

Product Research

A Limited Liability Company
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Philip A. Rink, PE, BSME

Expertise

- Entrepreneurial Business.
- Innovative approaches.
- Multi-disciplinary design.
- Prototype and concept design.
- Product and Process Troubleshooting.
- Automated Systems.
- Manufacturing Processes.
- Fresh Approaches.
- Material and process review.
- Equipment Fabrication and Development

Short Work History

Mr. Rink was born and raised in Los Alamos, NM, and worked at the National Lab there during college while working towards his BSME. He has held a variety of engineering jobs since, working as a consultant and as a direct employee, but almost always in a project environment. In 1993 he and his wife Nancy (also a mechanical engineer), formed FISHEYE, Inc. They began selling a coffee mug sized underwater video camera in 1995, and by 1998 built the company to over \$1M in sales. In 1998 and 1999 almost every fishing show on TV used FISHEYE cameras. They then sold the product line to a large multi-national company. Since then Mr. Rink has worked on several in-house and contract product development projects and consulted with client businesses.

Education/Certification

1982 BSME - University of New Mexico
1983 PADI Open Water Diver
1990 Professional Engineer, Washington State
1991 USPS and USCG Boating Classes
2001 Private Pilots License
2006 US Merchant Marine Officer, Master 100 Ton Inland, OUPV Near Shore, Towing

Patents

#4,761,208	Electrolytic Method and Cell for Sterilizing Water.
#5,193,717	Fastener Feed System.
#5,339,598	Apparatus for Loading Fasteners in a Cartridge.
#5,472,087	Fastener Feed System.
#5,472,363	End Effector.
#5,515,992	Pocket tape sealing and unsealing method and apparatus and improved pocket tape.
#5,778,259	Underwater video camera housing.
#5,850,724	Pocket tape sealing and unsealing method and apparatus.
#6,064,824	Underwater camera housing.
#6,918,769	Video game for assisting healing of the human body.

Awards and Achievements

- 1996 IMTEC Innovation Award Finalist for the FISHEYE Camera.
- 1997 IMTEC Innovation Award Finalist for the FISHEYE Sport Camera.
- 1997 METS (Amsterdam) DAME New Product Innovation Award Nominee for the FISHEYE Sport Camera.
- 1997 Arch T. Colwell Merit Award. SAE paper review.
 - www.electroimpact.com/research/NewGenFastenerFeedSae.asp

Project History

A list of projects in (approximate) reverse chronological order.

- Developed and produced “LANESHARK”, an underwater video system to facilitate swim coaching and instruction.
- Developed a family of Free-Stream Tidal Power harvesting devices.
- Built a house.
- Invented, prototyped, patented and sold a healing video game.
- New product consultation for marine mfg. firm.
- Complete refurbishment and marketing of a 53’ power charter yacht, including website design/creation (www.mvrockfish.com).
- Delivered (as crew) a 60’ power yacht from Long Beach to Seattle, losing a forward port light off Northern California.
- Delivered (as crew) a 56’ power yacht from Seattle to San Francisco, losing the windshield off Cape Blanco, OR. (The trip was aborted.)
- Won a 3-year breach of contract suit against a multinational corporation.
- Family trip sailing throughout the Caribbean for one year.
 - Produced a book and video about the trip. (www.caribmermaid.com)
- Built a house.
- Developed a prototype head for a marine autopilot.
- Developed a collet storage system for automated milling machines.
- Developed a complete rivet feed system for and aircraft fuselage riveter. (<http://www.bladesim.com/helix.htm>)
- Negotiated and developed the sale of the FISHEYE product line to a multinational corporation.
- Within FISHEYE, Inc., developed an entirely new product category, breaking new ground constantly:
 - Simple and easy to use consumer underwater video cameras,
 - Video camera systems to monitor salmon aquaculture feeding,
 - Video trolling equipment for big game fish, saltwater game fish, and lake fish,
 - A full line of support equipment,
 - Premium and value priced equipment, and
 - Yearly demonstration and promotional videos.
- Developed a full line of cartridge-based fastener feeding equipment for the aerospace industry. www.electroimpact.com/research/NewGenFastenerFeedSae.asp
- Developed machine video equipment for automated aerospace tooling.
- Developed specialized tooling (such as sealant applicators) for automated aerospace tooling.

- Invented a new form of pocket tape cover to support automated electronics assembly equipment.
- Developed a full line of support equipment to load and un-load pocket tape.
- Invented end-effector technology to enable flexible tooling to support curved panels in automated aerospace manufacturing.
- Developed flexible tooling solutions (Pogos) to support curved panels in automated aerospace tooling.
(www.cnaflextool.com/cnaflextool/05_cna/05_cna_bkgrnd.htm).
- Developed tooling for automated air-bag inflator component assembly line.
- Developed automated test/calibrate cell for HP printer heads.
- Developed automated mixed abrasive blasting cell for wakeboard assembly.
- Developed specialized test equipment and process review for water ski line production.
- One of a very small team that developed, built and installed a new-idea wing panel assembly machine. www.electroimpact.com/texttron.asp.
- Developed a complete portable aerospace rivet/lockbolt installation cell (drill/insert/upset/shave and drill/insert/swage) for trade shows.
- Created several equipment demonstration/promotional videos.
- Developed specialized automated and shop-support equipment for silk-screen ink mixing, including color measurement and characterization technology.
- On-floor, in-process design change and damage repair engineering during final assembly at Boeing Everett during the 747-400 rollout (structural and interiors).
- Completely re-built an eighty-year-old house, including a 900sf addition.
- Built several demonstration robots for EXPO '86 in Vancouver, including a paper-airplane-throwing-robot, which was later duplicated and installed in the Smithsonian's National Air and Space Museum.
- Developed NDT/NDE tooling and processes to support the maintenance of Canadian F/A-18 aircraft.
- Developed specialized ultrasonic testing probes.
- Invented an electrolytic water treatment cell that was the basis for the now very successful (and since evolved) MIOX process. www.miox.com
- Reworked glove box and process equipment for the plutonium processing line at the late Rocky Flats facility.
- Worked as a technician installing ComputerVision CAD systems.
- Developed specialized tooling and support equipment for remotely performed maintenance (via electro-mechanical manipulator) of the target area at the Meson Physics Facility in Los Alamos.
- Ported (moved, or re-programmed) a large early CAD system (ANVIL 4000) from a mainframe to a VAX.
- Trail Crew in the National Park system.