What is LIRO

Introduction

This invention presents a new transport system called LIRO (Linear-Rotational), which uses magnetic levitation to move objects without physical contact between its main components. The system is designed to be simple, efficient, and cost-effective in terms of manufacturing, operation, and maintenance.

How the system works

Let's imagine a scenario where linear motion is essential, but implementing an electric current is either too expensive or outright impossible. For such environments, the innovative system described here offers a solution by replacing the traditional electrical components of a linear motor with a unique magnetic arrangement.

There is a rotating shaft, upon which a series of ring-shaped magnets are arranged in a row along the shaft, with each ring magnet rotated by 120 degrees relative to the previous one. As the shaft rotates with these ring magnets, they create magnetic fields identical to those of a three-phase linear motor.

In addition to the shaft, there is a set of propulsion magnets fixed on a movable platform. These magnets interact with the magnetic field created by the magnets on the shaft. To maintain and guide the movement of the platform, it is supported by two parallel rails. Magnets fixed at the ends of the platform repel against other magnets attached to the rails, creating a repulsive magnetic field that keeps the platform suspended. This configuration allows the platform to float and glide smoothly along its path, free from friction and without any physical contact with the shaft or rails.

This system, by utilizing only permanent magnets and clever design, eliminates the need for a continuous power supply, making it ideal for applications where electricity is not feasible.

System advantages

1. Independence from external power sources: The LIRO system uses only permanent magnets, meaning it does not require electrical power to generate the necessary magnetic fields. This significantly reduces operating and maintenance costs.

2. Efficient and precise movement: Due to its design, the movable platform moves very precisely and efficiently, without mechanical friction, reducing wear and the need for maintenance.

3. Reduced costs: The system is simple and relatively inexpensive to manufacture and maintain compared to other magnetic levitation transport technologies, which are often complex and costly.

Applicability

The LIRO system can be used in a variety of fields, such as:

• Artificial lifting: It can be used to extract water or oil from great depths and transport them to the surface.

• Elevators: The system can be applied in residential or industrial elevators, providing smooth and precise movement.

• Goods transport: It can be used for the horizontal and vertical transport of objects, goods, people, or even animals, offering an efficient and cost-effective solution.

Conclusion

The LIRO magnetic levitation transport system provides an efficient, cost-effective, and easy-to-maintain solution for various industrial and residential applications. The use of permanent magnets eliminates dependence on external power sources, making the system attractive to investors due to its potential to reduce long-term operational and maintenance costs.