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FORM PTO-1595 (MODIFIED)  
(Rev. 6-93)  
OMB No. 0651-0011 (exp. 4/94)

RECORD



U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
Paul D. Lucas  
John Denner  
Chris P. Grudzien  
Jeff Lischer  
Kristen Weight

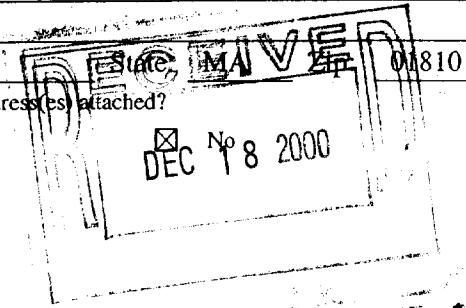
2. Name and address of receiving party(ies):  
Name: MKS Instruments, Inc.  
Internal Address:  
Address: Six Shattuck Road

Additional name(s) of conveying party(ies) attached?  Yes  No

City: Andover  
Additional name(s) and address(es) attached?  Yes

3. Nature of conveyance:  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Other

Execution Date: November 13, 2000



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:

A. Patent Application No. (s)  
09/637,980

B. Patent No.(s)

Additional numbers attached?  Yes  No

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

Name: Ayla Lari, Esq.  
Internal Address: Hale and Dorr LLP  
Street Address: 60 State Street

6. Total number of applications and patents involved:

7. Total Fee (37 CFR 3.41)..... \$40.00  
 Enclosed  
 Charge fees to Deposit Account

City: Boston State: MA Zip: 02109

Charge any additional fees associated with this paper or during the pendency of this application, or credit any overpayment, to deposit account.

8. Deposit account number:  
08-0219

(Attach duplicate copy of this page if paying by deposit account.)

01/05/2001 NTHAI1 00000240 000219 09637980

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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

Ayla Lari, Esq.  
Name of Person Signing

*Ayla Lari*  
Signature

December 14, 2000  
Date

Total number of pages including cover sheet, attachments, and document: 4

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

105.690.136 MKS-70

Hale and Dorr LLP Docket Number

PATENT  
REEL: 011391 FRAME: 0460

## ASSIGNMENT

WHEREAS, We, Paul D. Lucas, John Denner, Chris P. Grudzien, Jeff Lischer, Kristen Weight, being citizens of the United States, and residing at 254 Porter Street, Melrose, MA 02176; 11 Euclid Avenue, Lynn, MA 01904; 110 Delmont Avenue, Apt. 18, Lowell, MA 01852; 46 Hosmer Street, Acton, MA 01720; and 121 Maple Street, Stow, MA 01775, respectively, are inventors of certain new and useful inventions and discoveries, for which we have made an application for Letters Patent entitled **IMPROVED CAPACITIVE BASED PRESSURE SENSOR DESIGN**, which application was filed in the United States Patent and Trademark Office on August 11, 2000 and assigned Serial No. 09/637,980; and,

WHEREAS, MKS Instruments, Inc., a corporation of the Commonwealth of Massachusetts, whose address is Six Shattuck Road, Andover, MA 01810-2449, and which, together with its successors and assigns is hereinafter called "ASSIGNEE," is desirous of acquiring the title, rights, benefits, and privileges hereinafter recited;

NOW, THEREFORE, for and in consideration of good and valuable consideration furnished by ASSIGNEE to us, receipt and sufficiency of which we hereby acknowledge, we hereby, without reservations:

1. Assign, transfer, and convey to ASSIGNEE the entire right, title, and interest in and to said inventions and discoveries, said application for Letters Patent, any and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation, continuation-in-part, and convention applications based in whole, or in part, upon said inventions or discoveries, or upon said applications, and any and all Letters Patents, reissues, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon, or arise from, said inventions, said discoveries, said applications, and said Letters Patent;
2. Authorize ASSIGNEE to file patent applications in any or all countries on any or all of said inventions and discoveries in my name or in the name of ASSIGNEE or otherwise as ASSIGNEE may deem advisable, under International Conventions or otherwise;
3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments throughout the world to

issue or transfer all said Letters Patents to ASSIGNEE, as assignee of the entire right, title, and interest therein or otherwise as ASSIGNEE may direct;

4. Warrant that we have not knowingly conveyed to others any right in said inventions, discoveries, applications, or patents, or any license to use the same, or to make, use, or sell anything embodying or utilizing any of said inventions or discoveries; and that we have good right to assign the same to ASSIGNEE without encumbrance;

5. Bind our heirs, legal representatives, and assigns, as well as ourselves, to do, upon ASSIGNEE's request and at ASSIGNEE's expense, but without additional consideration to us or them, all acts reasonably serving to assure that said inventions and discoveries, said patent applications, and said Letters Patents shall be held and enjoyed by ASSIGNEE as fully and entirely as the same could have been held and enjoyed by us, our heirs, legal representatives, and assigns if this Assignment had not been made; and particularly to execute and deliver to ASSIGNEE all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by ASSIGNEE; and to communicate to ASSIGNEE all facts known to me relating to said inventions and discoveries or the history thereof, and to testify as to the same in any court or proceeding; and to furnish ASSIGNEE any and all documents, photographs, models, samples, and other physical exhibits in my control or in the control of our heirs, legal representatives, or assigns which may be useful for establishing the facts of my conceptions, disclosures, and reduction to practice of said inventions and discoveries.

WITNESS my hand and seal this 13 day of November, 2000.

Paul D. Lucas  
Paul D. Lucas

Commonwealth of Massachusetts ) ss.  
County of Essex )

Then personally appeared before me this 13 day of November, 2000, the above named Paul D. Lucas who acknowledged the foregoing instrument to be his free act and deed.

Janet C. Giddings  
Notary Public  
My Commission expires: 12/25/03

WITNESS my hand and seal this 13<sup>th</sup> day of November, 2000.

John Denner  
John Denner

Commonwealth of Massachusetts ) ss.  
County of Essex )

Then personally appeared before me this 13<sup>th</sup> day of November, 2000, the above named John Denner who acknowledged the foregoing instrument to be his free act and deed.

Janet C. Giddings  
Notary Public  
My Commission expires: 12/25/03

WITNESS my hand and seal this 13<sup>th</sup> day of November, 2000.

Chris P. Grudzien  
Chris P. Grudzien

Commonwealth of Massachusetts ) ss.  
County of Essex )

Then personally appeared before me this 13<sup>th</sup> day of November, 2000, the above named Chris P. Grudzien who acknowledged the foregoing instrument to be his free act and deed.

Janet C. Giddings  
Notary Public  
My Commission expires: 12/25/03

WITNESS my hand and seal this 13 day of November 2000.

D. Jeffrey Fischer  
Jeff Lischer

Commonwealth of Massachusetts ) ss.  
County of Essex )

Then personally appeared before me this 13<sup>th</sup> day of November, 2000, the above named Jeff Lischer who acknowledged the foregoing instrument to be his free act and deed.

Janet C. Golding's  
Notary Public  
My Commission expires: 12/25/03

WITNESS my hand and seal this 13 day of November 2000.

Kristen Weight  
Kristen Weight

Commonwealth of Massachusetts ) ss.  
County of Essex )

Then personally appeared before me this 13<sup>th</sup> day of November, 2000, the above named Kristen Weight who acknowledged the foregoing instrument to be his free act and deed.

Janet C. Golding's  
Notary Public  
My Commission expires: 12/25/03