publication of the international search report:  
31 March 2016

(54) Title: APPARATUS FOR CONVERTING OR ABSORBING ENERGY FROM A MOVING BODY OF WATER

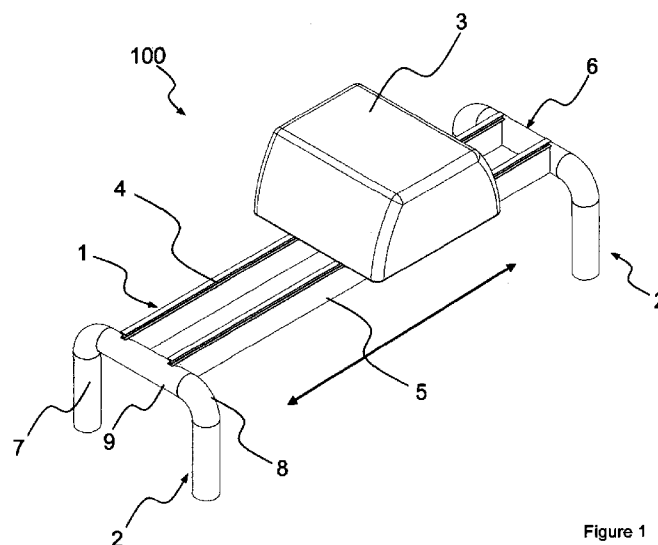


Figure 1

(57) Abstract: There is provided an apparatus for absorbing or converting energy from a moving body of water. The apparatus comprises an energy capture element (3) which, in use, moves in response to movement of the body of water in which the energy capture element (3) is placed, and an elongate guide element (1) defining a guide path along which the energy capture element (3) can move. The energy capture element (3) is a volume. In use, the energy capture element (3) and the guide element (1) are arranged so that the energy capture element (3) moves along the guide path in a substantially horizontal plane in response to differences in water pressure along a length of the energy capture element (3) parallel to the guide path and in response to movement of the body of water surrounding the energy capture element (3).



# INTERNATIONAL SEARCH REPORT

International application No <b>PCT/GB2015/051951</b>
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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> INV. F03B13/18 F03B13/26 ADD.				
According to International Patent Classification (IPC) or to both national classification and IPC				
<b>B. FIELDS SEARCHED</b>				
Minimum documentation searched (classification system followed by classification symbols) F03B				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data				
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>				
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 7 476 986 B1 (DEL PRINCIPE DAVID M [US]) 13 January 2009 (2009-01-13)	1-5,8, 10,11, 13,16, 20-22, 24-28		
Y A	abstract column 3, lines 36-40 column 5, lines 51-55 figures 1-10	6 7		
X	----- AU 2013 201 756 A1 (GRANITZER JOHANN) 17 April 2014 (2014-04-17)	1,3,5, 11,12, 16, 20-23, 25-27		
A	abstract paragraphs [0011] - [0013] figures 1-2 -----	7		
-/--				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <span style="margin-left: 100px;"><input checked="" type="checkbox"/> See patent family annex.</span>				
* Special categories of cited documents : <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;">                     "A" document defining the general state of the art which is not considered to be of particular relevance                      "E" earlier application or patent but published on or after the international filing date                      "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)                      "O" document referring to an oral disclosure, use, exhibition or other means                      "P" document published prior to the international filing date but later than the priority date claimed                 </td> <td style="width: 50%; border: none; vertical-align: top;">                     "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                      "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                      "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                      "&amp;" document member of the same patent family                 </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"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 "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 "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 "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"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 "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 "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 "&" document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
25 February 2016	09/03/2016			
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Cabrele, Silvio			

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2015/051951

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

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

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 29  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2015/051951

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	CA 2 093 187 A1 (FREELAIN KENNETH W [US]) 8 June 1994 (1994-06-08) abstract figures 1-5	1,3,5, 20,25,26 7
Y A	----- GB 2 496 856 A (MANN DAVID FREDERICK [GB]) 29 May 2013 (2013-05-29) abstract figures 5-6	6 7
X Y A	----- WO 81/00285 A1 (Q CORP [US]) 5 February 1981 (1981-02-05) abstract page 18, line 11 - page 19, line 2 figure 7	1,9,13, 14,16,17 19 15,18
Y A	----- WO 2013/068748 A2 (MARINE POWER SYSTEMS LTD [GB]) 16 May 2013 (2013-05-16) abstract page 2, paragraph 4-5 page 6, paragraph 5 figures 1-19	19 15,18
A	----- US 2010/193447 A1 (MARCUM ELBERT LEE [US]) 5 August 2010 (2010-08-05) abstract; figures 1-13 -----	9,14,15, 17-19

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2015/051951

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7476986	B1	13-01-2009	NONE
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AU 2013201756	A1	17-04-2014	NONE
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		NZ 625517 A	25-09-2015
		PE 12752014 A1	17-09-2014
		US 2015000263 A1	01-01-2015
		WO 2013068748 A2	16-05-2013
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US 2010193447	A1	05-08-2010	NONE
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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8, 10-13, 16, 20-28

Optimization of the interaction between an energy caption element and a guide element.

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2. claims: 9, 14, 15, 17-19

Device for varying orientation and/or position of a wave energy device.

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**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

Continuation of Box II.2

Claims Nos.: 29

Claim 29 has not been searched as the technical features to which said claim refers cannot be unequivocally determined, i.e. the claim is so unclear that no reasonable search can be performed in its regard

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guidelines C-IV, 7.2), should the problems which led to the Article 17(2) declaration be overcome.