

PTO-1595

(Rev. 03/01)

OMB No. 0651-0027 (exp. 5/31/2002)

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10-03-2002



102240175

U.S. DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office

To the Honorable Commissione

Attached original documents or copy thereof.

1. Name of conveying party(ies):

MFRI, Inc. (Delaware)

Perma-Pipe, Inc. (Delaware)

9-17-02

2. Name and address of receiving party(ies)

Name: Connecticut General Life Insurance

Internal Address:

c/o CIGNA Retirement & Investment Services

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

3. Nature of conveyance:

☐

Assignment

☐

Merger

☒

Security Agreement

☐

Change of Name

☐

Other

Street Address: 280 Trumbull Street

City: Hartford State: CT Zip: 06103

Execution Date: 07/11/02

Additional name(s) & address(es) attached? ☒ Yes ☐ No

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) See Annexes 1A

and 1B attached hereto.

B. Patent No.(s) See Annexes 2A

and 2B attached hereto.

Additional numbers attached? ☒ Yes ☐ No

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

Name: James Greenfield, Esq.

Internal Address: Bingham McCutchen LLP

Street Address: One State Street

City: Hartford State: CT Zip: 06103

6. Total number of applications and patents involved: 25

7. Total fee (37 CFR 3.41).....\$ 1,000.00

☒

Enclosed

☐

Authorized to be charged to deposit account

8. Deposit account number:

DO NOT USE THIS SPACE

9. Signature.

James Greenfield, Esq.

Name of Person Signing

Signature

September 16, 2002

Date

Total number of pages including cover sheet, attachments, and documents: 21

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

Commissioner of Patents & Trademarks, Box Assignments
Washington, DC 20540

10/02/2002 JJALLAN2 00000016 5334970

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280.00 DP

10/02/2002 JJALLAN2 0000121388

CHECK Refund Total:

\$720.00

PATENT

REEL: 13333 FRAME: 0590

Additional Names and Addresses of Receiving Parties

Massachusetts Mutual Life Insurance Company,
a Massachusetts mutual life insurance company
c/o David L. Babson & Company Inc.
1500 Main Street, Suite 2800
Springfield, MA 01115

C.M. Life Insurance Company c/o Massachusetts Mutual Life Insurance Company,
a Connecticut mutual life insurance company
c/o David L. Babson & Company Inc.
1500 Main Street, Suite 2800
Springfield, MA 01115

Annex 1B

Foreign Patent Applications

<u>Holder</u>	<u>Patent Title</u>	<u>Application No.</u>	<u>Jurisdiction</u>
Perma-Pipe, Inc.	Corrosion Resistant Cable	2.137.287	Canada
	Corrosion Resistant Cable	6-501591	Japan
	Corrosion Resistant Cable	312.108	Korea
	Corrosion Resistant Cable	183.509	Mexico
	Corrosion Resistant Cable	065.919	Taiwan
	Corrosion Resistant Cable	774/93	Venezuela

Annex 2A

U.S. Patents Issued

<u>Holder</u>	<u>Patent Title</u>	<u>Patent No.</u>
MFRI, Inc.	Alarm System	5,334,970
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	4,797,621
Perma-Pipe, Inc.	Corrosion Resistant Cable	5,355,720
	Fluid Detection System & Method Having a Coaxial Cable with Solid, Stranded Dielectric Elements	4,910,998
	Heating Device for Utilizing the Skin Effect of Alternating Current	4,532,375
	Heating Device for Utilizing the Skin Effect of Alternating Current	4,617,449
	Method and Apparatus for Detecting and Distinguishing Leaks Using Reflectometry and Conductivity Tests	5,410,255

Annex 2B

Foreign Patents Issued

<u>Holder</u>	<u>Patent Title</u>	<u>Patent No.</u>	<u>Jurisdiction</u>
MFRI, Inc.	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	1.277.387	Canada
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	173.570	Denmark
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	298.479	Europe
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	100.616	Finland
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	P38.71.262.8	Germany
	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	298.479	France Great Britain Italy Netherlands Sweden
Perma-Pipe, Inc.	Heating Device for Utilizing the Skin Effect of Alternating Current	1.213.929	Canada
	Method of Making a Heating Device for Utilizing the Skin Effect of Alternating Current	1.192.247	Canada
	Corrosion Resistant Cable	P19.306.487-0	Brazil
	Corrosion Resistant Cable	93.105.982.8	China
	Corrosion Resistant Cable	P693.20.211.4	Germany
	Corrosion Resistant Cable	717.837	Europe France Great Britain Ireland Sweden



PATENT AND LICENSE SECURITY AGREEMENT

PATENT AND LICENSE SECURITY AGREEMENT (“**Agreement**”) dated as of July 11, 2002, made by and among **MFRI, INC.**, a Delaware corporation (the “**Company**”), and the other parties executing this Agreement under the heading “**Debtors**” (the Company and such other parties, being hereinafter referred to collectively as the “**Borrower**”), each with its mailing address as set forth on Annex 1 attached hereto, and **CONNECTICUT GENERAL LIFE INSURANCE COMPANY** (“**CIGNA**”), **MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY** and **CM LIFE INSURANCE COMPANY** (collectively, “**MassMutual**”).

W I T N E S S E T H:

WHEREAS, concurrently herewith the Company, Fleet Capital Corporation (the “**Agent Bank**”) and certain other lenders have entered into a Loan and Security Agreement dated of even date herewith (such Loan and Security Agreement as heretofore amended and as the same may be amended, modified or restated from time to time being hereinafter referred to as the “**Credit Agreement**”), pursuant to which such lenders have agreed, subject to certain terms and conditions, to extend credit and make certain other financial accommodations available to the Company;

WHEREAS, concurrently herewith the Company, CIGNA, MassMutual and one or more other purchasers have entered into separate Note Purchase Agreements, each dated of even date herewith (such Note Purchase Agreements as heretofore amended and as the same may be amended, modified or restated from time to time being hereinafter referred to collectively as the “**Note Purchase Agreement**”), pursuant to which the Company has issued its Reset Senior Notes (the “**Notes**”) due June 30, 2007, in the aggregate principal amount of \$6,000,000, which Notes have been purchased by CIGNA, MassMutual and the other purchasers referred to in the Note Purchase Agreement (CIGNA, MassMutual, such other note purchasers and the holders of the Notes from time to time being referred to herein as the “**Noteholders**” and individually as a “**Noteholder**”);

WHEREAS, concurrently herewith, CIGNA and MassMutual have entered into an Intercreditor Agreement with the Agent Bank (as may be amended from time to time the “**Intercreditor Agreement**”) pursuant to which the CIGNA and MassMutual and such Agent Bank have set forth their respective priorities in the Patents and Licenses (each as hereinafter defined).

WHEREAS, the Borrower’s obligations and liabilities under the Note Purchase Agreement, and under all other instruments, documents and agreements executed and delivered by Borrower to the Noteholders in connection with the Note Purchase Agreement, are hereinafter referred to collectively as the “**Obligations**”.

NOW, THEREFORE, in consideration of the premises set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Borrower agrees as follows:

1. Defined Terms.

(i) Unless otherwise defined herein, the capitalized terms used herein which are defined in the Note Purchase Agreement shall have the meanings specified in the Note Purchase Agreement.

(ii) The words "hereof", "herein", and "hereunder" and words of like import when used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement, and section and schedule references are to this Agreement unless otherwise specified.

(iii) All terms defined in this Agreement in the singular shall have comparable meanings when used in the plural, and vice versa unless otherwise specified.

2. Security Interest in Patents. To secure the complete and timely payment, performance and satisfaction of all of the Obligations, Borrower hereby grants to CIGNA and MassMutual as secured parties (collectively together with their successors and assigns, the "**Secured Party**"), a security interest, having priority over all other security interests, except those of the Agent Bank, with power of sale to the extent permitted by applicable law, exercisable after and during the occurrence of an Event of Default, all of Borrower's now owned or existing and filed and hereafter acquired or arising and filed:

(i) patents and patent applications, and the inventions and improvements described and claimed therein, including, without limitation, those patents and patent applications listed on Schedule A, and (a) the reissues, divisions, continuations, renewals, extensions and continuations-in-part thereof, (b) 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, (c) the right to sue for past, present and future infringements thereof, and (d) all rights corresponding thereto throughout the world (all of the foregoing patents and applications, together with the items described in the foregoing clauses (a)-(d), being sometimes hereinafter individually and/or collectively referred to as the "Patents"); and

(ii) license agreements with any other party in connection with any Patents or such other party's patents or patent applications, whether Borrower is a licensor or licensee under any such license agreement, including, but not limited to, the license agreements listed on Schedule B, and the right upon the occurrence and during the continuance of an Event of Default to use the foregoing in connection with the enforcement of the Secured Party's and the Noteholders' rights under the Note Purchase Agreement and the other Financing Documents (all of the foregoing being hereinafter referred to collectively as the "Licenses"). Notwithstanding the foregoing provisions of this Section 2, the Licenses shall not include any license agreement which by its terms prohibits the grant of the security interest, use, transfer, or assignment contemplated by this Agreement.

3. Restrictions on Future Agreements. Borrower will not, without the Secured Party's prior written consent (which will not be unreasonably withheld or delayed), enter into any agreement after the date hereof, including, without limitation, any license agreement, which is inconsistent with this Agreement, and Borrower further agrees that it will not take any action, and will use its best efforts not to permit any action to be taken by others subject to its control, including licensees, or fail to take any action, which would in any material respect adversely affect the validity or enforcement of the rights transferred to the Secured Party under this Agreement or the rights associated with those Patents which could reasonably be expected to be necessary to protect inventions material to the conduct of Borrower's business, and in those rule-of-law jurisdictions representing material markets or sources of manufacture for Borrower's products.

4. New Patents. Borrower represents and warrants that the Patents and Licenses listed on Schedules A and B, respectively, include all of the patents, patent applications and license agreements in connection with patents or patent applications now owned or held by Borrower. If, prior to the termination of this Agreement, Borrower shall (i) obtain rights to any new patentable inventions or license agreements in connection with patents or patent applications or (ii) become entitled to the benefit of any patent, patent application or patent for any reissue, division, continuation, renewal, extension or continuation-in-part of any Patent or any improvement on any Patent, and, in Borrower's reasonable business judgment, a filing should be made in the Patent and Trademark Office, then in respect to such Property the provisions of Section 2 shall automatically apply thereto and Borrower shall give to the Secured Party prompt written notice thereof. Borrower hereby authorizes the Secured Party to modify this Agreement by (a) amending Schedules A or B, as the case may be, to include any future patents, patent applications and license agreements in connection with patents and patent applications that are Patents or Licenses under Section 2 or under this Section 4, and (b) filing, in addition to and not in substitution for, this Agreement, a duplicate original of this Agreement containing on Schedules A or B thereto, as the case may be, such future patents, patent applications and license agreements which are Patents or Licenses, as the case may be, under Section 2 or this Section 4.

5. Royalties. Borrower hereby agrees that the use by the Secured Party of the Patents and Licenses as authorized hereunder shall be coextensive with Borrower's rights thereunder and with respect thereto and without any liability for royalties or other related charges from the Secured Party to Borrower.

6. Nature and Continuation of Secured Party's Security Interest. This Agreement is made for collateral security purposes only. This Agreement shall create a continuing security interest in the Patents and the Licenses and shall remain in full force and effect until the Obligations have been paid in full.

7. Right to Inspect; Further Assignments and Security Interests. The Secured Party shall have the right, at any reasonable time and from time to time, to inspect Borrower's premises and to examine Borrower's books, records and operations relating to the Patents (an "Inspection"); provided, that in conducting such inspections and examinations, the Secured Party shall use best efforts not to disturb unnecessarily the conduct of Borrower's ordinary business operations. The Secured Party agrees to safeguard any and all Confidential Information (as defined hereinafter) disclosed to the Secured Party during an Inspection, as provided in and

subject to the limitations of Section 20 of the Note Purchase Agreement. "Confidential Information" shall mean all information of a private, secret or proprietary or confidential nature concerning Borrower's business relationships, products or services, or financial affairs, whether or not marked "confidential." Borrower agrees not to sell or assign its respective interests in, or grant any license under, the Patents without the prior written consent of the Secured Party, which consent will not be unreasonably withheld or delayed. From and during the occurrence of an Event of Default, and subject to the terms of the Note Purchase Agreement and the other Financing Documents, Borrower agrees that the Secured Party or a conservator appointed by the Secured Party, shall have the right to establish such reasonable additional product quality controls as the Secured Party or such conservator, in its sole judgment, may deem necessary to assure maintenance of the quality of products sold by Borrower under the Patents. Borrower agrees (i) except as permitted by the Note Purchase Agreement and the other Financing Documents not to sell or assign its respective interests in, or grant any license under, the Patents without the prior written consent of the Secured Party (which consent will not be unreasonably withheld or delayed), (ii) to maintain the quality of any and all products in connection with which the Patents are used, consistent with the quality of said products as of the date hereof, and (iii) not to adversely change the quality of such products in any material respect without the prior written consent of the Secured Party (which consent will not be unreasonably withheld or delayed).

8. Duties of Borrower. Borrower shall have the duty to the extent desirable in the normal conduct of Borrower's business and consistent with Borrower's current business practices: (i) to prosecute diligently any of its patent applications that are part of the Patents pending as of the date hereof or thereafter until the termination of this Agreement; (ii) to make application on such unpatented but patentable inventions as Borrower deems appropriate and material; and (iii) to take reasonable steps to preserve and maintain all of Borrower's rights in the patent applications and patents that are part of the Patents. Any expenses incurred in connection with the foregoing shall be borne by Borrower. Borrower shall not abandon any right to file a patent application or any pending patent application or patent which is or shall be necessary or important in the operation of Borrower's business. Borrower agrees to retain an experienced patent attorney reasonably acceptable to the Secured Party for the filing and prosecution of all such applications and other proceedings. Except as otherwise expressly provided for herein or in the other Financing Documents, the Secured Party shall not have any duty with respect to the Patents or the Licenses. Without limiting the generality of the foregoing, the Secured Party shall not be under obligation to take any steps necessary to preserve rights in the Patents or Licenses against any other parties, but may do so at its option during the continuance of an Event of Default, and all reasonable expenses incurred in connection therewith shall be for the sole account of Borrower and added to the Obligations secured hereby. In the event that the Secured Party releases its security interest in the Patents and if applicable, the Licenses, the Secured Party shall promptly record the appropriate documentation for such release in the relevant jurisdiction in which such security interest was originally recorded.

9. Secured Party's Right to Sue. From and during the continuance of an Event of Default, and subject to the terms of the Note Purchase Agreement, the Secured Party shall have the right, but shall not be obligated, to bring suit to enforce the Patents and the Licenses, and, if the Secured Party shall commence any such suit, Borrower shall, at the request of the Secured Party, do any and all lawful acts and execute any and all proper documents required by the

Secured Party in aid of such enforcement. Borrower shall, upon demand, promptly reimburse and indemnify the Secured Party for all costs and reasonable expenses incurred by the Secured Party in the exercise of its rights under this Section 9 (including, without limitation, all reasonable attorneys' and paralegals' fees). If, for any reason whatsoever, the Secured Party is not reimbursed with respect to the costs and expenses referred to in the preceding sentence, such costs and expenses shall be added to the Obligations secured hereby.

10. Waivers. No course of dealing between Borrower and the Secured Party, and no failure to exercise or delay in exercising on the part of the Secured Party of any right, power or privilege hereunder or under any other Financing Documents shall operate as a waiver of any of the Secured Party's rights, powers or privileges. No single or partial exercise of any right, power or privilege hereunder or under the other Financing Documents shall preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

11. Secured Party's Exercise of Rights and Remedies Upon Default. Notwithstanding anything set forth herein to the contrary, it is hereby expressly agreed that upon the occurrence and during the continuance of an Event of Default, the Secured Party may exercise any of the rights and remedies provided in this Agreement, the other Financing Documents, or any other agreement executed in connection therewith. Without limiting the generality of the foregoing, Borrower acknowledges and agrees that (i) the Patents and Licenses comprise a portion of the Collateral and the Secured Party shall have the right to exercise their rights under the other Financing Documents with respect to the Patents and Licenses to the same extent as with respect to all other items of Collateral described therein, and (ii) from and during the continuance of an Event of Default, the Secured Party or its nominee may use the Patents and Licenses in connection with the conduct of Borrower's business.

12. 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.

13. Modification. This Agreement cannot be altered, amended or modified in any way, except as specifically provided in Sections 2 and 4 hereof or by a writing signed by the parties hereto.

14. Cumulative Remedies; Power of Attorney. All of the Secured Party's rights and remedies with respect to the Patents and the Licenses, whether established hereby, by any other agreements or by law, shall be cumulative and may be exercised singularly or concurrently. Borrower hereby irrevocably appoints the Secured Party as Borrower's attorney-in-fact, with full authority in the place and stead of Borrower and in the name of Borrower or otherwise exercisable during an Event of Default to carry out the acts described below. Subject to the terms of the Note Purchase Agreement and the other Financing Documents, upon the occurrence and during the continuance of an Event of Default and the giving by the Secured Party of written notice to Borrower of the Secured Party's intention to enforce its rights and claims against Borrower, Borrower hereby authorizes the Secured Party to, in its sole discretion, (i) endorse Borrower's name on all applications, documents, papers and instruments necessary or desirable

for the Secured Party in the use of the Patents and the Licenses, (ii) take any other actions with respect to the Patents and the Licenses as the Secured Party deems is in its best interest, (iii) grant or issue any exclusive or non-exclusive license with respect to the Patents to anyone on commercially reasonable terms, and (iv) assign, pledge, convey or otherwise transfer title in or dispose of the Patents and the Licenses to anyone on commercially reasonable terms. Borrower hereby ratifies all that such attorney-in-fact shall lawfully do or cause to be done by virtue hereof. This power of attorney is coupled with an interest and shall be irrevocable until this Agreement shall have been terminated pursuant to Section 6. Borrower acknowledges and agrees that this Agreement is not intended to limit or restrict in any way the rights and remedies of the Noteholders or the Secured Party under the Note Purchase Agreement or the other Financing Documents, but rather is intended to facilitate the exercise of such rights and remedies. The Secured Party shall have, in addition to all other rights and remedies given it by the terms of this Agreement, all rights and remedies allowed by law and the rights and remedies of a secured party under the Uniform Commercial Code as enacted in any jurisdiction in which the Patents may be located or deemed located.

15. Binding Effect; Benefits. This Agreement shall be binding upon Borrower and its successors and assigns, and shall inure to the benefit of the Secured Party, and its nominees, successors and assigns. Borrower's successors and assigns shall include, without limitation, a receiver, trustee or debtor-in-possession of or for Borrower; provided, however, that Borrower shall not voluntarily assign its obligations hereunder without the prior written consent of the Secured Party.

16. Governing Law. This Agreement shall be governed by and construed in accordance with the laws and decisions of the State of Illinois, excluding choice of law provisions, principles, and decisions that would require the application of the laws of a jurisdiction other than the State of Illinois.

17. Notices. All notices or other communications hereunder shall be given in the manner and to the addresses set forth in the Note Purchase Agreement.

18. Section Headings. The section headings herein are for convenience of reference only, and shall not affect in any way the interpretation of any of the provisions hereof.

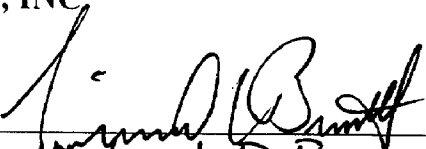
19. Execution in Counterparts. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute one and the same agreement.

20. Right of Recordal of Security Interest. The Secured Party shall have the right, but not the obligation, at the expense of Borrower, to record this Agreement in the United States Patent Office and with such other recording authorities deemed reasonable and proper by the Secured Party, and the Secured Party shall advise Borrower of such recordals. Upon satisfaction in full of the Obligations, Borrower shall have the right to effect recordal of such satisfaction or termination at the expense of Borrower in the United States Patent Office and with such other recording authorities deemed reasonable and proper by Borrower. The Secured Party and Borrower shall cooperate to effect all such recordals hereunder.

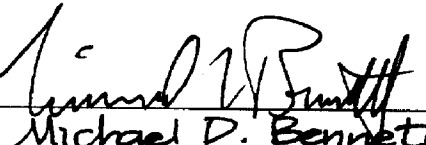
IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement on the day and year first above written.

Debtors


MFRI, INC.

By 
Name: Michael D. Bennett
Title: Vice President

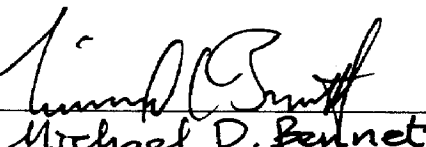
MIDWESCO FILTER RESOURCES, INC.

By 
Name: Michael D. Bennett
Title: Vice President

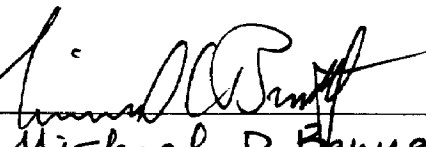
PERMA-PIPE, INC.

By 
Name: Michael D. Bennett
Title: Vice President

THERMAL CARE, INC.

By 
Name: Michael D. Bennett
Title: Vice President

TDC FILTER MANUFACTURING, INC.

By 
Name: Michael D. Bennett
Title: Vice President

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

The foregoing Patent and License Security Agreement was executed and acknowledged before me this 17th day of July, 2002, by Michael D. Bennett, personally known to me to be the Vice President of **MFRI, INC.**, a Delaware corporation, on behalf of such corporation.

(SEAL)



Brenda L. Hatfield
Notary Public
My commission expires: 7/29/05

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

The foregoing Patent and License Security Agreement was executed and acknowledged before me this 17th day of July, 2002, by Michael D. Bennett, personally known to me to be the Vice President of **MIDWESCO FILTER RESOURCES, INC.**, a Delaware corporation, on behalf of such corporation.

(SEAL)



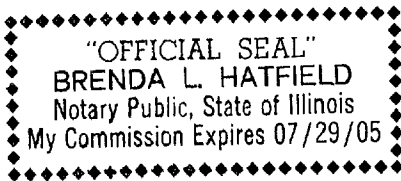
Brenda L. Hatfield
Notary Public
My commission expires: 7/29/05

[Notary Block to Patent and License Security Agreement]

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

The foregoing Patent and License Security Agreement was executed and acknowledged before me this 17th day of July, 2002, by Michael D. Bennett, personally known to me to be the Vice President of PERMA-PIPE, INC., a Delaware corporation, on behalf of such corporation.

(SEAL)

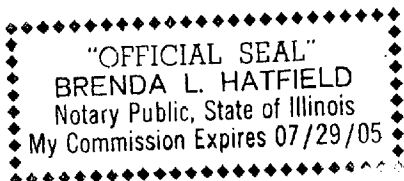


Brenda L. Hatfield
Notary Public
My commission expires: 7/29/05

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

The foregoing Patent and License Security Agreement was executed and acknowledged before me this 17th day of July, 2002, by Michael D. Bennett, personally known to me to be the Vice President of THERMAL CARE, INC., a Delaware corporation, on behalf of such corporation.

(SEAL)



Brenda L. Hatfield
Notary Public
My commission expires: 7/29/05

[Notary Block to Patent and License Security Agreement]

PATENT
REEL: 13333 FRAME: 0603

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

The foregoing Patent and License Security Agreement was executed and acknowledged before me this 14th day of July, 2002, by Michael D. Bennett, personally known to me to be the Vice President of **TDC FILTER MANUFACTURING, INC.**, a Delaware corporation, on behalf of such corporation.

(SEAL)

Brenda L. Hatfield
Notary Public
My commission expires: 7/29/05



[Notary Block to Patent and License Security Agreement]

Accepted and agreed to as of this 11th day of July, 2002.

CONNECTICUT GENERAL LIFE INSURANCE COMPANY

By: CIGNA Investments, Inc. (authorized agent)

By: 
Name: **EDWARD LEWIS**
Title: **MANAGING DIRECTOR**

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

By: David L. Babson & Company Inc. as Investment Adviser

By: _____
Name: _____
Title: _____

C.M. LIFE INSURANCE COMPANY

c/o MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

By: David L. Babson & Company Inc. as Investment Adviser

By: _____
Name: _____
Title: _____

Accepted and agreed to as of this 11th day of July, 2002.

CONNECTICUT GENERAL LIFE INSURANCE COMPANY

By: **CIGNA Investments, Inc. (authorized agent)**

By: _____

Name:

Title:

MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY

By: **David L. Babson & Company Inc. as Investment Adviser**

By: 

Name: **Mark A. Ahmed**

Title: **Managing Director**

C.M. LIFE INSURANCE COMPANY

c/o **MASSACHUSETTS MUTUAL LIFE INSURANCE COMPANY**

By: **David L. Babson & Company Inc. as Investment Sub-Adviser**

By: 

Name: **Mark A. Ahmed**

Title: **Managing Director**

ANNEX 1

Addresses

MFRI, Inc.

7720 Lehigh Avenue
Niles, Illinois 60714

Midwesco Filter Resources, Inc.

c/o MFRI, Inc.
7720 Lehigh Avenue
Niles, Illinois 60714

Perma-Pipe, Inc.

c/o MFRI, Inc.
7720 Lehigh Avenue
Niles, Illinois 60714

Thermal Care, Inc.

c/o MFRI, Inc.
7720 Lehigh Avenue
Niles, Illinois 60714

TDC Filter Manufacturing, Inc.

c/o MFRI, Inc.
7720 Lehigh Avenue
Niles, Illinois 60714

SCHEDULE A

PATENTS

Owner	Patent	Registration Number	Date
MFRI, Inc.	Leak Detector and Locator Utilizing Time Domain Reflectometry and Sampling Techniques	4,797,621 ^{1/}	01/10/89
MFRI, Inc.	Alarm System	5,334,970	08/02/94
Perma-Pipe, Inc.	Heating Device for Utilizing the Skin Effect of Alternating Current	4,532,375 ^{2/}	07/30/85
Perma-Pipe, Inc.	Method of Making a Heating Device for Utilizing the Skin Effect of Alternating Current	1,192,247 (Canada)	08/20/85
Perma-Pipe, Inc.	Heating Device for Utilizing the Skin Effect of Alternating Current	4,617,449	10/14/86
Perma-Pipe, Inc.	Fluid Detection System & Method Having a Coaxial Cable with Solid, Stranded Dielectric Elements	4,910,998	03/27/90
Perma-Pipe, Inc.	Corrosion Resistant Cable	5,355,720 ^{3/}	10/18/94
Perma-Pipe, Inc.	Method and Apparatus for Detecting and Distinguishing Leaks Using Reflectometry and Conductivity Tests	5,410,255	04/25/95

^{1/} This patent was issued by the corresponding patent office in Canada (1.277.387), Europe (298.479), Finland (100.616), Denmark (173.570), France, Great Britain, Italy, Netherlands, Sweden (298.479), and Germany (P38.71.262.8).

^{2/} This patent was issued by the corresponding patent office in Canada (1.213.929, 11/12/86).

^{3/} This patent was issued by the corresponding patent office in Europe, France, Ireland, Sweden, Great Britain (717.837), Germany (P693.20.211.4), China (93.105.982.8), and Brazil (P19.306.487-0). This patent is pending in Mexico (183.509), Taiwan (065.919), Korea (312.108), Canada (2.137.287), Japan (6-501591) and Venezuela (774/93).

SCHEDULE B

LICENSES

None.

Annex 1A

U.S. Patent Applications

None.

Annex 1A-1

RECORDED: 09/17/2002

**PATENT
REEL: 13333 FRAME: 0610**