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12-01-2000

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EDURE

101534624

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

MRP
12-1-00

U.S. Department of Commerce
Patent and Trademark Office
PATENT

**RECORDATION FORM COVER SHEET
PATENTS ONLY**

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

Submission Type		Conveyance Type	
<input checked="" type="checkbox"/> New	<input type="checkbox"/> Resubmission (Non-Recordation) Document ID# _____	<input type="checkbox"/> Assignment	<input checked="" type="checkbox"/> Security Agreement
<input type="checkbox"/> Correction of PTO Error Reel # _____ Frame # _____	<input type="checkbox"/> Corrective Document Reel # _____ Frame # _____	<input type="checkbox"/> License	<input type="checkbox"/> Change of Name
		<input type="checkbox"/> Merger	<input type="checkbox"/> Other _____
		U.S. Government (For Use ONLY by U.S. Government Agencies)	
		<input type="checkbox"/> Departmental File	<input type="checkbox"/> Secret File

Conveying Party(ies) Mark if additional names of conveying parties attached

Name (line 1) American Science and Engineering, Inc. Execution Date 11/30/00
Month Day Year

Name (line 2) _____

Second Party

Name (line 1) _____ Execution Date _____
Month Day Year

Name (line 2) _____

Receiving Party Mark if additional names of receiving parties attached

Name (line 1) Export - Import Bank of the United States If document to be recorded is an assignment and the receiving party is not domiciled in the United States, an appointment of a domestic representative is attached. (Designation must be a separate document from Assignment.)

Name (line 2) _____

Address (line 1) 811 Vermont Ave., NW

Address (line 2) _____

Address (line 3) Washington DC 20571
City State/Country Zip Code

Domestic Representative Name and Address Enter for the first Receiving Party only.

Name _____

Address (line 1) _____

Address (line 2) _____

Address (line 3) _____

Address (line 4) _____

FOR OFFICE USE ONLY

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practices. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

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

12/01/2000 DNGUYEN 00000286 4472822

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FORM PTO-1619B
Expires 06/30/99
OMB 0851-0027

Page 2

U.S. Department of Commerce
Patent and Trademark Office
PATENT

Correspondent Name and Address Area Code and Telephone Number

Name

Address (line 1)

Address (line 2)

Address (line 3)

Address (line 4)

Pages Enter the total number of pages of the attached conveyance document including any attachments. #

Application Number(s) or Patent Number(s) Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)			Patent Number(s)		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4,472,822"/>	<input type="text" value="4,482,957"/>	<input type="text" value="4,768,214"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4,511,799"/>	<input type="text"/>	<input type="text" value="4,691,332"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="4,807,637"/>	<input type="text" value="4,845,769"/>	<input type="text" value="5,463,224"/>

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor. Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number only if a U.S. Application Number has not been assigned.

PCT PCT PCT

PCT PCT PCT

Number of Properties Enter the total number of properties involved. #

Fee Amount Fee Amount for Properties Listed (37 CFR 3.41): \$

Method of Payment: Enclosed Deposit Account

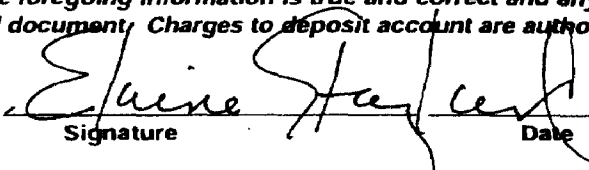
Deposit Account (Enter for payment by deposit account or if additional fees can be charged to the account.)

Deposit Account Number: #

Authorization to charge additional fees: Yes No

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. Charges to deposit account are authorized, as indicated herein.

Elaine Stangland  11/28/00

Name of Person Signing Signature Date

Continuation of Patent Numbers

4799247
5313511
4809312
4839913
4819256
4893015
4825454
5127030
5022062
5179581
5224144
5483569
5253283
4899283
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5696806
5642394
5910973
5940468
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COLLATERAL PATENT AGREEMENT

This COLLATERAL PATENT AGREEMENT ("Agreement") made as of 30th day of November, 2000, between American Science and Engineering, Inc., a Massachusetts corporation with its principal place of business at 829 Middlesex Turnpike, Billerica, MA 01821 ("Grantor"), and the Export-Import Bank of the United States, an independent Agency of the U.S. Government, having its principal address at 811 Vermont Ave., Washington, D.C. 20571 ("Ex-Im Bank"),

W I T N E S S E T H:

Whereas, upon Grantor's request, HSBC has agreed to extend to Grantor an export line of credit and letter of credit facility up to the amount of \$30,000,000.00, to be secured by, among other assets, Grantor's foreign accounts receivable and certain work-in-process and inventory intended for sale in foreign markets. (The foregoing export line of credit and letter of credit facility, including all interest, fees, collection costs and other amounts owed in connection therewith, hereafter the "Foreign Line");

Whereas, a condition of HSBC extending the Foreign Line is that HSBC obtain the guarantee of Ex-Im Bank (the "Ex-Im Bank Guarantee") to pay, in accordance with the terms of Ex-Im Bank's Master Guarantee Agreement with HSBC (the "MGA"), specified portions of the Grantor's obligations owed in connection with the Foreign Line in the event the Grantor fails to do so;

Whereas, pursuant to the MGA, in the event Ex-Im Bank makes a guarantee payment (a "Claim Payment") to HSBC, or its assignee, in accordance with Ex-Im Bank's obligations pursuant to the Ex-Im Bank Guarantee, Ex-Im Bank will succeed to specified portions of HSBC's rights against the Grantor on account of the Foreign Line (hereafter, such specified portions of HSBC's rights referenced as the "Obligations");

Whereas, in consideration of the extension of the Foreign Line by HSBC to Grantor, and the Ex-Im Bank Guarantee, Grantor has agreed to grant to Ex-Im Bank the security interest in all of Grantor's rights in its patents, as set forth in this Agreement;

NOW THEREFORE, in consideration of the premises and in order to induce Ex-Im Bank to issue the Ex-Im Bank Guarantee, Grantor hereby agrees with Ex-Im Bank as follows:

1. *Grant of Security.* To secure the prompt and complete payment

of the Obligations, Grantor hereby grants, bargains, assigns, mortgages, pledges, sells, transfers and conveys to Ex-Im Bank a security interest, with power of sale, in and to all of Grantor's right, title and interest, now owned and hereafter acquired, in and to the following Collateral:

patents, patent applications in the United States Patent and Trademark Office, and interests under patent license agreements, including, without limitation, the inventions and improvements described and claimed in such patents and patent applications, and further including, without limitation, all patents listed on Annex A attached hereto and made a part hereof; and, with regard to the foregoing (i) the reissues, divisions, continuations, and continuations-in-part thereof, (ii) all income, royalties, damages and payments now and hereafter due and/or payable under and with respect thereto, including, without limitation, payments under all licenses entered into in connection therewith and damages and payments for past or future infringements thereof but excluding attorneys fees and court costs payable to the Grantor in respect thereto, (iii) the right to sue for past, present and future infringements thereof, and (iv) all rights corresponding thereto throughout the world in all jurisdictions in which such patents have been issued or applied for (all of the foregoing patents and applications, and interests under patent license agreements, together with the items described in clauses (i) through (iv) above, are sometimes hereinafter individually and/or collectively referred to as the "Patents"); (The Patents sometimes called the "Collateral")

2. *Restrictions on Future Agreements.* Grantor agrees that until the Foreign Line and the Obligations shall have been satisfied in full and all related agreements shall have been terminated, Grantor will not, without Ex-Im Bank's prior written consent, abandon any Patent or enter into any agreement, including, without limitation, any license agreement, which is inconsistent with Grantor's obligations under this Agreement, if such actions would adversely affect the fair market value of the Collateral or the benefits of this Agreement granted to Ex-Im Bank including, without limitation, the validity, priority or perfection of the security interest granted herein or the remedies of Ex-Im Bank

hereunder. Grantor further agrees that it will not take any action, or permit any action to be taken by others to the extent such others, including licensees, are subject to Grantor's control. In addition, Grantor agrees that it shall not fail to take any action which would affect the validity or enforcement of the rights transferred to Ex-Im Bank under this Agreement, and any such agreement or action, if it shall take place, shall be null and void and of no effect whatsoever.

3. *New Patents.* Grantor represents and warrants that the Patents listed on Annex A constitute all of the patents and applications now owned by Grantor for which registrations have been issued or applied for in the United States Patent and Trademark Office. If, before the Foreign Line and the Obligations shall have been satisfied in full and all related Credit Agreements terminated, Grantor shall (i) obtain rights to any new patentable inventions or (ii) become entitled to the benefit of any patent application or patent for any reissue, division, continuation, or continuation-in-part of any Patent or any improvement on any Patent, the provisions of paragraph 1 above shall automatically apply thereto and, with respect to (i) above, Grantor shall give to Ex-Im Bank prompt written notice thereof. Grantor hereby authorizes Ex-Im Bank to modify this Agreement by amending Annex A to include any future patent and patent applications which are Patents, as applicable, under paragraph 1 above or under this paragraph 3.

4. *Representations and Warranties.* Grantor hereby represents, warrants, covenants and agrees that:

(a) It is, and will continue to be, the owner of all right, title and interest in the Collateral, so long as the Patents shall continue in force, free from any lien or encumbrance in favor of any person or entity.

(b) It has the full right and power to grant the security interest in the Collateral granted in this Agreement.

(c) It has made no previous assignment, transfer or agreements in conflict with the security interest granted in this Agreement or constituting a present or future assignment, transfer, or encumbrance on any of the Collateral except, (but without limiting the provisions of (b) above), for the security interest granted herein and except for license agreements to use such Patents granted to licensees.

(d) So long as the Foreign Line and/or any portion of the Obligations remain outstanding or agreements related to the foregoing have not terminated, it will not execute, and there will not be on file in any public office, any Uniform Commercial

Code financing statements or U.S. Patent and Trademark Office form of Ownership and Assignment, or other document or instruments granting any right or interest described in the foregoing paragraph.

(e) Subject to any limitation stated therein or in connection therewith, all information furnished to Ex-Im Bank concerning the Collateral and proceeds thereof, for the purpose of obtaining credit, an extension of credit, or inducing Ex-Im Bank to issue the Ex-Im Bank Guarantee is, or will be at the time the same is furnished, accurate and correct in all material respects.

5. *Royalties; Term.* Grantor hereby agrees that any rights granted hereunder to Ex-Im Bank with respect to the Collateral shall be worldwide and without any liability for royalties or other related charges from Ex-Im Bank to Grantor. The term of the assignment of security interest granted herein shall extend until the earlier of (i) the expiration or termination of each of the Patents assigned hereunder, or (ii) the date on which the Foreign Line and all of the Obligations have been paid in full and all related Credit Agreements have been terminated.

6. *Ex-Im Bank's Right to Inspect.* Ex-Im Bank, shall have the right, at any time during regular business hours and from time to time, to inspect Grantor's premises and to examine Grantor's books, records and operations, including, without limitation, Grantor's quality control processes. Grantor agrees not to sell or assign its interest in any of the Collateral, or to issue any license to any affiliated person or entity, without the prior written consent of Ex-Im Bank.

7. *Reassignment to Grantor.* This Agreement is made for collateral purposes only. Upon payment in full of the Foreign Line and all of the Obligations, and the termination of all related agreements, Ex-Im Bank shall, at Grantor's sole cost and expense, execute and deliver to Grantor all termination statements, assignments and other instruments as may be necessary or proper to re-vest in Grantor full title to the Collateral granted hereby, free and clear of any security interest, lien or encumbrance granted under this Agreement, subject, however, to any disposition thereof which may have been made by Ex-Im Bank pursuant hereto.

8. *Duties of Grantor.* Grantor shall have the duty (i) to prosecute diligently any patent application that is part of the Patents pending as of the date hereof or thereafter until the Foreign Line and all Obligations shall have been paid in full and all related Credit Agreements shall have been terminated, (ii) to make application on unpatented but patentable inventions, as

appropriate, and to preserve and maintain all rights of the Patents in patent applications and patents, unless the failure so to do would not materially adversely affect the fair market value of the Collateral or the benefits of this Assignment granted to the Ex-Im Bank including, without limitation, the validity, priority or perfection of the security interest granted herein or the remedies of the Ex-Im Bank hereunder. Any expenses incurred in connection with such applications shall be borne by Grantor. Grantor agrees to retain an experienced registered patent attorney for the filing and prosecution of all such applications and other proceedings. Grantor shall not abandon any right to file a patent application or any pending patent application without the consent of Ex-Im Bank unless such abandonment would not have a material adverse affect on the fair market value of the Collateral or the benefits of this Assignment granted to Ex-Im Bank including, without limitation, the validity, priority or perfection of the security interest granted herein or the remedies of Ex-Im Bank hereunder.

If Grantor fails to comply with any of the foregoing duties, Ex-Im Bank may do so in Grantor's name to the extent permitted by law, but at Grantor's expense, and Grantor hereby agrees to reimburse Ex-Im Bank in full for all expenses, including the reasonable fees and disbursements of counsel incurred by Ex-Im Bank in protecting, defending and maintaining the Collateral.

In the event that Grantor shall fail to pay when due any fees required to be paid by it hereunder, or shall fail to discharge any Lien prohibited hereby, or shall fail to comply with any other duty hereunder, Ex-Im Bank may, but shall not be required to, pay, satisfy, discharge or bond the same for the account of Grantor, and all moneys so paid out shall be part of the Obligations of Grantor repayable on demand, together with interest at the rate applicable to the Foreign Line.

9. *Right to Sue.* Upon the occurrence of an Event of Default, Ex-Im Bank shall have the right, but shall in no way be obligated, to bring suit in its own name to enforce the Patents, and any licenses thereunder, and if Ex-Im Bank shall commence any such suit, Grantor shall, at the request of Ex-Im Bank, do any and all lawful acts and execute any and all proper documents required by Ex-Im Bank in aid of such enforcement and Grantor shall promptly, upon demand, reimburse and indemnify Ex-Im Bank for all costs and expenses incurred by Ex-Im Bank in the exercise of its rights under this paragraph 9.

10. *Waivers.* No course of dealing among Grantor, Ex-Im Bank or HSBC, nor any failure to exercise, nor any delay in exercising, on the part of Ex-Im Bank or HSBC, any right, power or privilege hereunder or under any Credit Agreements related to the Foreign

Line or the Obligations shall operate as a waiver thereof; nor shall any single or partial exercise of any right, power or privilege hereunder or thereunder preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

11. *Severability.* The provisions of this Agreement are severable, and if any clause or provision shall be held invalid and unenforceable in whole or in part in any jurisdiction, then such invalidity or unenforceability shall affect only such clause or provision, or part thereof, in such jurisdiction, and shall not in any manner affect such clause or provision in any other jurisdiction, or any other clause or provision of this Agreement in any jurisdiction.

12. *Modification.* This Agreement cannot be altered, amended or modified in any way, except as specifically provided in paragraph 3 hereof or by a writing signed by the parties hereto.

13. *Event of Default.* Any failure of Grantor to pay, when due, all amounts owed on the Foreign Line to HSBC or all amounts owed to Ex-Im Bank, or any failure of the Grantor to comply with the terms of this Agreement and with any and all agreements and notes related to the Foreign Line or the Obligations, shall, after the expiration of any applicable cure period) constitute an Event of Default under this Agreement.

14. *Cumulative Remedies; Power of Attorney; Effect on Credit Agreement.* If any Event of Default shall have occurred and be continuing:

(a) Ex-Im Bank may exercise in respect of the Collateral, in addition to other rights and remedies provided for herein or otherwise available to it, all the rights and remedies of a secured party on default under the Uniform Commercial Code in effect in the State of New York at that time (the "Code") (whether or not the Code applies to the affected Collateral), and also may (i) without notice, except as specified below, sell the Collateral or any part thereof in one or more parcels at public or private sale, at any of Ex-Im Bank's offices or elsewhere, for cash, on credit or for future delivery, and upon such other terms as Ex-Im Bank may deem commercially reasonable. The Grantor agrees that, to the extent notice of sale shall be required by law, at least ten days' notice to the Grantor of the time and place of any public sale or the time after which any private sale is to be made shall constitute reasonable notification. Ex-Im Bank shall not be obligated to make any sale of Collateral regardless of notice of sale having been given. Ex-Im may adjourn any public or private sale from time to time by announcement at the time and place fixed therefor, and such sale

may, without further notice, be made at the time and place to which it was so adjourned.

(b) All cash proceeds received by Ex-Im Bank in respect of any sale of, collection from, or other realization upon all or any part of the Collateral may, in the discretion of Ex-Im Bank, be held by Ex-Im Bank as collateral for, and/or then or at any time thereafter be applied in whole or in part by Ex-Im Bank against, all or any part of the Obligations in such order as Ex-Im Bank shall elect. Any surplus of such cash or cash proceeds held by Ex-Im Bank and remaining after payment in full of all the Obligations shall be paid over to the Grantor or to whomsoever may be lawfully entitled to receive such surplus.

(c) Ex-Im Bank may exercise any and all rights and remedies of the Grantor under or in connection with the Collateral, including, without limitation, any and all rights of the Grantor to demand or otherwise require payment of any amount under, or performance of any provision of any license.

(d) All payments received by the Grantor under or in connection with any license or otherwise in respect of the Collateral shall be received in trust for the benefit of Ex-Im Bank, shall be segregated from other funds of the Grantor and shall be forthwith paid over to Ex-Im Bank in the same form as so received (with any necessary indorsement).

(e) Grantor hereby authorizes Ex-Im Bank to make, constitute and appoint any officer or agent of Ex-Im Bank as Ex-Im Bank may select, in its sole discretion, as Grantor's true and lawful attorney-in-fact, with power to (i) endorse Grantor's name on all applications, documents, papers and instruments necessary or desirable for Ex-Im Bank in the use of the Collateral, (ii) take any other actions with respect to the Collateral as Ex-Im Bank deems in its best interest, or (iii) grant or issue any exclusive or non-exclusive license under the Collateral to anyone, or (iv) assign, pledge, convey or otherwise transfer title in or dispose of the Collateral to anyone, free and clear of any encumbrance upon title thereof. Ex-Im Bank hereby ratifies all that such attorney shall lawfully do or cause to be done by virtue hereof. This power of attorney, being coupled with an interest, shall be irrevocable until the Foreign Line and all Obligations shall have been paid in full and all related Credit Agreements have been terminated.

Grantor acknowledges and agrees that this Agreement is not intended to limit or restrict in any way the rights and remedies of Ex-Im Bank or HSBC under any Credit Agreements related to the Foreign Line or the Obligations, but rather is intended to facilitate the exercise of such rights and remedies. All of the

rights and remedies of Ex-Im Bank with respect to the Collateral, whether established hereby or by any Credit Agreements related to the Foreign Line or the Obligations, or by any other agreements or by law shall be cumulative and may be exercised individually, jointly or cumulatively at Ex-Im Bank's sole discretion.

15. *Binding Effect; Benefits.* This Agreement shall be binding upon Grantor and its respective successors and assigns, and shall inure to the benefit of Ex-Im Bank and any of its successors, transferees and assigns.

16. *Governing Law.* THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK AND THE APPLICABLE LAWS OF THE UNITED STATES OF AMERICA, EXCEPT TO THE EXTENT THAT THE VALIDITY OR PERFECTION OF THE SECURITY INTEREST HEREUNDER, OR REMEDIES HEREUNDER, IN RESPECT OF ANY OF THE PATENTS, ARE GOVERNED BY THE LAWS OF A JURISDICTION OTHER THAN THE STATE OF NEW YORK OR THE UNITED STATES. UNLESS OTHERWISE DEFINED HEREIN, TERMS USED IN ARTICLE 9 OF THE UNIFORM COMMERCIAL CODE IN THE STATE OF NEW YORK, AS OF THE DATE HEREOF, ARE USED HEREIN AS THEREIN DEFINED.

17. *Notices.* Whenever it is provided herein that any notice, demand, request, consent, approval, declaration or other communication shall or may be given to or served upon either of the parties by the other, or whenever either of the parties desires to give or serve upon the other any communication with respect to this Agreement, each such notice, demand, request, consent, approval, declaration or other communication shall be in writing and shall be delivered to the addresses set forth above and, in the case of Ex-Im Bank, to the attention of Pamela Bowers, Business Credit Division, and in the case of Grantor, one copy to the attention of Lee Steele, Edwin Lewis and Andrew Strehle.

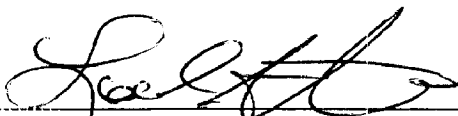
18. *Consent to Jurisdiction and Service of Process; Jury Trial.*

ALL JUDICIAL PROCEEDINGS BROUGHT AGAINST GRANTOR WITH RESPECT TO THIS AGREEMENT MAY BE BROUGHT IN ANY STATE OR FEDERAL COURT OF COMPETENT JURISDICTION IN THE STATE OF NEW YORK, AND BY EXECUTION AND DELIVERY OF THIS AGREEMENT, GRANTOR ACCEPTS FOR ITSELF AND IN CONNECTION WITH ITS PROPERTIES, GENERALLY AND UNCONDITIONALLY, THE NONEXCLUSIVE JURISDICTION OF THE AFORESAID COURTS, AND IRREVOCABLY AGREES TO BE BOUND BY ANY FINAL JUDGMENT RENDERED THEREBY IN CONNECTION WITH THIS AGREEMENT. GRANTOR IRREVOCABLY WAIVES TRIAL BY JURY AND ANY OBJECTION TO THE LAYING OF VENUE OR BASED ON THE GROUNDS OF *FORUM NON CONVENIENS* WHICH IT MAY NOW OR HEREAFTER HAVE TO THE BRINGING OF ANY SUCH ACTION OR PROCEEDING

IN ANY SUCH JURISDICTION. NOTHING HEREIN SHALL AFFECT THE RIGHT OF EX-IM BANK TO BRING PROCEEDINGS AGAINST GRANTOR IN THE COURTS OF ANY OTHER JURISDICTION.

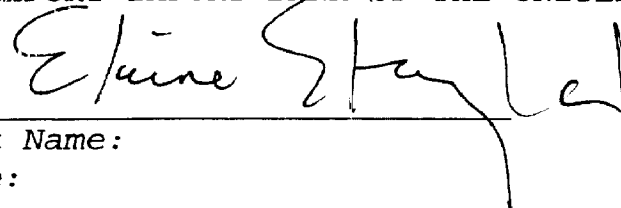
IN Witness WHEREOF, the parties hereto have duly executed this Agreement as of the 30TH day of November, 2000.

AMERICAN SCIENCE AND ENGINEERING, INC., GRANTOR

By: 
Print Name: Lee C. Stahl
Title: Vice President

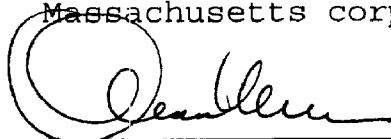
(AFFIX CORPORATE SEAL)

THE EXPORT-IMPORT BANK OF THE UNITED STATES

BY 
Print Name:
Title:

STATE OF NEW YORK
COUNTY OF NEW YORK
SS.:

The foregoing Collateral Patent Agreement was executed and acknowledged before me this 30th day of November, 2000 by LEE C. STAHL personally known to me to be the VICE PRES. of American Science and Engineering, Inc., a Massachusetts corporation, on behalf of such corporation.

, Notary Public
Print Name:

My Commission Expires:
County:

ALAINE L. KLEIN
Notary Public, State of New York
No. 4947498
Qualified in Nassau County
Commission Expires Feb. 27, 2001

WASHINGTON, DISTRICT OF COLUMBIA
SS.:

28th

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The foregoing Collateral Patent Agreement was executed and acknowledged before me this 28th day of November, 2000 by Elaine Stangland personally known to me to be the Dep. Gen. Counsel of The Export-Import Bank of the United States, an independent agency of the U.S. Government, on behalf of such agency.

Barbara Ann Lane, Notary Public
Print Name:

My Commission Expires:
County:

Barbara Ann Lane, Notary Public
Washington, District of Columbia
Commission Expires on March 31, 2002

Annex A to Collateral Patent Agreement
 AMERICAN SCIENCE AND ENGINEERING, INC. (Debtor)

Patent List

Client Matter#	Country	Client	Patent Number	Grant	Filing	Status	Attorney	Inventor
1945.117	US	1945	4,472,822	18-Sep-1984	07-Jul-1982	Issued	SJP KLW	Swift
Title								
								X-Ray Computed Tomography Using Flying Spot Mechanical Scanning
1945.121	US	1945	4,482,957	13-Nov-1984	04-Nov-1981	Issued	SJP KLW	Bjorkholm
Title								
								Use of a Square Root Amplifier for Statistics Limited Data
1945.125	US	1945	4,768,214	30-Aug-1988	15-Apr-1986	Issued	SJP KLW	Bjorkholm
Title								
								Dual Energy Imaging
1945.126	US	1945	4,511,799	16-Apr-1985	10-Dec-1982	Issued	SJP KLW	Bjorkholm
Title								
								Dual Energy Imaging
1945.127	GB	1945	2 137 453	03-Oct-1984	03-Oct-1984	Issued	SJP KLW	Annis Burstein Chase Krieger
Title								
								High Energy Computed Tomography
1945.127	US	1945	4,691,332	01-Sep-1987	14-Mar-1984	Issued	SJP KLW	Annis Burstein Chase Krieger
Title								
								High Energy Computed Tomography

Patent List

Client Matter#	Country	Client	Number	Patent	Grant Status	Filing Attorney	Inventor
1945.130	US	1945	4,807,637	08-May-1986	Issued	SJP KLW	Bjorkholm
Title Diaphanography Method and Apparatus							
1945.131	US	1945	4,845,769	04-Jul-1989	Issued	SJP KLW	Burstein Krieger
Title Annular X-Ray Inspection System							
1945.132	US	1945	5,463,224	31-Oct-1995	Issued	SJP KLW	Burstein Krieger Kubierschky
Title X-Ray Detector Suited for High Energy Applications with Wide Dynamic Range, High Stopping Power & Good Protection							
1945.133	DE	1945	37 19 923	20-Jan-1998	Issued	SJP KLW	Annis Bjorkholm
Title X-Ray Imaging Particularly Adapted for Low Z Materials							
1945.133	JP	1945	2641208	02-May-1997	Issued	SJP KLW	Annis Bjorkholm
Title X-Ray Imaging Particularly Adapted for Low Z Materials							
1945.133	US	1945	4,799,247	17-Jan-1989	Issued	SJP KLW	Annis Bjorkholm
Title X-Ray Imaging Particularly Adapted for Low Z Materials							

Patent List

Client Matter#	Country	Client	Patent Number	Grant	Filing	Status	Attorney	Inventor
1945.134	US	1945	5,313,511	17-May-1994	18-Dec-1991	Issued	SJP KLW	Annis Bjorkholm
Title X-Ray Imaging Particularly Adapted for Low Z Materials								
1945.135	US	1945	4,809,312	28-Feb-1989	22-Jul-1986	Issued	SJP KLW	Annis
Title Method and Apparatus for Producing Tomographic Images								
1945.136	US	1945	4,839,913	13-Jun-1989	20-Apr-1987	Issued	SJP KLW	Annis Bjorkholm
Title Shadowgraph Imaging Using Scatter and Fluorescence								
1945.137	US	1945	4,819,256	04-Apr-1989	20-Apr-1987	Issued	SJP KLW	Annis Bjorkholm
Title Radiographic Sensitivity for Detection of Flaws and Cracks								
1945.138	US	1945	4,893,015	09-Jan-1990	01-Apr-1987	Issued	SJP KLW	Aronson Kubierschky
Title Dual Mode Radiographic Measurement Method and Device								
1945.139	US	1945	4,825,454	25-Apr-1989	28-Dec-1987	Issued	SJP KLW	Annis Johnson Mastronardi
Title Tomographic Imaging with Concentric Conical Collimator								

Patent List

Client Matter#	Country	Client	Patent Number	Grant	Filing	Status	Attorney	Inventor
1945.140	US	1945	5,127,030	30-Jun-1992	21-May-1990	Issued	SJP KLW	Annis Swift
Title Tomographic Imaging w/ Improved Collimator								
1945.141	US	1945	5,022,062	04-Jul-1991	13-Sep-1989	Issued	SJP KLW	Annis
Title Automatic Threat Detection Based on Illumination by Penetrating Radiant Energy Using Histogram Processing								
1945.142	US	1945	5,179,581	12-Jan-1993	04-Jun-1991	Issued	SJP KLW	Annis
Title Automatic Threat Detection Based on Illumination by Penetrating Radiant Energy								
1945.143	US	1945	5,224,144	29-Jun-1993	12-Sep-1991	Issued	SJP KLW	Annis
Title Reduced Mass Flying Spot Scanner Having Arcuate Scanning Lines								
1945.144	US	1945	5,483,569	09-Jan-1996	14-Oct-1993	Issued	SJP KLW	Annis
Title Inspection System with No Intervening Belt								

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1945.145	DE	1945	42 40 757.5	24-Jun-1993	03-Dec-1992	Issued	SJP KLW	Annis Riley
Title Inspection Method and Apparatus With Single Color Pixel Imaging								
1945.145	US	1945	5,253,283	12-Oct-1993	23-Dec-1991	Issued	SJP KLW	Annis Riley
Title Inspection Method and Apparatus With Single Color Pixel Imaging								
1945.147	US	1945	4,899,283	06-Feb-1990	23-Nov-1987	Issued	SJP KLW	Annis
Title Tomographic Apparatus Including Means to Illuminate the Bounded Field of View from a Plurality of Directions								
1945.157	US	1945	5,764,683	09-Jun-1998	12-Feb-1997	Issued	SJP KLW	Swift Tybinowski
Title Mobile X-Ray Inspection System for Large Objects								
1945.161	US	1945	5,930,326	27-Jul-1999	08-Jul-1997	Issued	SJP KLW	Grodzins Rothschild
Title Side Scatter Tomography								
1945.167	US	1945	5,696,806	09-Dec-1997	11-Mar-1996	Issued	SJP KLW	
Title Tomographic Method of X-Ray Imaging								

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Client Matter#	Country	Client	Patent Number	Grant	Filing	Status	Attorney	Inventor
1945.170	US	1945	5,642,394	24-Jun-1997	03-Apr-1996	Issued	SJP KLW	
Title Side Scatter X-Ray Detection System								
1945.171	US	1945	5,910,973	15-Jun-1999	22-Jul-1997	Issued	SJP KLW	Grodzins
Title Rapid X-Ray Inspection System (P-204)								
1945.173	US	1945	5,940,468	17-Aug-1999	07-Nov-1997	Issued	SJP KLW	Huang Hynes
Title Coded Aperture X-Ray Imaging System								
1945.180	US	1945	5,666,393	09-Sep-1997	04-Jun-1996	Issued	SJP KLW	
Title Method and Apparatus for Reducing Afterglow Noise (Issued)								
1945.181	US	1945	5,528,656	18-Jun-1996		Issued	SJP KLW	
Title Method and Apparatus for Sampling an Object (Issued)								
1945.182	US	1945	5,493,596	20-Feb-1996	07-Jul-1995	Issued	SJP KLW	
Title High Energy X-Ray Inspection System (Issued)								

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Client Matter#	Country	Client	Patent Number	Grant	Filing	Status	Attorney	Inventor
1945.184	US	1945	5,903,623	11-May-1999	04-May-1998	Issued	SJP KLW	
Title Mobile X-ray Inspection System								
1945.189	US	1945	6,081,580	27-Jun-2000	08-Sep-1998	Issued	SJP KLW	Lee Grodzins William L. Adams
Title A Tomographic Inspection System								
1945.190	US	1945	6,067,344	23-May-2000	01-Dec-1998	Issued	SJP KLW	Adams Grodzins Huang Sapp
Title X-Ray Ambient Level Safety System								
1945.191	US	1945	6,151,381	21-Nov-2000	27-Jan-1999	To issue	SJP KLW	Grodzins Swift
Title Gated Transmission and Scatter Detection for X-Ray Imaging								