

IN THE UNITED STATES DISTRICT COURT FOR THE  
EASTERN DISTRICT OF WISCONSIN

MILWAUKEE ELECTRIC TOOL )  
CORPORATION, METCO BATTERY )  
TECHNOLOGIES, LLC, AC (COMMERCIAL )  
OFFSHORE DE MACAU) LIMITADA, and )  
TECHTRONIC INDUSTRIES CO. LTD., )

Plaintiffs, )

v. )

HITACHI KOKI CO., LTD., and HITACHI )  
KOKI USA, LTD., )

Defendants. )

Case No.: 09-cv-00948-WEC )  
PATENT CASE )  
JURY DEMANDED )

**EXPERT REPORT OF DR. MEHRDAD ("MARK") EHSANI REGARDING CLAIM  
CONSTRUCTION**

BNA/BROSE  
EHSANI DEP EXHIBIT  
11  
KB 12.17.12

## I. Qualifications

1. My qualifications for forming the opinions in this report are summarized below and are presented in more detail in my professional CV, which is attached as Exhibit A to this report. In the past four years, I have provided testimony at deposition, hearing, or trial in one case: *Power-One, Inc. v. Artesyn Technologies, Inc.*, 2:05-cv-00463-JDL (E.D. Tex.) (on behalf of Power-One, Inc.).
2. I am a tenured Professor in the Department of Electrical Engineering at the Texas A&M University ("Texas A&M") in College Station, Texas where I specialize in power electronics, battery energy storage systems, and their related technologies. I hold several academic chairs at Texas A&M University, including the Robert M. Kennedy Endowed Chair of Electrical Engineering.
3. I am the Founder and Director of the Advanced Vehicle Systems Research Program and the Power Electronics and Motor Drives Laboratory which is one of the first university power electronics and energy storage systems teaching and research programs in the United States. This program is considered one of the top three programs in the US and one of the best in the world. For my work with this program, I received the Institute of Electrical and Electronics Engineers (IEEE) Outstanding Teaching Award in 2003, which is the top academic award in this field.
4. I received my B.S. and M.S. degrees from the University of Texas at Austin in 1973 and 1974, respectively, and my Ph.D. from the University of Wisconsin-Madison in 1981, all in electrical engineering.
5. I have organized two undergraduate and five graduate courses in power electronics at Texas A&M. Many of these courses have been on the topic of power converters, battery energy storage and management, their system controls and issues for various applications. I have also conducted research and supervised graduate theses on these topics. In addition, I have also published several papers and obtained patents in this and related technical areas.
6. I was one of the founders of the IEEE Power Electronics Society in the early 1980's and served on its founding Administrative Council and chaired its sub committees for many years. This professional society is the main forum for power electronics and battery management systems specialists and organizes several annual conferences and has a journal for publication of state of the art papers in power electronics. I have chaired many of these international

conferences and their sessions and have been a reviewer for the publications of this society for nearly two decades.

7. I have also served in positions of leadership in power electronics and its applications in other professional societies, including IEEE Industry Application Society, IEEE Industrial Electronics Society, IEEE Vehicular Technology Society, and Society of Automotive Engineers (SAE). I have received numerous honors and awards from these societies for my contributions to power electronics technologies and its state of the art, such as the Avant Garde Award from IEEE Vehicular Technology Society. I have been elected Fellow of both IEEE and SAE, which is the highest ranking given to a fraction of one percent of the membership of these professional societies.

8. I have been a consulting engineer to over sixty companies in the US and internationally in power electronics battery energy storage systems and their applications, including applications related to power tools, over the past thirty years. I have also given numerous power electronics and energy storage and controls short courses and seminars in the US and all over the world for continuing education of engineers in companies and government agencies.

9. I am the author or co-author of over three hundred published papers, thirteen books, and over twenty patents in power electronics energy storage and management systems and their applications. A list of all publications that I have authored is included in my professional CV.

10. I am being compensated at a rate of \$375 per hour for my work in this case. I will be compensated at the same rate for any deposition I give in this case or if I appear as a witness at any trial or hearing. My compensation does not depend on the outcome of this litigation.

## **II. Subject matter of opinions**

11. I have been engaged by Howrey LLP, counsel of record for Plaintiffs Milwaukee Electric Tool Corporation; Metco Battery Technologies, LLC; AC (Commercial Offshore De Macau) Limitada; and Techtronic Industries Co. Ltd. ("Plaintiffs") in this case, to provide my expert opinion on certain issues related to claim construction. Specifically I have been asked to provide an opinion on certain of the terms identified by the parties for construction in U.S. Patent No. 7,164,257 ("the '257 patent"), U.S. Patent No. 7,176,654 ("the '654 patent"), U.S. Patent No. 7,323,847 ("the '847 patent"), U.S. Patent No. 7,508,167 ("the '167 patent"), and U.S. Patent No. 7,554,290 ("the '290 patent").

## **III. Materials reviewed**

12. I reviewed the following materials in preparing this report:

1. The '257 patent
2. The '654 patent
3. The '847 patent
4. The '167 patent
5. The '290 patent
6. The file histories of the above-mentioned patents
7. Prior art cited during the prosecution of the above-mentioned patents
8. Technical and lay dictionaries
9. Relevant case law

#### **IV. The Law of Claim Construction**

13. I am informed that claim construction is an issue of law for the Court to decide. *Markman v. Westview Instruments*, 517 U.S. 370, 388 (1996). I am also informed that the construction of claims is simply a way of elaborating on the claim language in order to understand and explain, but not to change, the scope of the claims. *Terlep v. Brinkmann Corp.*, 418 F.3d 1379, 1382 (Fed. Cir. 2005).

14. I am informed that the words of a claim are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed Cir. 2005) (en banc). The ordinary and customary meaning is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention. *Id.* at 1313. A person of ordinary skill in the art is presumed to have read the patent's specification and prosecution history to better understand the context of the invention. *Id.* I am also informed that in determining the ordinary meaning of a claim term, the Court should consult all of the intrinsic evidence, e.g., the claims themselves, the specification, and the prosecution history, and to a lesser extent, extrinsic evidence, such as dictionaries. *Id.* at 1313, 1316-18. Finally, I am informed that if a claim is amenable to more than one construction, it should, when it is reasonably possible to do so, be construed to preserve its validity. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1384 (Fed Cir. 2001).

15. With regard to the construction of certain terms under 35 U.S.C. § 112 ¶ 6, I am informed that a claim term that does not use the word "means" will trigger a rebuttable presumption that 35 U.S.C. § 112 ¶ 6 does not apply. *CCS Fitness Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002). I am also informed that the presumption can be rebutted only if the claim term fails to recite sufficiently definite structure or recites a function without reciting sufficient structure for performing that function. *Id.* I am further informed that a claim term recites sufficiently definite structure if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function. *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360-61 (Fed. Cir. 2004).

## V. Person of Ordinary Skill in the Art

16. In my opinion, a person of ordinary skill in the art for the '290 patent, '257 patent, '654 patent, '847 patent, and '167 patent would have a Bachelor's degree in Electrical Engineering and at least two years of experience designing cordless power tools including experience with battery design and battery makeup.

## VI. The '290 Patent

17. The '290 patent was filed on July 20, 2007, and was issued on June 30, 2009. The named inventors are Todd W. Johnson, Dennis J. Grzybowski, Mark A. Kubale, Jay J. Rosenbecker, Karl F. Scheucher, Gary D. Meyer, Jeffrey M. Zeiler, and Kevin L. Glasgow.

18. I am informed that the parties dispute the appropriate construction of the following terms from the '290 patent: (1) "hand held power tool" and (2) "battery cells capable of producing an average discharge current greater than or equal to approximately 20 amps."

19. With regard to the term "hand held power tool," it is my opinion that the term when properly construed means "a power tool that can be held in and supported by the operator's hand or hands." Support for this construction is found throughout the specification of the '290, including specific examples of "hand held power tools," such as driver drills and circular saws. *See, e.g.*, '290 at 5:41-45, 9:47-54, 10:13-26; Figs. 11A, 55, 56; Claim 10.

20. Defendants' proposed construction, "a power tool capable of being operated while held in the hand," is flawed for a number of reasons. In particular, I believe that under Defendants' proposed construction, a "hand held power tool" would include a tool that could simply be operated by hand, even if the entire tool could not held in the operator's hand while it is being operated. Such a construction is contrary to how a person of ordinary skill in the art would understand this term.

21. With regard to the term "battery cells capable of producing an average discharge current greater than or equal to approximately 20 amps," it is my opinion that the term when properly construed means "the battery cells, when configured together in a battery pack, are capable of producing reasonably close to 20 amps of discharge current or greater over the course of delivering their entire rated capacity." Support for this construction is found in the specification and prosecution history of the '290. *See, e.g.*, '290 at 10:13-26; Declaration of Gary Meyer at 2-6. Gary Meyer's Declaration, in particular, sheds considerable light on the proper construction of this term and makes clear that a battery pack meeting the limitations of the claims must have cells that, when configured in a battery pack, are able to produce reasonably close to 20 amps of discharge current (or greater) over the course of delivering their entire rated capacity, and not just for a short duration as proposed by Defendants. *See* Declaration of Gary Meyer at 2-6.

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.