

TIME TRAVEL

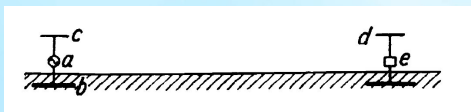
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Tesla and the Electromagnetic Wireless Telegraph

The first wireless telegraphy patent, however impractical, was issued in the U.S. on July 20, 1872, to American dentist Mahlon Loomis, 15 years before Hertz. His patent, number 129,971, was for "Improvement in Telegraphing," and covered "aerial telegraphy by employing an 'aerial' used to radiate or receive pulsations caused by producing a disturbance in the electrical equilibrium of the atmosphere."

Nikola Tesla was concerned with global views of telecommunication. Just like Loomis a few decades earlier, Tesla was convinced of the existence of a conducting layer in the atmosphere, and he tried to use it for transmitting information and electric energy over long distances.



A figure from Tesla's patent for global wireless telegraphy.

Tesla started to consider the whole world as a resonator, whose basic resonance frequency he estimated as 6 Hz. Using rotating generators of his own design for carrier frequencies between the basic resonance and 20 kHz, with high towering antennas and ground electrodes (see Figure), he planned to create a "stationary wave" propagating from his transmitter to any point on the globe. In 1893, he filed a patent on such a system, which included the ideas of CW transmission with tuning and multiple phased radiators to increase and direct the radiated power.

After starting to build an expensive worldwide transmitter, he lost financial support because of Marconi's success with less costly equipment, and the grand plan was discontinued. His patent was later used in an American court against Marconi's patent.

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