

08-06-2003



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To the Honorable Commissioner of

102517003

the attached original documents or copy thereof.

## 1. Name of conveying part(ies):

Nathan Thomas Weiland  
Ben T. ZinnAdditional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

## 2. Name and address of receiving party(ies)

Name: Georgia Tech Research Corporation

Street Address: 505 10th Street, N.W.  
Atlanta, Georgia 30332-0415Additional name(s) & address(es) attached? ☐ Yes ☒ No

## 3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other:

Execution Date: March 12, 2003

## 4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is  
March 12, 2003

A. Patent application No.(s)

10/387,688

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Scott A. Horstemeyer  
Thomas, Kayden, Horstemeyer & Risley, L.L.P.  
100 Galleria Parkway, Suite 1750  
Atlanta, Georgia 30339-5948

## 6. Total number of applications/patents involved: [ 1 ]

## 7. Total fee (37 CFR 3.41) \$ 40.00

- ☐ Enclosed  
☒ Authorization to charge credit card (attached)

## 8. Deposit Account Number:

20-0778

(Attach duplicate copy of this page if paying by Deposit Account)

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## 9. Statement and signature.

*To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.*

Scott A. Horstemeyer

Typed Name

Signature

07/31/03

Date

Docket #: 62020-1280

Total number of pages including cover sheet, attachments, and document: [6]

Mail documents to be recorded with required cover sheet information to:

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Director of U.S. Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450PATENT  
REEL: 014339 FRAME: 0575

# ASSIGNMENT OF UTILITY PATENT APPLICATION

WHEREAS, the following parties:

**Name**

**Address**

Nathan Thomas Weiland  
Ben T. Zinn

405 Dunton Drive, Blacksburg, VA 24060  
3656 Paces Valley Rd. Atlanta, GA 30327

hereinafter referred to as ASSIGNOR, has/have invented certain new and useful improvements ("invention(s)") as described and set forth in the below-identified utility application for United States Letters Patent entitled:

## TRAVELING-WAVE THERMOACOUSTIC ENGINES WITH INTERNAL COMBUSTION

which was:

- ☒ executed on even date herewith,  
☐ filed with the United States Patent and Trademark Office (USPTO) on \_\_\_\_\_, and assigned Serial No. \_\_\_\_\_, and  
☒ further described in U.S. Provisional application entitled "A Thermoacoustic Engine Using a Pulse Combustion Process", filed with the USPTO on March 13, 2002, and assigned Serial No. 60/364,207.

*Note: Only one of the first two checkboxes will be checked. The third checkbox will be checked, only if appropriate.*

WHEREAS, Georgia Tech Research Corporation, having a place of business at 505 10th Street, N.W., Atlanta, GA 30332-0415, hereinafter referred to as ASSIGNEE, is desirous of acquiring ASSIGNOR'S interest in and to said invention(s), said utility application, said provisional application, and any U.S. and foreign patents which are related to the same.

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by ASSIGNOR, ASSIGNOR has sold, assigned and transferred and does hereby sell, assign and transfer unto ASSIGNEE, and ASSIGNEE'S successors and assigns, (a) the entire right, title and interest, for the United States of America, in and to said invention(s), said utility application, and said provisional application and all the rights and privileges in any application and under any and all patents that may be granted in the U.S. for said inventions, including all corresponding provisional, continuation, continuation-in-part, divisional, reissue, and reexamination applications; and (b) the entire right, title and interest in and to said invention(s), said utility application, and said provisional application for all countries foreign to the U.S., including all rights of priority arising from them, and all the rights and privileges under any and all forms of protection, including patents,

that may be granted in said countries foreign to the U.S. for them.

ASSIGNOR authorizes ASSIGNEE to make application for such protection in its own name and maintain such protection in any and all countries foreign to the U.S., and to invoke and claim for any application for patent or other form of protection for said inventions, without further authorization from ASSIGNOR, any and all benefits, including the right of priority provided by any and all treaties, conventions, or agreements.

ASSIGNOR hereby consents that a copy of this assignment shall be deemed a full legal and formal equivalent of any document which may be required in any country in proof of the right of ASSIGNEE to apply for patent or other form of protection for said inventions, said utility application, or said provisional application and to claim the aforesaid benefit of the right of priority.

ASSIGNOR requests that any and all patents for said inventions be issued to ASSIGNEE in the U.S. and to ASSIGNEE in all countries foreign to the U.S., or to such nominee as ASSIGNEE may designate.

ASSIGNOR covenants and agrees that, when requested, ASSIGNOR shall, without charge to ASSIGNEE but at ASSIGNEE'S expense, sign all papers, take all rightful oaths, and do all acts which may be necessary, desirable, or convenient in connection with the patent applications, patents, or other forms of protection of said invention(s), and for the defense and protection thereof if challenged in the court of law.

ASSIGNOR authorizes ASSIGNEE or its agents to insert, on ASSIGNOR's behalf, the filing date and/or serial number above pertaining to the utility application and/or the provisional application, if not known as of the date of execution of this document.

Docket No. 62020-1280

Nathan Thomas Weiland  
Nathan Thomas Weiland

Date: March 12, 2003

United States of America

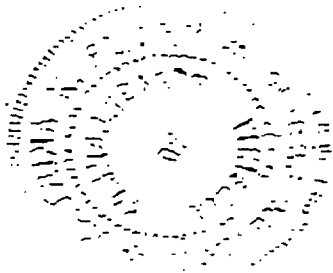
State of Virginia

County of Montgomery

On this 12<sup>th</sup> day of March, 20 03, before me personally came **Nathan Thomas Weiland** to me known to be the individual described above and who executed the foregoing instrument, or acknowledged execution of the same.

Nathan K. Flory  
Notary Public

11/30/04  
My Commission Expires (Date)



Docket No. 62020-1280

Ben T. Zinn  
Ben T. Zinn

Date: March 12, 2003

United States of America

State of Georgia

County of Fulton

On this 12<sup>th</sup> day of March, 20 03, before me personally came **Ben T. Zinn** to me known to be the individual described above and who executed the foregoing instrument, or acknowledged execution of the same.

April Skyles  
Notary Public

Notary Public, Carroll County, Georgia  
My Commission Expires March 8, 2004

My Commission Expires (Date)