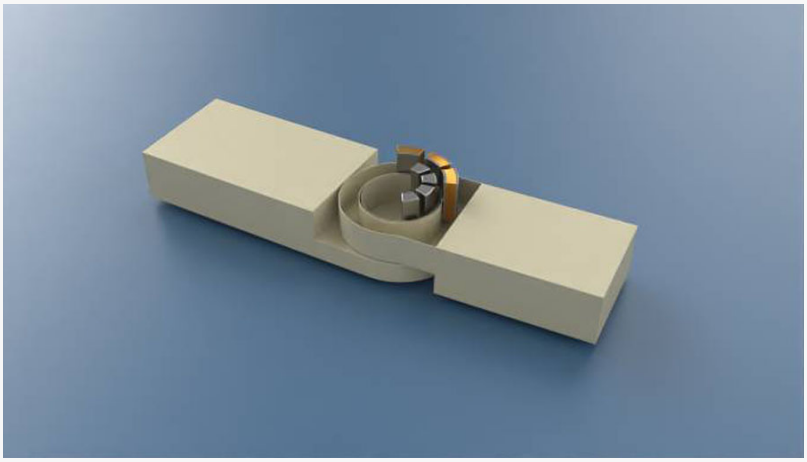
InventionHome® Product Developer Creates Replacement for Hydraulic Pistons in Machinery and Robotics

PITTSBURGH, PA, UNITED STATES, January 29, 2025 /EINPresswire.com/ -- Matthew S. of Glendale, CA is the creator of the Electro Magnetic Joint, a replacement joint for machinery that eliminates hydraulic operated pistons. The joint features an axle with electromagnets surrounding the axle, utilizing connected wires that change the north and south orientation of the magnet's magnetic field. The joint is intended to redefine how mechanical systems function by replacing traditional hydraulic-operated pistons with an efficient and low-maintenance electromagnetic system. Designed to optimize performance, reduce maintenance costs, and increase reliability, this system represents a significant leap forward in industrial and robotic technology.



The Electro Magnetic Joint eliminates the need for hydraulic systems by utilizing electromagnets arranged around an axle and arm to facilitate movement. By leveraging the power of magnetic fields, the joint delivers precise, controlled motion, making it an ideal replacement for hydraulic systems in machinery, robotic equipment, and more. The joint consists of an axle with electromagnets arranged around it with connected electric wires changing the north-south orientation of each magnet's magnetic field.

The arm has similar electromagnets, and the magnetic field is made to attract or repel the magnets between the axle and the arm causing the movement between arm and axle. To prevent the axle and arm slipping once in position, a solenoid actuated steel pin housed in the axle must be energized to engage a circular hole in the arm of the assembly. More than one of

these solenoid pins may be necessary.

The Electro Magnetic Joint is designed to deliver the precision and efficiency required for today's complex machinery and robotic systems. By replacing hydraulic systems, it offers a cleaner, more reliable solution that addresses many of the challenges associated with traditional piston-based technology. This versatile innovation is poised to benefit industries ranging from manufacturing to automation and robotics. With its inventive design and cost-saving advantages, the Electro Magnetic Joint is capable of producing efficient, sustainable mechanical systems for any interested manufacturer.

Matthew filed his Utility Patent with the United States Patent and Trademark Office (USPTO) and is working closely with InventionHome, a leading invention licensing firm, to sell or license the patent rights to his Electro Magnetic Joint product. Ideal licensing candidates would be U.S. based product manufacturers or distributors looking to further develop and distribute this product innovation.

Companies interested in the Electro Magnetic Joint can contact InventionHome at member@inventionhome.com. Inventors currently looking for assistance in patenting, marketing, or licensing their invention can request information from InventionHome at info@inventionhome.com or by calling
1-866-844-6512.

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