FORM PTO-1619A Expires 06/30/99 OMB 0651-0027 11-16-2000



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INVENTION/PATENT APPLICATION ASSIGNMENT FROM INVENTOR TO COMPANY

WHEREAS I, Ian Strawbridge of Sheffield, England, a British citizen residing at 164 Arnold Avenue, Gleadless, Sheffield S12 3JE, England, United Kingdom, have made a certain new and useful invention as set forth in an application for United States Letters Patent, entitled:

REFRACTORY MATERIAL

executed by me on the date of execution of this document, as shown below, and was filed on September 1, 2000 as US Application Serial No. 09/653,976.

AND WHEREAS, Vesuvius Crucible Company, a corporation of the State of Delaware and having an address of 103 Foulk Road, Suite 202, Wilmington, DE 19803, hereinafter referred to as assignee, is desirous of acquiring the entire right, title and interest in and to said invention and in and to any and all Letters Patent of the United States and foreign countries that may be obtained therefor;

NOW, THEREFORE, for good and valuable consideration, the receipt for and sufficiency of which is hereby acknowledged, I do hereby sell, assign, transfer and set over unto said assignee, its legal representatives, successors, and assigns, the entire right, title and interest in and to said invention as set forth in the above-mentioned application, including any continuations, continuations-in-part, divisions, reissues, re-examinations or extensions thereof, and in and to any and all patents of the United States and foreign countries that may be issued for said invention;

UPON SAID CONSIDERATIONS, I hereby agree with the said assignee that I will not execute any writing or do any act whatsoever conflicting with these presents, and that I will, at any time upon request, without further or additional consideration but at the expense of said assignee, execute such additional assignments and other writings and do such additional acts as said assignee may deem necessary or desirable to perfect the assignee's enjoyment of this grant, and render all necessary assistance in application for and obtaining original, divisional, continuations, continuations-in-part, reexamined, reissued, or extended Letters Patent of the United States or of any and all foreign countries on said invention, and in enforcing any rights or choses in action accruing as a result of such applications or patents, by giving testimony in any proceedings or transactions involving such applications or patents, and by executing preliminary statements and other affidavits, it being understood that the foregoing covenant and agreement shall bind, and inure to the benefit of the assigns and legal representatives of assignor and assignee;

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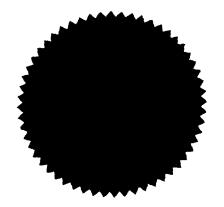
AND I request the Commissioner of Patents and Trademarks to issue any Letters Patent of the United States that may be issued for said invention to said assignee, its legal representatives, successors or assigns, as the sole owner of the entire right, title and interest in and to said patent and the invention covered thereby.

23.4 Octobes 2000 Landtran My Signature

On this 23.4 day of 0chbu, 2000, before me personally appeared 1AN 570chbu, 2000, before me known to be the person named in and who executed the above instrument, and acknowledged to me that he/she executed the same for the uses and purposes therein set forth.

SEAL

My commission expires at death



RECORDED: 11/02/2000