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



DEPARTMENT OF COMMERCE
Patent and Trademark Office

101800372 To the Commissioner for Patents: Please record the attached original documents or copy thereof. Name of conveying party(ies): Name and address of receiving party(ies) **Brown & Sharpe Manufacturing Company Brown & Sharpe Holding AB** Name: Additional name(s) of conveying party(ies) attached? [] Yes [X] No Internal Address: Nature of conveyance: [X] Assignment [] Merger Street Address: Kronobryggan, S-26131 [] Security Agreement [] Change of Name Landskrona, Sweden [] Other April 27, 2001 Execution Date: Additional name(s) & addresses(es) attached? [] Yes [X] 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) B. Patent No.(s) See Attached Schedule See Attached Schedule Additional numbers attached? [X] Yes [] No Name and address of party to whom correspondence 6. Total number of applications and patents involved: [24] Concerning document should be mailed: 7. Total fee (37 CFR 3.41) \$ 960.00 Name: Lawrence M. Green Address: WOLF, GREENFIELD & SACKS, P.C. [X] Enclosed Federal Reserve Plaza [] Authorized to be charged to deposit account 600 Atlantic Avenue Boston, MA 02210 The Commissioner is authorized to charge: 8. Deposit Account No: 23/2825 DO NOT USE THIS SPACE 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. es 26, 2001 Lawrence M. Green Name of Person Signing Signature Date Total number of pages including cover sheet, attachments, and document: [6]

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

Box Assignment

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Honorable Commissioner of Patents, Washington, D.C. 20231

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PATENT

REEL: 012025 FRAME: 0661

U.S. PATENTS

| PATENT | PATENT | TITLE | INVENTOR(S) | EXPIRATION DATE |
|-----------|----------|---|---|-----------------|
| | | | | |
| 4,492,036 | 01/08/85 | Magnetic Ball Bar Gauge | Walter L. Beckwith, Jr. | 01/08/2002 |
| 4,763,420 | 08/16/87 | Base Assembly Coordinate Measuring Machine | William J. McCabe, Vitaly I. Pesikov | 08/16/2005 |
| 4,835,871 | 06/06/89 | Counterweight for Coordinate Measuring Machine | Vitaly I. Pesikov | 06/06/2006 |
| 4,866,643 | 09/12/89 | Method for Automatic Compensation of Probe Offset in a Coordinate Measuring Machine | Werner Dutler | 09/12/2006 |
| 4,884,889 | 12/05/89 | Calibration System for Coordinate Measuring Machine | Walter L. Beckwith, Jr. | 12/05/2006 |
| 4,926,360 | 05/15/90 | Electronic Gage Amplifier and Display | Stanley T. Spink | 05/15/2007 |
| 4,939,678 | 07/03/90 | Method for Calibration of Coordinate Measuring Machine | Walter L. Beckwith, Jr. | 07/03/2007 |
| 4,946,293 | 08/07/90 | Gas Bearing Having an Auxiliary Reservoir | Israel F. Helms | 08/07/2007 |
| 4,949,465 | 08/21/90 | Counterweight for Coordinate Measuring Machine | Vitaly Pesikov | 08/21/2007 |
| 4,958,437 | 09/25/90 | Coordinate Measuring Machine with Vibration Damper | Israel F. Helms | 09/25/2007 |
| 5,042,162 | 08/27/91 | Coordinate Measuring Machine with Vibration Dampening System | Israel F. Helms | 08/27/2008 |
| 5,231,768 | 08/03/93 | Stacked Block Step Gage | Walter L. Beckwith, Jr. | 08/03/2010 |
| 5,347,723 | 09/20/94 | Air Bearing Control System | Gary Russell | 09/20/2011 |
| 5,418,730 | 05/23/95 | Control Axis Mounted Computer Interface for Coordinate Measuring Machines | Michael A. Mariani, Kenneth L. Sheehan | 05/23/2012 |
| 5,430,950 | 07/11/95 | Stacked Block Step Gage | | 07/11/2012 |
| 5,535,524 | 07/16/96 | Vibration Damper for Coordinate Measuring | Paul W. Carrier, | 07/16/2013 |
| | | IVIACIIIIIE | Klenard A. MacMailus | |

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| 5,669,150 | 09/23/97 | Coordinate Measuring Machine Having Articulated Arm | Raymond J. Guertin, YuZhong Dai, Vitaly Pesikov, Walter | |
| | | | Pesikov, Walter Beckwith, Jr., Thomas | |
| | | | Charlton | |
| 5,671,541 | 09/30/97 | Accuracy Verification Devices for CMMS | YuZhong Dai, | 09/01/2015 |
| | | | Thomas Charlton, Jr. | |
| 5,690,567 | 11/25/97 | Transmission for Converting Rotary Motion | Jan de Nijs, Matthias | 05/25/01 |
| | | into Linear Motion | Lindner | |
| 5,822,877 | 10/20/98 | Multi-Probe System for Dimensional | YuZhong Dai | 06/20/2016 |
| | | Metrology | | |
| 5,830,094 | 11/03/98 | Transmission for Converting Rotary Motion | Jan deNijs | 11/03/2015 |
| | | into Linear Motion | | |
| 5,832,416 | 11/03/98 | Calibration System for CMM | Paul Anderson | 09/01/2015 |
| 6,112,423 | 09/05/00 | Apparatus & Method for Calibrating a Probe | Kenneth L. Sheehan | 01/15/2019 |
| | | Assembly of a Measuring Machine | | |

PENDING U.S. PATENT APPLICATIONS

| APPL. | FILING | TITLE | INVENTOR(S) | STATUS |
|------------|----------|-----------|--------------------------|---------|
| NO. | DATE | | | 1 |
| 09/702,403 | 10/31/00 | BORE GAGE | Stephen Forschler et al. | Pending |
| | | | | |
| | | | | |

ASSIGNMENT OF PATENTS AND PATENT APPLICATIONS

WHEREAS, Brown & Sharpe Manufacturing Company ("Assignor"), a Delaware corporation, having a place of business at 200 Frenchtown Road, North Kingstown, Rhode Island 02852, U.S.A., is the owner of the patents and patent applications set forth on attached Schedule A (hereinafter "Assigned Patents & Patent Applications") and the underlying inventions described therein (hereinafter "Inventions"):

WHEREAS, BROWN & SHARPE HOLDING AB, a limited liability company organized under the laws of Sweden ("Assignee") having a place of business at Kronobryggan, S-26131, Landskrona, Sweden, is desirous of acquiring the entire and exclusive right, title and interest in and to the said Assigned Patents and Patent Applications and Said Inventions in the United States and throughout the world, and in and to any Letters Patent that may be granted and issued therefor;

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

- Assignment. Assignor hereby assigns, transfers and conveys to Assignee all of Assignor's right, title, and interest in the United States and throughout the world in and to said Assigned Patents and Patent Applications, Said Inventions, and any and all Letters Patent whether U.S. or foreign that are or may be granted therefrom including without limitation any extensions, continuations, continuations-in-part, divisions, reissues, and reexaminations thereof, or equivalents thereof, and further, all rights, claims and privileges pertaining to the Assigned Patents and Patent Applications and Said Inventions including without limitation the right, if any, to sue or bring other actions and recover damages for past, present and future infringement thereof.
- 2. <u>Further Assignment</u>. Assignor further assigns to and empowers Assignee, its successors, assigns or nominees, all rights to make applications for patents or other forms of protection for Said Inventions and to prosecute such applications and said Assigned Patents and Patent Applications, as well as to claim and receive the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and the right to invoke and claim such right of priority without further written or oral authorization.
- 3. Authorization of Patent and Trademark Office to Record. Assignor further agrees that this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose regarding the subject matter hereof, as well as constituting proof of the right of Assignee or its successors, assigns or nominees to apply for patent or other proper protection for Said Inventions, and to claim the aforesaid benefits of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.
- 4. <u>Further Assurances</u>. Assignor agrees to take such further action and to execute such documents as Assignee may reasonably request to effect or confirm the conveyance to Assignee of the Assigned Patents and Patent Applications and any improvements thereunder. When requested, without charge to but at the expense of said Assignee, Assignor agrees to carry out in good faith the intent and purpose of this assignment, by executing all divisional, continuing, substitute, reissue, reexaminations and other patent applications on any and all of Said Inventions by

Patent Assignment

executing all rightful oaths, assignments, powers of attorney and other papers, by communicating to said Assignee all facts known to Assignor relating to Said Inventions and the history thereof, and generally by doing everything possible which said Assignee shall consider desirable for aiding and securing and maintaining proper patent protection for said Assigned Patents and Patent Applications and Said Inventions and for vesting title in said Assigned Patents and Patent Applications.

- Issuance of Patents. Assignor hereby requests the Honorable Commissioner of 5. Patents and Trademarks to issue said any Letters Patent resulting from Said Assigned Patents and Patent Applications and Said Inventions to said Assignee.
- Covenant. Assignor covenants with said Assignee that no assignment, grant, 6. mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by Assignor and that the full right to convey the same as expressed herein is possessed by Assignor.

Brown & Sharpe Manufacturing Company

Title: President

Subscribed and sworn to before me this $\underline{2}$

Notary Public DANIEL WEINTRAUB, Notary Public My Commission Expires February 24, 2006

J.S. PATENTS

| PATENT NO. | PATENT DATE | TITLE | INVENTOR(S) | EXPIRATION DATE |
|---------------|----------------|---|---|-----------------|
| | | | | |
| 4,492,036 | 01/08/85 | Magnetic Ball Bar Gauge | Walter L. Beckwith, Jr. | 01/08/2002 |
| 4,763,420 | 08/16/87 | Base Assembly Coordinate Measuring Machine | William J. McCabe, Vitaly I. Pesikoy | 08/16/2005 |
| 4,835,871 | 06/06/89 | Counterweight for Coordinate Measuring Machine | Vitaly I. Pesikov | 06/06/2006 |
| 4,866,643 | 09/12/89 | Method for Automatic Compensation of Probe Offset in a Coordinate Measuring Machine | Werner Dutler | 09/12/2006 |
| 4,884,889 | 12/05/89 | Calibration System for Coordinate Measuring Machine | Walter L. Beckwith, Jr. | 12/05/2006 |
| 4,926,360 | 05/15/90 | Electronic Gage Amplifier and Display | Stanley T. Spink | 05/15/2007 |
| 4,939,678 | 07/03/90 | Method for Calibration of Coordinate Measuring Machine | Walter L. Beckwith, Jr. | 07/03/2007 |
| 4,946,293 | 08/07/90 | Gas Bearing Having an Auxiliary Reservoir | Israel F. Helms | 08/07/2007 |
| 4,949,465 | 08/21/90 | Counterweight for Coordinate Measuring Machine | Vitaly Pesikov | 08/21/2007 |
| 4,958,437 | 09/25/90 | Coordinate Measuring Machine with Vibration Damper | Israel F. Helms | 09/25/2007 |
| 5,042,162 | 08/27/91 | Coordinate Measuring Machine with Vibration Dampening System | Israel F. Helms | 08/27/2008 |
| 5,231,768 | 08/03/93 | Stacked Block Step Gage | Walter L. Beckwith, Jr. | 08/03/2010 |
| 5,347,723 | 09/20/94 | Air Bearing Control System | Gary Russell | 09/20/2011 |
| 5,418,730 | 05/23/95 | Control Axis Mounted Computer Interface for Coordinate Measuring Machines | Michael A. Mariani, Kenneth L. Sheehan | 05/23/2012 |
| 5,430,950 | 07/11/95 | Stacked Block Step Gage | Walter Beckwith, Jr. | 07/11/2012 |
| 5,535,524 | 07/16/96 | Vibration Damper for Coordinate Measuring Machine | Paul W. Carrier, Richard A. MacManus | 07/16/2013 |
| | | TATACATTA | I CIVITAL A T T. TAMATATATA | |

PENDING U.S. PATENT APPLICATIONS

| APPL. | FILING | TITLE | INVENTOR(S) | STATUS |
|------------|----------|-----------|--------------------------|---------|
| NO. | DATE | | | |
|)9/702,403 | 10/31/00 | BORE GAGE | Stephen Forschler et al. | Pending |
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EXPIRED U.S. PATENTS

| PATENT | PATENT | TITLE | INVENTOR(S) | DATE OF |
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| NO. | DATE | | | EXPIRATION |
| 4,802,774 | 02/07/89 | Gas Bearing For Guiding Relative | Vitaly I. Pesikov | 08/07/96 |
| | | Movements Of Precision Machine | | |
| | | Parts | | |
| 4,815,213 | 03/28/89 | Apparatus For Temperature | William J. McCabe, | 09/28/00 |
| | | Compensation Of Sensing Means | Vitaly I. Pesikov | |
| 4,833,630 | 05/23/89 | Method And Apparatus For The | Braman | 11/23/96 |
| | | Tridimensional Measuring Of An | | |
| | | Object | | |
| 5,616,917 | 04/01/97 | Device For Measuring An Angle | YuZhong Dai | 10/01/00 |
| | | Between Pivotally-Connected | | |
| | | Members | | |
| | | | | |
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ABANDONED U.S. PATENT APPLICATIONS

| 09/149192 09/08/98 | | 09/149213 09/08/98 | | 08/841504 04/23/97 | | | 08/441972 05/16/95 | NO. D | APPL. FIL |
|--|---|--------------------------------|--------------------|---------------------------------|--|--------------------------|------------------------------|-------------|-------------|
| 8/98 | | 8/98 | | 3/97 | | | 6/95 | DATE | FILING |
| Coordinate Measuring Machine Having a Machine Tool Frame | Measuring Machine & Method for Using Same | Power Assist Manual Coordinate | CMM Utilizing Same | Force Sensing Probe Apparatus & | | Having Articulated Artii | Coordinate Measuring Machine | | TITLE |
| Thomas Charlton, Jr. | Richard MacManus | Richard Sansom, | deNijs | Gary W. Russell, Jan | Beckwith, Jr., Thomas Charlton, Jr. | Pesikov, Walter | Raymond J. Guertin, | | INVENTOR(S) |
| 11/07/00 | | 01/22/01 | | 11/12/98 | | | 01/10/97 | ABANDONMENT | DATE OF |

FOREIGN PATENTS

| Gr. Britain | France | Contract | Japan Germany | Gr. Britain | Italy | Gr. Britain | Spain France | Germany | COUNTRY |
|---|---|--|--|-------------------------|--|----------------------------|--|----------------------------|----------------|
| 0694158 | 0694158 | | 2991385 | 0586563 | 0701663 P69226269 | 0701663 | 0701663 | 69320069-3 | PATENT NO. |
| 05/26/99 | 05/26/99 | | 10/15/99 | 07/15/98 | 07/29/98 | 07/29/98 | 07/29/98 | 09/20/94 | PATENT DATE |
| Control Axis Mounted Computer Interface for Coordinate Measuring Machines | Control Axis Mounted Computer Interface for Coordinate Measuring Machines | Computer Interface for Coordinate Measuring Machines | Stacked Block Step Gage Control Axis Mounted | Stacked Block Step Gage | Air Bearing Control System Stacked Block Step Gage | Air Bearing Control System | Air Bearing Control System Air Bearing Control System | Air Bearing Control System | TITLE |
| Michael A. Mariani, Kenneth L. Sheehan | Michael A. Mariani, Kenneth L. Sheehan | Kenneth L. Sheehan | Walter L. Beckwith Michael A. Mariani, | Walter L. Beckwith | Gary W. Russell Walter L. Beckwith | | Gary W. Russell | | INVENTOR(S) |
| 04/15/2014 | 04/15/2014 | | 05/24/2012 04/15/2014 | 05/24/2012 | 12/08/2013 05/24/2012 | 10/31/2008 | 12/08/2013 | 12/08/2013 | EXPIR. DATE |

| | Beckwith, Jr., Thomas Charlton, Jr. | | | | |
|------------|-------------------------------------|--------------------------|----------|------------|---------|
| _ | Pesikov, Walter | Articulated Arm | | | |
| | YuZhong Dai, Vitaly | Machine Having | | | |
| 12/11/00 | Raymond J. Guertin, | Coordinate Measuring | 05/15/96 | 534996/96 | Japan |
| | | Machine | | | |
| | | Coordinate Measuring | | | |
| 10/31/2008 | Walter L. Beckwith, Jr. | Calibration System for | 09/12/97 | 2694986 | Japan |
| | | Machine | | | |
| | | Coordinate Measuring | | | |
| 10/31/2008 | Walter L. Beckwith, Jr. | Calibration System for | 12/29/93 | 0386115 | Italy |
| | | Machine | | | |
| | | Coordinate Measuring | | | |
| 10/31/2008 | Walter L. Beckwith, Jr. | Calibration System for | 12/29/93 | 0386115 | France |
| | | Machine | ! | | |
| | | Coordinate Measuring | | | |
| 10/31/2008 | Walter L. Beckwith, Jr. | Calibration System for | 12/29/93 | P3886767.2 | Germany |
| | | Machines | | | |
| | | Coordinate Measuring | | | |
| | Kenneth L. Sheehan | Computer Interface for | | | |
| 04/15/2014 | Michael A. Mariani, | Control Axis Mounted | 04/03/98 | 2766732 | Japan |
| | | Machines | | | |
| | | Coordinate Measuring | | | |
| | Kenneth L. Sheehan | Computer Interface for | | | |
| 04/15/2014 | Michael A. Mariani, | Control Axis Mounted | 05/26/99 | 0694158 | Italy |
| | ['D. | FOREIGN PATENTS, CONT'D. | FO | | |
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| COUNTRY | PATENT NO. | PATENT DATE | TITLE | INVENTOR(S) | DATE OF ABANDONMENT |
|-------------|---------------|----------------|------------------------------|-------------------|------------------------|
| Gr. Britain | 0386115 | 12/29/93 | Calibration System for | Walter L. | 10/31/00 |
| | | | Coordinate Measuring Machine | Beckwith, Jr. | |
| Europe | 88909048.6 | 09/30/88 | Base Assembly for | William J. | 11/26/91 |
| | | | Coordinate Measuring | McCabe, Vitaly I. | |
| | | | Machine | Pesikov | |
| Switzerland | 0102817 | 12/06/89 | Surface Grinder | Raymond J. | 06/21/91 |
| | | | | Guertin, Chuhong | |
| | | | | Kang, Peter P. | |
| | | | | Matthews | |
| Germany | 0102817 | 12/06/89 | Surface Grinder | Raymond J. | 06/21/91 |
| | | | | Guertin, Chuhong | |
| | | | | Kang, Peter P. | |
| | | | | Mannews | |
| Gr. Britain | 0102817 | 12/06/89 | Surface Grinder | Raymond J. | 06/21/91 |
| | | | | Guertin, Chuhong | |
| | | | | Kang, Peter P. | |
| | | | | Matthews | |
| Taiwan | 29267 | 02/28/86 | Surface Grinding Machine | Raymond J. | 09/19/91 |
| | | | | Guertin, Chuhong | |
| | | | | Kang | |
| | | | | | |

ABANDONED FOREIGN PATENT APPLICATIONS

| PCT PCT | APPL. NO. US96/17452 US99/19025 | FILING DATE 11/01/96 08/20/99 | TITLE Transmission For Converting Rotary Motion Into Linear Motion Power Assist Manual Coordinate Measuring Machine And Method For Using Same | INVENTOR(S) DeNijis, Linder Sansom, MacManus | DATE OF ABANDONMENT 06/03/98 |
|---------|--|-------------------------------|--|---|------------------------------------|
| PCT | US99/18968 | 08/20/99 | Coordinate Measuring Machine Having A Machine Tool Frame | Charlton | 03/08/01 |
| Japan | 514372/94 | 12/08/93 | Air Bearing Control System | Gary W. Russell | 09/14/00 |
| Japan | 509123/88 | 09/30/88 | Apparatus for Temperature Compensation of Sensing Means of a Machine | William J. McCabe, Vitaly I. Pesikov | 01/26/93 |
| Brazil | PI8807732 | 09/30/88 | Apparatus for Temperature Compensation of Sensing Means of a Machine | William J. McCabe, Vitaly I. Pesikov | 11/26/91 |
| Europe | 88909901.6 | 09/30/88 | Apparatus for Temperature Compensation of Sensing Means of a Machine | William J. McCabe, Vitaly I. Pesikov | 02/06/93 |
| Europe | 88909463.7 | 09/30/88 | Method & Apparatus for Automatic Compensation of Probe Offset | Werner Dutler | 11/26/91 |
| Europe | 88910374.3 | 09/30/88 | Gas Bearing for Guiding Relative Movement of Precision Machine Parts | Vitaly I. Pesikov | 11/26/91 |
| Europe | 87114864.9 | 08/23/83 | Magnetic Brake | Raymond J. Guertin, Chuhong Kang, Peter P. Matthews | 06/21/91 |
| Europe | 87114863.1 | 08/23/83 | Belt Drive | Raymond J. Guertin, Chuhong Kang, Peter P. Matthews | 06/21/91 |
| Europe | 89904713.8 | 08/30/89 | ау | Stanley T. Spink | 11/22/91 |
| edoma | 90914019.3 | 09/10/90 | Vibration Dampening System | Israel F. Helms | 03/01/92 |

PENDING FOREIGN PATENT APPLICATIONS

| COUNTRY | APPL NO. | FILING | TITLE | INVENTORIS | STATUS |
|---------|------------|----------|-------------------------------|------------------|----------------|
| | | DATE | | | |
| Europe | 96929771.2 | 08/29/96 | Calibration System for | Paul Anderson | |
| | | | Coordinate Measuring Machine | | |
| Japan | 511267/97 | 08/29/96 | Calibration System for | Paul Anderson | Pending |
| | | | Coordinate Measuring Machine | | , |
| Germany | 19681396.4 | 05/15/96 | Device for Measuring an Angle | YuZhong Dai | Pending – req. |
| | | | Between Pivotally-Connected | | for exam. Due |
| | | | Members | | 5/15/03 |
| Japan | 535002/96 | 05/15/96 | Device for Measuring an Angle | YuZhong Dai | Pending – req. |
| | | | Between Pivotally-Connected | | for exam. Due |
| | | | Members | | 5/15/03 |
| Germany | 19681395.6 | 05/15/96 | Coordinate Measuring Machine | Walter L. | Pending |
| | | | Having Articulated Arm | Beckwith, Jr., | |
| | | | | Thomas Charlton, | |
| | | | | Jr., YuZhong Dai | |
| Europe | 96903362.0 | 01/16/96 | Vibration Dampening Device | Paul W. Carrier, | Pending |
| | | | | Richard A. | |
| | | | | MacManus | |
| PCT | US00/00795 | 01/13/00 | Apparatus And Method For | Kenneth L. | Pending |
| | | | Calibrating A Probe Assembly | Sheehan | |
| | | | Of A Measuring Machine | | |

PATENT
RECORDED: 07/26/2001 REEL: 012025 FRAME: 0676