Roy J. Meyers Absorber, GB Patent 191301098.

This device was brought to my attention by Grumage. Here is my take on why it worked.

In its simplest form the device consists of two horseshoe magnets, some zinc plates and some uninsulated iron wire. The iron wire is wound around the curved ends of the horseshoe magnet and connected to the zinc plates as shown in figure 1. The system has to be aligned with the earth's magnetic field.

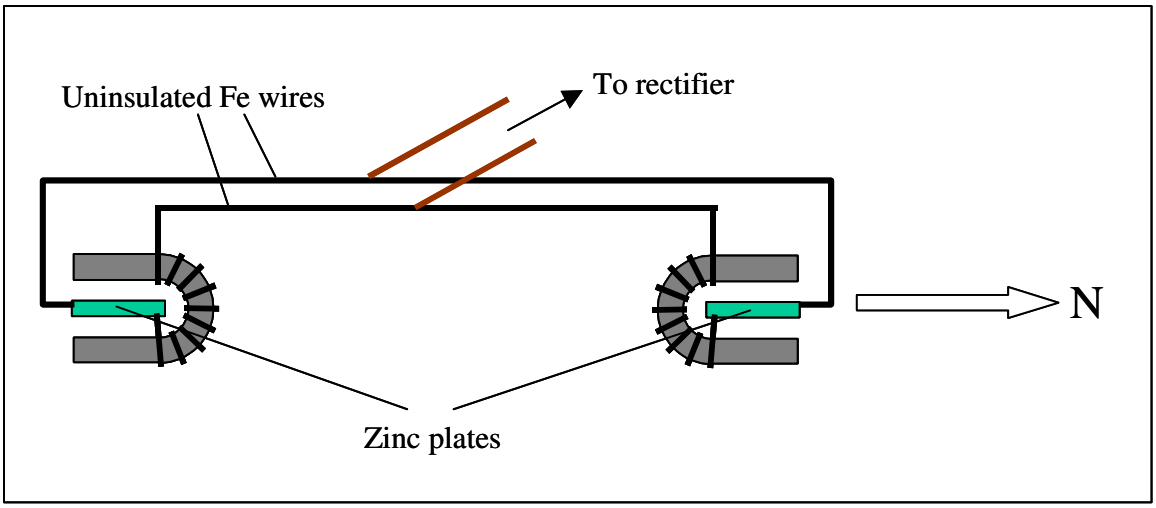

Figure 1. Simple Scheme reported to supply alternating current at low voltage

At first sight this seems incapable of providing alternating voltage but here is a possible explanation. If you follow the magnetization axis of each horseshoe it is seen that the earth's field supplies a magnetic gradient around the curved section, hence spin polarized conduction electrons therein will be dragged along thus creating a tiny potential difference between the two legs of each magnet. The iron wires wound over that curved end do nothing except create contact points at the ends of each curvature. We can discount any galvanic potential between iron wire and magnet since the magnets used were of magnetized steel. However we cannot ignore the galvanic potential between the zinc and the iron connection, or indeed the solder used for the connection. Although the two connections to the zinc would normally result in a zero overall potential, there exists a difference in the magnetic field at each end of the zinc, which could result in a significant (but low) voltage present. This magneto-Seebeck effect is a fairly new phenomenon and would not have been known in 1913 when the patent application was made. Also unknown at that time was the presence of spin-polarized conduction electrons.

This all predicts the presence of DC voltage, so how could this become AC? Well the magneto-Seebeck effect can result in a positive or a negative potential, and it also changes with temperature. In fact there can be a crossover temperature where it changes from positive to negative. Hence the DC current flowing around the closed loop of iron wire could heat the thin zinc plates to take it through that crossover temperature, whereupon the current decreases, the zinc cools down then the whole process repeats itself. This would result in a very low frequency AC voltage being observed.