

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ZF NORTH AMERICA, INC., ZF ACTIVE SAFETY US INC.,  
Petitioners.

v.

STONERIDGE CONTROL DEVICES, INC.  
Patent Owner

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Patent No. 7,021,415  
Filing Date: November 13, 2003  
Issue Date: April 4, 2006  
Title: ELECTRO-MECHANICAL ACTUATOR FOR AN ELECTRICALLY  
ACTUATED PARKING BRAKE

*Inter Partes* Review No.: IPR2023-00273

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**Declaration of Carrie Gardner, Ph.D.**

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1. I, Carrie Gardner, hereby declare under the pains and penalty of perjury:

**I. INTRODUCTION**

2. I have personal knowledge of the facts and opinions set forth in this declaration, I believe them to be true, and if called upon to do so, I would testify competently to them. I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both.

3. I have extensive experience in the field of library and information science. I have taught library and information science courses for San Jose State University since 2002. I was an assistant professor at the Catholic University of America and for the Pennsylvania State System of Higher Education. I have been the principal consultant at Clairmaxine Consulting since 1991. I have delivered over 200 speeches, lectures, workshops and classes on aspects of information authenticity, information flow in our society, intellectual property, and confidentiality with regards to information access.

4. I have been retained by Banner Witcoff, Ltd., to authenticate and establish the dates of public accessibility of certain documents in an *inter partes* review proceedings for U.S. Patent No. 7,021,415. For this service, I am being paid my usual hourly fee of \$200/hour. My compensation in no way depends on the substance of my testimony or the outcome of this proceeding.

## **II. BACKGROUND AND QUALIFICATIONS**

5. My educational history is as follows:

- 2001: Doctor of Philosophy in Library Science, University of Pittsburgh. Dissertation: Conflict Resolution Behaviors among Stakeholders in Developing and Implementing Internet Use Policies in Pennsylvania Public High Schools;
- 2014: Master of Education (Reading), Edinboro University of Pennsylvania;
- 2004: Master of Education (Administration), Temple University;
- 1993: Master of Library Science, University of Pittsburgh; and
- 1990: Bachelor of Science, Education and Library Science, Millersville University of Pennsylvania. Magna Cum Laude.

6. My employment history is as follows:

- Principal Consultant, Clairmaxine, 1991-Present;
- Assistant Professor, Pennsylvania State System of Higher Education, 2007-2012;
- Assistant Professor, School of Library and Information Science, Catholic University of America. 2003-2007;
- Coordinator, Library Media Services, Milton Hershey School. 1999-2003;

- Library Media Specialist, Milton Hershey School. 1996-1999;
- Teaching Fellow, University of Pittsburgh. 1993-1995;
- Graduate Student Assistant, University of Pittsburgh. 1992-1993;
- Library Media Specialist, Palmyra School District. 1990-1992; and
- Student Retrospective Conversion Cataloger, Millersville University. 1987-1990.

7. In the course of my twenty-nine years of academic life, I have myself been an active researcher and librarian. I have collaborated with dozens of individual researchers and worked to provide information to over five thousand patrons. During the course of this work, I have developed and maintained expert skills in information management and retrieval.

8. Attached hereto as Appendix A is my full resume.

### **III. PRELIMINARIES**

9. *Scope of this declaration.* I am not a lawyer and I am not rendering an opinion on the legal question of whether any particular document is, or is not, a “printed publication” under the law.

10. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and

ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the documents.

11. I have been informed that for the U.S. Patent No. 7,021,415, a person having ordinary skill in the art relevant to a patent would have had a bachelor's degree (or equivalent) in mechanical engineering, electrical engineering, automotive engineering, or a similar discipline, and at least two years of experience with electromechanical devices such as actuators.

12. Such engineers and scientists frequently ask librarians, like myself, to assist them in locating information. Throughout the course of my career, I have assisted numerous engineers and scientists in locating technical papers, books, and Internet articles.

13. *Materials considered.* In forming the opinions expressed in this declaration, I have reviewed the documents and attachments referenced herein. These materials are records created in the ordinary course of business by businesses, publishers, libraries, indexing services, and others. From my years of experience, I am familiar with the process for creating many of these records, and I know these records are created by people with knowledge of the information in the record. Further, these records are created with the expectation that researchers and other members of the public will use them. All materials cited in this declaration and its

attachments are of a type that experts in my field would reasonably rely upon and refer to in forming their opinions.

**IV. OPINIONS REGARDING EXHIBIT 1017: Dudley's Gear Handbook Edited by Dennis P. Townsend, McGraw-Hill, 1991.**

**A. Authentication**

14. Exhibit 1017 is certain excerpts from a book titled Dudley's Gear Handbook which was edited by Dennis P. Townsend that was published by McGraw-Hill in 1991.

15. In order to authenticate Exhibit 1017, I secured a copy of the book. The book was in a condition that left no doubt about its authenticity. The pages were securely within the cover and no pages were missing. After examining the condition of the book, I turned to the title page. I confirmed that Exhibit 1017 is titled Dudley's Gear Handbook. On the verso of the title page, I found the phrase "Copyright 1991." I also found the International Standard Book Number (ISBN) number of 0-07-017903-4. ISBN identifiers are unique numeric identifiers that are placed in books in order to identify exact editions. If a new book is issued, it must include a different ISBN. This includes format as well as content changes. If content changes or if a different binding (*i.e.*, paperback) is created, a new ISBN must be secured. This system guarantees that different versions of a book have an ISBN that defines its relationship to all other editions of that title.

16. In order to further authenticate Exhibit 1017, I went to <https://www.worldcat.org> which is a database of the holdings of thousands of libraries around the world. Each unique item has a machine-readable catalog record (MARC record) and librarians attach the holdings of their library to the correct MARC record. At <https://www.worldcat.org>, I searched “0-07-017903-4” and retrieved an entry at: <https://www.worldcat.org/title/317966639> that contains an identical editor, title, ISBN data, and publisher as Exhibit 1017. Libraries contain copies of the book from which Exhibit 1017 was taken.

17. In order to further authenticate Exhibit 1017, I navigated to <https://catalog.loc.gov/> which is the online catalog of the Library of Congress. I searched the catalog using “Dudley’s Gear Handbook” and retrieved this MARC record:

<https://catalog.loc.gov/vwebv/holdingsInfo?searchId=15452&recCount=25&recPos=0&bibId=1070135> which has the identical title, editor, publisher and date as Exhibit 1017. The Library of Congress contains a copy of this book.

18. In order to further investigate the authenticity of Exhibit 1017, I navigated to: <http://amazon.com> and searched “Dudley’s Gear Handbook” and retrieved this entry: [https://www.amazon.com/Dudleys-Gear-Handbook-Dennis-Townsend/dp/0070179034/ref=sr\\_1\\_2?crid=3F7C4ADEFLGPC&keywords=Dudley%E2%80%99s+Gear+Handbook&qid=1669067855&srefix=dudley+s+gear+ha](https://www.amazon.com/Dudleys-Gear-Handbook-Dennis-Townsend/dp/0070179034/ref=sr_1_2?crid=3F7C4ADEFLGPC&keywords=Dudley%E2%80%99s+Gear+Handbook&qid=1669067855&srefix=dudley+s+gear+ha)

[ndbook%2Caps%2C121&sr=8-2](#) which contains the identical title, editor, author and ISBN. There are multiple copies of Exhibit 1017 for sale.

19. Based on the foregoing (*i.e.*, finding information about multiple copies of books identical to that which contains Exhibit 1017 available for sale and finding entries for multiple copies in multiple library collections), I conclude that Exhibit 1017 is authentic.

## **B. Public Accessibility**

20. In order to investigate the public accessibility of Exhibit 1017, I reviewed the book itself. On the verso of the title page, I found the copyright date of 1991. This is strong evidence that it was available in 1991.

21. In order to further investigate the public accessibility of Exhibit 1017, I examined the verso of the title page and found the Library of Congress Control Number 91-1967. The Library of Congress provides a service where publishers send advanced copies of books to the Library of Congress staff. The staff assign a Library of Congress Control Number (LCCN). The first part of the number is the year the book was received. The number after the dash is an accession number based on the number of books received that year. Exhibit 1017 has an LCCN 91-1967 which means it was the 1,967<sup>th</sup> book given a LCCN in 1991. This is strong evidence that Exhibit 1017 was available in 1991.

22. In order to investigate the public availability of Exhibit 1017, I further retrieved the record of the MARC (Machine-readable cataloging) record for the book from which Exhibit 1017 was taken, from the Library of Congress at: <https://catalog.loc.gov/vwebv/holdingsInfo?searchId=15452&recCount=25&recPos=0&bibId=1070135>. I clicked on the link labeled “MARC Tags.” Machine-readable cataloging records are an international standard set by the library community. Librarians around the world use the MARC standard to catalog books and other items found in libraries. Using this standard provides uniformity to library catalogs around the world. Each field in a MARC record begins with a number and contains multiple subfields. The MARC standard defines what information librarians put into each field. Use of the MARC record guarantees that librarians around the world catalog the same book in the same manner and that those records are compatible with the software that librarians purchase to create digital (online) catalogs of the resources in libraries. Use of MARC records also increase the accessibility of items in library collections for patrons. Fields 245, 650, 955, and 991 of the MARC record for the book from which Exhibit 1017 comes are copied below.

| MARC Tag Number | Data Retrieved from MARC Record for Exhibit 1017                                                               |
|-----------------|----------------------------------------------------------------------------------------------------------------|
| 245             | Dudley’s Gear Handbook                                                                                         |
| 650             | Gearing  x Handbooks, manuals, etc.                                                                            |
| 700             | Dudley, Darle W.                                                                                               |
|                 | Townsend, Dennis P.                                                                                            |
| 955             | a pc01 to ba00 05-09-91; ba38/ba02 to SCD 05-14-91; fg09 05-14-91; fq21 05-20-91; CIP ver. bg16 to SL 11-22-91 |

23. The collections of the Library of Congress are searchable by keyword, subject, author, or title such that a person, with or without a research assistant, could find works in which they were interested. For example, a member of the public could have located the book from which Exhibit 1017 comes by searching title: Dudley's Gear Handbook from field 245. The book is also searchable by the subject field: "Gearing" or the subfield "handbooks, manuals, etc." Members of the public could read, study, and make notes about a selected work in the Reading Rooms. Further, members of the public were permitted to make photocopies of portions of the works while in the Reading Rooms. Accordingly, Exhibit 1017 was accessible to the general public and searchable by subject matter when it was available at the Library of Congress. The 955 field of the record indicates the processing and cataloging of Exhibit 1017 in sequential steps separated by semi-colons. Processing began on May 9, 1991, and finished on May 20, 1991 when the book was submitted for final review. Exhibit 1017 would have been accessible to the public on the shelf in the Library of Congress within a few days thereafter.

### **C. Conclusion**

24. Based on the totality of evidence presented here it is my opinion that Exhibit 1017 is authentic and was publicly available in 1991.

**V. OPINIONS REGARDING EXHIBIT 1014: An Introduction to Modern Vehicle Design edited by Julian Happian-Smith, Butterworth Heinemann, 2001.**

**A. Authentication.**

25. Exhibit 1014 is an excerpt from a book titled An Introduction to Modern Vehicle Design edited by Julian Happian-Smith and published by Butterworth Heinemann in 2001.

26. In order to authenticate Exhibit 1014, I secured a copy of the book. The book was in a condition that left no doubt about its authenticity. The pages were securely within the cover and no pages were missing. After examining the condition of the book, I turned to the title page. I confirmed that Exhibit 1014 is titled An Introduction to Modern Vehicle Design. On the verso of the title page, I found the phrase “Copyright Reed Educational and Professional Publishing Ltd 2001.” I also found the International Standard Book Number (ISBN) number of 07506-5044-3. ISBN identifiers are unique numeric identifiers that are placed in books in order to identify exact editions. If a new book is issued, it must include a different ISBN. This includes format as well as content changes. If content changes or if a different binding (*i.e.*, paperback) is created, a new ISBN must be secured. This system guarantees that different versions of a book have an ISBN that defines its relationship to all other editions of that title.

27. In order to further authenticate Exhibit 1014, I went to <https://www.worldcat.org> which is a database of the holdings of thousands of libraries around the world. Each unique item has a machine-readable catalog record (MARC record) and librarians attach the holdings of their library to the correct MARC record. At <https://www.worldcat.org>, I searched “07506-5044-3” and retrieved an entry at: <https://www.worldcat.org/title/49323596> which contains an identical editor, title, ISBN data, and publisher as Exhibit 1014. While at this site, I learned that over 400 libraries contain copies of the book from which Exhibit 1014 was taken. The Worldcat search also contained a link to a complete electronic copy of the book from which Exhibit 1014 was taken at: [https://archive.org/details/introductiontomo0000unse\\_k1e8](https://archive.org/details/introductiontomo0000unse_k1e8). Based on this information, I believe that Exhibit 1014 is authentic.

28. In order to further investigate the authenticity of Exhibit 1014, I navigated to the online catalog of San Jose State University at: <https://library.sjsu.edu/> and searched 07506-5044-3. I retrieved a record that contains the exact same editor, title, ISBN number, publisher and date as Exhibit 1014 at: [https://csu-sjsu.primo.exlibrisgroup.com/discovery/search?query=any,contains,07506-5044-3&tab=expanded&search\\_scope=expanded&sortby=rank&vid=01CAL\\_SJO:01CALS\\_SJO&offset=0](https://csu-sjsu.primo.exlibrisgroup.com/discovery/search?query=any,contains,07506-5044-3&tab=expanded&search_scope=expanded&sortby=rank&vid=01CAL_SJO:01CALS_SJO&offset=0).

29. Based on the foregoing (*i.e.*, finding information about multiple copies of books identical to that which contains Exhibit 1014 available in multiple library collections), I conclude that Exhibit 1014 is authentic.

**B. Public Accessibility**

30. In order to investigate the public accessibility of Exhibit 1014, I reviewed the Exhibit which provides a date of 2001. It is common practice for publishers to include the date of publication in a book. This is strong evidence that Exhibit 1014 was publicly accessible in 2001.

31. In order to further investigate the public accessibility of Exhibit 1014, I went to <https://www.worldcat.org> which is a database of the holdings of thousands of libraries around the world. Each unique item has a machine-readable catalog record (MARC record) and librarians attach the holdings of their library to the correct MARC record. At <https://www.worldcat.org>, I searched “07506-5044-3” and retrieved an entry at: <https://www.worldcat.org/title/49323596> which contains an identical editor, title, ISBN data, and publisher as Exhibit 1014. The date of this entry is also 2001. The Worldcat search also contained a link to a complete electronic copy of the book from which Exhibit 1014 was taken at: [https://archive.org/details/introductiontomo0000unse\\_k1e8](https://archive.org/details/introductiontomo0000unse_k1e8). The date in the

electronic copy is 2001. This is further evidence that Exhibit 1014 was publicly available in 2001.

32. In order to further investigate the public accessibility of Exhibit 1014, I navigated to the online catalog of San Jose State University at: <https://library.sjsu.edu/> and searched 07506-5044-3. I retrieved a record that contains the exact same editor, title, ISBN number, publisher and date as Exhibit 1014 at: [https://csu-sjsu.primo.exlibrisgroup.com/discovery/search?query=any,contains,07506-5044-3&tab=expanded&search\\_scope=expanded&sortby=rank&vid=01CALS\\_SJO:01CALS\\_SJO&offset=0](https://csu-sjsu.primo.exlibrisgroup.com/discovery/search?query=any,contains,07506-5044-3&tab=expanded&search_scope=expanded&sortby=rank&vid=01CALS_SJO:01CALS_SJO&offset=0). This is further evidence that Exhibit 1014 was publicly available in 2001.

### **C. Conclusion**

33. Based on the totality of evidence presented here it is my opinion that Exhibit 1014 is authentic and was publicly available in 2001.

**VI. OPINIONS REGARDING EXHIBIT 1016: GEARS AND GEAR DRIVES, published in the journal Motion System Design, 2001 on pages A145 to A160.**

**A. Authenticity**

34. Exhibit 1016 is an article titled Gears and Gear Drives that was published in the journal titled Motion System Design in 2001 on pages A145 to A160.

35. In order to further authenticate Exhibit 1016, I went to <https://www.google.com/>, the most comprehensive English language search engine and searched “journal motion system design gears and gear drives.” I retrieved an exact copy of Exhibit 1016 at: <https://www.rgspeed.com/assets/documents/linear/ept-browning/gears-and-gear-drives.pdf>. This copy of Exhibit 1016 contains identical graphs, charts, formatting, and text placement as Exhibit 1016. This is strong evidence that Exhibit 1016 is authentic.

36. In order to further authenticate Exhibit 1016, I returned to the search results retrieved at <https://www.google.com/> and navigated to: <https://www.proquest.com/docview/221127046/fulltextPDF/6E747AE3C8B24234PQ/3?accountid=10361>. I logged in using my credentials at San Jose State University and retrieved a PDF that is an exact copy of Exhibit 1016. The PDF retrieved from

<https://www.proquest.com/docview/221127046/fulltextPDF/6E747AE3C8B24234PQ/3?accountid=10361> contains identical graphs, charts, formatting, and text placement, date, and pagination as Exhibit 1016. This exact copy of Exhibit 1016 was found at a website maintained by Proquest which is one of the largest content aggregators in America. The inclusion of Exhibit 1016 in a Proquest database speaks to the credibility of Exhibit 1016.

37. In order to further authenticate Exhibit 1016, I went to: <https://library.sjsu.edu/> which is the website for the San Jose State (SJSU) University Library. I logged in using my SJSU Credentials. I searched “motion system design” and gears and gear drives. I retrieved an entry that contained the exact date, title, publication, and pagination as Exhibit 1016. I clicked on the link and was taken to: <https://www.proquest.com/docview/221127046/fulltextPDF/8E23AE510D9446DAPQ/1?accountid=10361> where I retrieved an exact copy of Exhibit 1016. The copy contains the same graphs, charts, pagination, and text as Exhibit 1016. This is further evidence that Exhibit 1016 is authentic.

38. Based on the foregoing (*i.e.*, finding copies of Exhibit 1016 indexed by Google, available at Proquest, and indexed in library databases), I conclude that Exhibit 1016 is authentic.

## **B. Public Accessibility**

39. In order to investigate the public accessibility of Exhibit 1016, I examined the exhibit itself. On the bottom of every page, I found the words 2001 MSD Motion System Design. It is standard practice for journal publishers to add dates to pages. This is strong evidence that Exhibit 1016 was published and therefore publicly accessible in 2001.

40. In order to further investigate the public accessibility of Exhibit 1016, I went to <https://www.google.com/>, the most comprehensive English language search engine and searched “journal motion system design gears and gear drives.” I retrieved an exact copy of Exhibit 1016 at: <https://www.rgspeed.com/assets/documents/linear/ept-browning/gears-and-gear-drives.pdf>. This copy of Exhibit 1016 contains identical graphs, charts, formatting, and text placement as Exhibit 1016. This copy also includes the date 2001. This is further evidence that Exhibit 1016 was publicly accessible in 2001.

41. In order to further investigate the public accessibility of Exhibit 1016, I returned to the search results retrieved at <https://www.google.com/> and navigated to: <https://www.proquest.com/docview/221127046/fulltextPDF/6E747AE3C8B24234PQ/3?accountid=10361>. I logged in using my credentials at San Jose State University and retrieved a PDF that is an exact copy of Exhibit 1016. The PDF

retrieved from  
<https://www.proquest.com/docview/221127046/fulltextPDF/6E747AE3C8B24234PQ/3?accountid=10361> contains identical graphs, charts, formatting, and text placement, date, and pagination as Exhibit 1016. I then clicked on a link labeled “Details.” The details about Exhibit 1016 provided by Proquest state that Exhibit 1016 was published in December 2000. This is strong evidence that the issue of the journal titled Motion System Design that contains Exhibit 1016 was published in December 2000.

### **C. Conclusion**

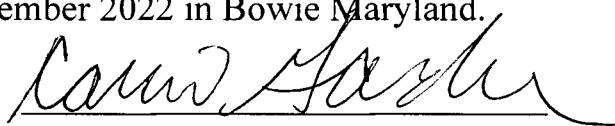
42. Based on the totality of evidence presented here it is my opinion that Exhibit 1016 is authentic and was publicly available in December of 2000.

## VII. CONCLUSION

I reserve the right to supplement my opinions in the future to respond to any arguments that Patent Owner or its expert(s) may raise and to consider new information as it becomes available to me regarding any of the above identified references.

I declare under the pains and penalty of perjury that the foregoing is true and correct.

Executed this 29th day of November 2022 in Bowie Maryland.

A handwritten signature in cursive script, appearing to read "Carrie Gardner", written over a horizontal line.

Carrie Gardner