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In place of Form PTO-1

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Docket No. AUS920011046US1

RECORDATION FORM COVER SHEET  
PATENTS

To the Assistant Commissioner for Patents: Please record the attached original documents or copy thereof.

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

UTTAM SHYAMALINDU GHOSHAL

2. Name and address of  
receiving party(ies):International Business Machines  
Corporation  
New Orchard Road  
Armonk, New York 10504

## 3. Nature of conveyance:

X AssignmentExecution Date(s): April 10, 2002

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

If this document is being filed together with a new application, the  
execution date(s) of the application is(are): April 10, 2002

## A. Patent Application(s)

## B. Patent No.(s)

5. Name and address of party to whom  
correspondence concerning document  
should be mailed:Casimer K. Salys  
IBM Corporation  
Intellectual Property Law  
11400 Burnet Road  
Austin, TX 78758  
(512) 823-00926. Total number of applications  
and patents involved: 17. Total fee (37 CFR 3.41) \$ 40.00X Authorized to be charged to  
deposit account

## 8. Deposit account number:

09-0447

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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.Casimer K. Salys  
Name of Person SigningCasimer K. Salys  
Signature4/10/02  
DateTotal number of pages including cover sheet: 2

04/23/2002 TDIAZ1 00000131 090447 10121497

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PATENT  
REEL: 012773 FRAME: 0359j1036 U.S. PTO  
10/121497  
04/11/02

4-11-02

## A S S I G N M E N T

Whereas, I,

(1) Uttam Shyamalindu Ghoshal  
County of Travis

of Austin  
and State of Texas

have invented certain improvements in

## NANOSCOPIC THERMOELECTRIC REFRIGERATORS

and executed, respectively, a United States patent application therefore on  
(Date Inventor Signed Declaration) (1) April 16, 2002.

Whereas, INTERNATIONAL BUSINESS MACHINES CORPORATION, a corporation of New York, having a place of business at Armonk, New York 10504, (hereinafter called IBM), desires to acquire the entire right, title and interest in the said application and invention, and to any United States and foreign patents to be obtained therefore;

Now therefore, for a valuable consideration, receipt whereof is hereby acknowledged, I, the above named, hereby sell, assign, and transfer to IBM, its successors and assigns, the entire right, title and interest in the said application and invention therein disclosed for the United States and foreign countries, and all rights of priority resulting from the filing of said United States application, and I request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth in said application to IBM, its successors and assigns; and I hereby agree that IBM may apply for foreign Letters Patent on said invention and I will execute all papers necessary in connection with the United States and foreign applications when called upon to do so by IBM.

(1) Signed at Austin on April 16, 2002.

Uttam Shyamalindu Ghoshal  
Uttam Shyamalindu Ghoshal