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<p>A. Patent Application No.(s)</p>	<p>B. Patent No. (s) <b>7,745,379</b> Additional numbers attached <input type="checkbox"/> Yes <input type="checkbox"/> No</p>
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CH \$40.00 500573 10599712

## ASSIGNMENT

WHEREAS, I, Patrick Joseph Collins, a citizen of Great Britain, with a post office address 38 Eilean Rise, Ellon, Aberdeenshire AB41 9RF, United Kingdom, hereinafter generally referred to as "ASSIGNOR", have invented a certain new and useful

### **Method of Insulating a Subsea Structure**

for which I have filed an application for Letters Patent of the United States on December 5, 2005, which is Serial No. 10/559.712 on \_\_\_\_\_ and

WHEREAS, Aubin Limited, a company of the United Kingdom, with a business address of Commercial House, 2 Rubislaw Terrace, Aberdeen, AB10 1XE, United Kingdom, hereinafter generally referred to as "ASSIGNEE", which has acquired certain assets of Ythan Environmental Services including all rights in the above application and the invention, is desirous of acquiring said invention and said application for Letters Patent,

WHEREAS, now and at the time the invention was made, said invention was subject to an obligation by ASSIGNOR to assign their entire right, title and interest therein to ASSIGNEE directly or through its acquisition of the rights held by Ythan Environmental Services.

NOW, THEREFORE, in consideration of the sum of One Dollar and other good and valuable executed consideration, the full receipt and sufficiency of all of which are hereby acknowledged, and intending to be legally bound hereby, I, the undersigned ASSIGNOR, hereby agrees to sell, assign, transfer and convey and by these presents do sell, assign, transfer and convey unto the above-named ASSIGNEE, the whole and entire right, title and interest

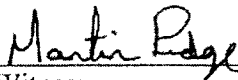
in and to said invention as described in the above application for Letters Patent, for the territory of the United States and its possessions and territories and all foreign countries, and

in and to the above application for Letters Patent, including any continuing and/or divisional applications therefor, any provisional applications identified in the above application, and any and all United States Letters Patent which may be granted on said application(s) including reissues and reexaminations, and all foreign Letters Patent which may be granted on said invention, including reissues, extensions, renewals and reexaminations of such Letters Patent;

said invention, application and Letters Patent to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and behoof, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said Letters Patent may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNOR had this assignment and sale not been made; and for the aforesaid consideration ASSIGNOR hereby covenants, agrees and undertakes to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the Letters Patent hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNOR.

I HEREBY authorize the above-mentioned ASSIGNEE or its legal representative to insert in this document the filing date and/or serial number of our aforesaid application or any other information that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

  
\_\_\_\_\_(L.S.)  
PATRICK JOSEPH COLLINS

  
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Witness

17/05/10  
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Date

TO:ROBERT E. CANNUSCIO, ESQ. COMPANY:DRINKER BIDDLE & REATH LLP



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MAY 18, 2010

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ASSIGNOR:

COLLINS, PATRICK JOSEPH

DOC DATE: 05/17/2010

ASSIGNEE:

AUBIN LIMITED  
COMMERICAL HOUSE  
2 RUBISLAW TERRACE  
ABERDEEN, AB10 1XE, UNITED KINGDOM

SERIAL NUMBER: 10599712

PATENT NUMBER: ~~7712646~~ 7745399

TITLE: ~~ADAPTOR FOR A TOOL~~ METHOD of  
INSULATING A SUBSEA STRUCTURE

FILING DATE: 12/5/2005  
~~07/25/2007~~  
ISSUE DATE: ~~05/11/2010~~ 06/29/2010

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024398/0607 PAGE 2

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US007745379B2

(12) **United States Patent**  
**Collins**

(10) **Patent No.:** **US 7,745,379 B2**  
(45) **Date of Patent:** **Jun. 29, 2010**

(54) **METHOD OF INSULATING A SUBSEA STRUCTURE**

(75) Inventor: **Patrick Joseph Collins**, Ellon (GB)  
(73) Assignee: **Aubin Limited** (GB)  
(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C 154(b) by 1211 days

(21) Appl. No: **10/559,712**  
(22) PCT Filed: **Jun. 3, 2004**  
(86) PCT No.: **PCT/GB2004/002349**  
§ 371 (c)(1),  
(2), (4) Date: **Dec. 5, 2005**

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PCT Pub. Date: **Dec. 16, 2004**

(65) **Prior Publication Data**  
US 2006/0147273 A1 Jul. 6, 2006

(30) **Foreign Application Priority Data**  
Jun. 4, 2003 (GB) ..... 0312781.8

(51) **Int. Cl.**  
*E02D 27/38* (2006.01)  
*E02D 5/60* (2006.01)

(52) **U.S. Cl.** ..... **507/128, 507/102, 507/129, 507/136, 507/137, 507/139, 507/202, 507/230, 507/231, 507/235, 507/242, 507/260, 507/261, 507/263, 507/266, 405/210, 405/211.1, 166/275, 166/302, 166/356**

(58) **Field of Classification Search** ..... None  
See application file for complete search history.

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*Primary Examiner*—James Seidleck  
*Assistant Examiner*—John J Figueroa  
(74) *Attorney, Agent, or Firm*—Drinker Biddle & Reath, LLP

(57) **ABSTRACT**

A method of insulating pipeline bundles used in recovering hydrocarbons from wells is disclosed A polymeric substance, such as an orthophosphate ester, is injected into the annulus between a carrier pipe and the hydrocarbon conveying tubulars A ferric salt, such as ferric sulphate, may be added as a gelling agent The mixture results in a gel having a dynamic viscosity of greater than (1000) PaS. The gel insulates the inner hydrocarbon-conveying tubulars from the surrounding seawater thus helping to maintain the relatively high temperature therewithin This in turn reduces the likelihood for chemicals, such as hydrates, to be precipitated out of the oil phase

**17 Claims, 4 Drawing Sheets**

