UNITED STATES PATENT AND TRADEMARK OFFICE			
BEFORE THE PATENT TRIAL AND APPEAL BOARD			
VALVE CORPORATION Petitioner,			
v.			
IRONBURG INVENTIONS LTD., Patent Owner.			
IPR2017-00136 (Patent 8,641,525 B2)			
IPR2017-00137 (Patent 9,089,770 B2)			

DECLARATION OF BRUCE RUBINGER



- I, Bruce Rubinger, declare and state as follows:
- 1. I have been retained by Ironburg Inventions Ltd. ("Patent Owner") to consider where a skilled searcher conducting a diligent prior art search (for U.S Patent 8,641,525 ("the 525 Patent") and U.S Patent 9,089,770 ("the 770 Patent")) reasonably could have been expected to discover U.S. Patent No. 6,362,813 by Wörn.
- 2. I have personal knowledge of the facts and opinions stated in this Declaration, and am competent to testify thereto.
- 3. I am the Managing Director and founder of Global Prior Art (GPA), founded in 1982, and created GPA's comprehensive worldwide search process, which is known for its broad international coverage and manual review of critical sources. GPA is composed of over 40 full-time searchers in the fields of mechanical engineering, software and e-commerce, electronics and semiconductors, telecommunications and networking, biotechnology, chemistry and materials, medical devices and pharmaceuticals. Our range of services covers a broad spectrum from prior art searching in support of litigation and IP due diligence to IP Landscape analysis for competitive intelligence and developing market entrance strategies. We also specialize in developing cost effective and comprehensive



product clearance or Freedom-to-Operate searches to ensure that our clients are proactively aware of all potential infringement threats.

- 4. My background is a blend of technology and the science of decision-making. I hold a B.S.E.E., M.S.E.E., and Ph.D. in systems science from the Polytechnic Institute of Brooklyn. My dissertation was entitled "System Identification via Non-Linear Filtering," which addressed non-linear filtering and its application to prediction and estimation. I began my career with Hughes Aircraft where I was involved in digital signal processing. I was awarded a NASA fellowship and am a member of Eta Kappa Nu and the honorary research society Sigma Xi. Since 2009, I have been recognized in IAM 300 The World's Leading IP Strategists.
- 5. I am being compensated at my standard rate of \$150/hour. My compensation is not contingent upon the substance of my declaration, any statements or opinions made, or the outcome of this matter.
- 6. I have reviewed the references and classifications identified in the '525 and the '770 patent. In my opinion, a skilled searcher would have reasonably relied upon the classes and sub-classes of the prior art that the examiner cited during the examination. This is true because the examiners are experts in their assigned technical areas and experts in identifying relevant prior art. Based on my review of



the '525 patent, the examiner identified references in the following classes and sub-classes summarized in the table below:

USP Class	# References Cited	Most Cited Sub-Class (# instances)	Other Sub-Classes
463	40	37 (22)	31, 36, 38, 39, 49, 56
345	6	169 (3)	156, 157
341	2	20, 22	N/A
702	2	127, 152	N/A
400	1	472	N/A
273	1	148	N/A

- 7. As can be seen, there only are six different classes that appear in the list, with the two primary classes/sub-classes being 463/37 and class 345/169. A skilled searcher conducting a reasonable prior art search would have, at a minimum, searched within these classes/sub-classes and identified the Wörn reference within the second primary class/sub-class (345/169).
- 8. Wörn is in one of the primary classes/sub-classes (345/169). Given that the examiner cited numerous references in the 345/169 class/sub-class, a skilled searcher would have conducted a search in this particular class/sub-class by hand and with keyword searches.



- 9. I have reviewed the declaration of Reynaldo C. Barcello (Ex.1012) and the accompanying appendices.
- 10. The class/sub-class 345/169 contains roughly 2,700 patent documents disclosed before the prior art date of the '525 patent (June 17, 2011). In my opinion, a skilled searcher would have searched this class/sub-class by hand and by using keyword combinations similar to those found in Appendices A and B of the Barcello declaration (Ex. 1012). For example, the following string, when performed using Derwent Innovation, a database typically used by me and other skilled searchers, produces only 49 results and includes the Wörn reference: "(remote* OR controller*) AND (middle finger) AND ((button* OR push* OR depres* OR switch*) SAME (back* OR under* OR behind OR rear* OR posterior*))." These search terms are used, for example, in Landon IP's search strings 21 and 54.
- 11. Based on my review of the patent, and my statements above, it is my opinion that a skilled searcher would have identified the classes/sub-classes of the prior art cited by the examiner and would have reasonably been expected to discover U.S. Patent No. 6,362,813 by Wörn either by hand or by using keyword search strings.
- 12. I declare under penalty of the laws of the United States that all statements made herein of my own knowledge are true and correct, and that all statements



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