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Haronian et al.(10) **Pub. No.: US 2022/0360198 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **ELECTROMAGNETIC VIBRATION AND
ENERGY HARVESTER HAVING VIBRATING
BODY, MAGNETS AND STATIONARY
MAGNET AND HINGE****Publication Classification**(51) **Int. Cl.****H02N 2/18** (2006.01)**H02K 35/02** (2006.01)(52) **U.S. Cl.****CPC** **H02N 2/188** (2013.01); **H02K 35/02**
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(57)

ABSTRACT

An electromagnetic energy harvester for converting vibrations of a body to electricity that includes a coil with two ends that is wound along a longitudinal axis of a ferromagnetic core, a magnet, and a suspending device that its first end is designed to be fixed to the body and its second end is designed to be fixed to the magnet. The first end of the core is design to be at close proximity to the magnet and the longitudinal axis of the core is designed to be substantially aligned vertically to the magnetic axis of the magnet. The vibrations of the body can cause a relative alternating movement between the core and the magnet that can create alternating voltage between the ends of the coil.

