

150th Birth Anniversary of Nikola Tesla

Milić Stojić¹

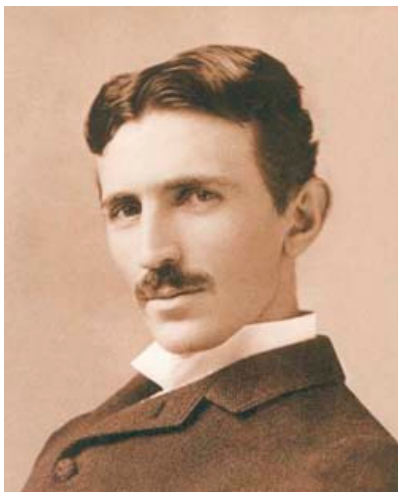


Fig. 1 – *Nikola Tesla (1856-1943)
at the age of 38.*

Nikola Tesla (1856-1943) significantly influenced technological development with his polyphase system inventions.

The system is in cornerstone of modern electrical energy production, long-distance transmission, and use of electrical currents. Beside inventing the induction motor, he invented the Tesla coil – a high frequency transformer, which is an essential part of all contemporary high frequency devices. Tesla also pioneered research into other effects produced by his currents, such as the possibility of induction heating, ozone production, and effects on the human organism. His inventions have been crucial to the development of many of today's technologies including the radio,

radar, television, motors of all kinds, and computers. He is also credited with predicting the emerging energy problem as early as 1900.

After death of Nikola Tesla in 1943, all his belongings have been inherited by his nephew and transferred to Belgrade where in 1955 the Nikola Tesla Museum has been opened. His ashes are also in the Museum. After his death, the name „Tesla“ has been given to the unit of magnetic induction.

The Nikola Tesla Archive in Belgrade (Serbia) constitutes a unique collection of over 160,000 pages of the patents documentations, scientific correspondence, scientific papers, manuscripts, technical drawings, scientific measuring data, personal documents, and legal papers as well as over 1,000 original photographs of Tesla's experiments and inventions, all of which are indispensable to the study of the history of electrification. Nikola Tesla's Archive in Belgrade joins Memory of the World register.

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Fig. 2 – *Young Tesla.*

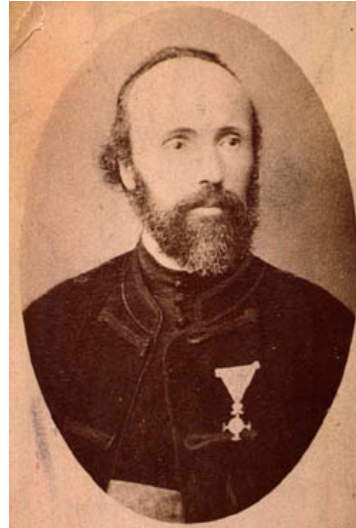


Fig. 3 – *Nikola Tesla's father Milutin, the priest of Serbian Orthodox Church.*

Nikola Tesla's Patents and Inventions

In 1882 Tesla discovered the Rotating Magnetic Field – a fundamental principal in physics and one of the greatest discoveries of all time.

In 1887 Tesla registered his patent for electro-magnetic motors; subsequently 40 patents followed. These patents were related to polyphase systems, motors, generators, distribution and transmission of electricity.

In 1888 George Westinghouse bought the 40 Tesla patents. Those 40 patents were applied in 1891 at the Hydro-electric power plant at Niagara Falls.

In 1896 Niagara Falls power plant begin to operate. It was immediately recognized as the electrical wonder of the world.

Tesla's polyphase alternating system electrified the world and sprung the industrial revolution world-wide at the turn of the century.

In 1891 Tesla invented a transformer for the production of high frequency and high voltage electricity known as Tesla coil. Today the Tesla coil is used in every television and radio produces, as well as in many other applications.

In 1898 he took out a patent dealing with the remote control by radio of moving vessels and vehicles. By this invention he laid the basis for wireless telemechanics, robotics and satellite communications. Tesla patented this invention in 10 countries.

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Nikola Tesla patented the basic system of radio in 1896 (the four tuned circuits system). His published schematic diagrams described all the basic elements of the radio transmitter which was later used by Marconi.

The United States Supreme Court in June 1943 held Marconi's most important patent invalid, recognizing Tesla's more significant contributions as the inventor of radio.

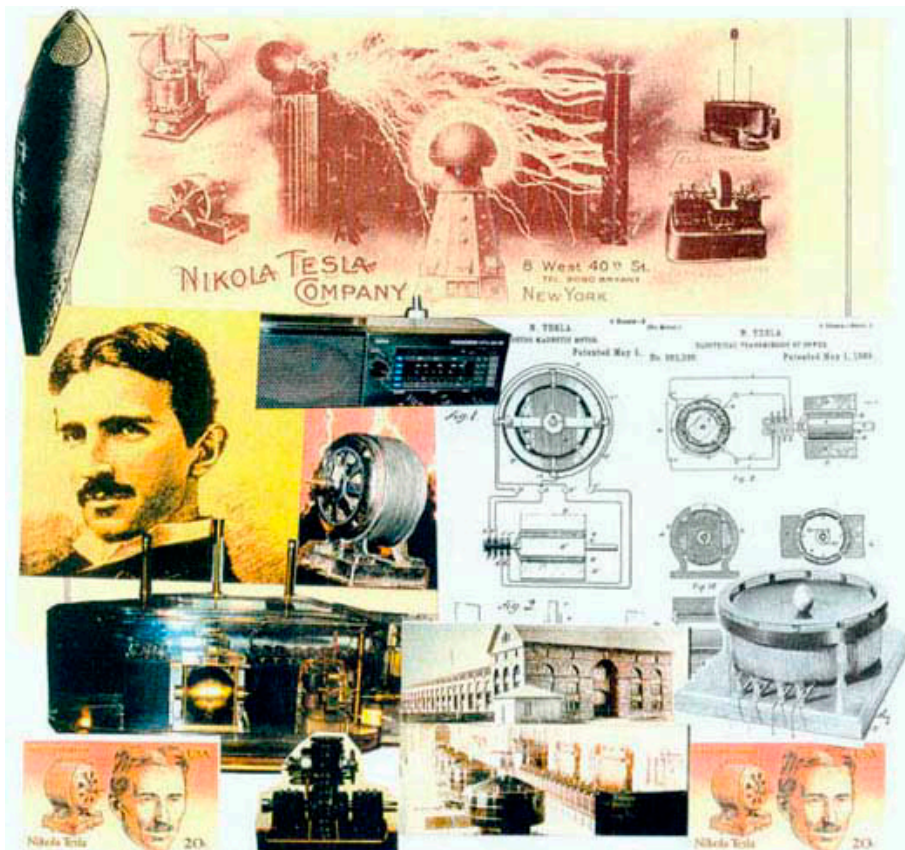
The patents followed in the field of turbines, pumps, fluids, lightning protectors, flow-meters, speed indicators, etc.

The last 2 patents for which Tesla applied in 1921 and 1927 were in the domain of avionics.

Tesla's patents were registered in 25 countries, mostly in US and England.

Over 700 patents were issued to Tesla Worldwide.

By: Dr Ljubo Vujović.



Tesla's patents changed the world.

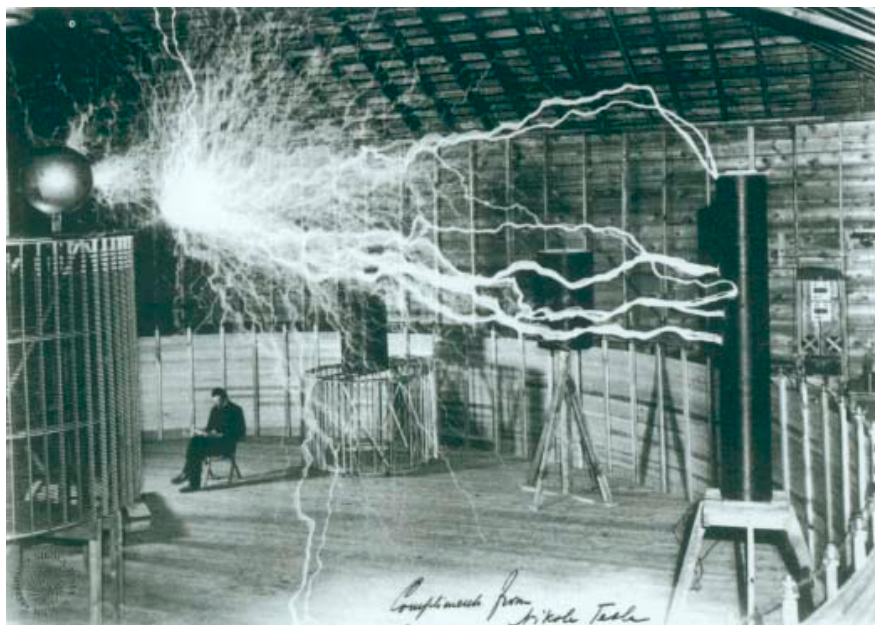


Fig. 4 – *The Above: Tesla sits below the Tesla Coil in his Colorado Spring Laboratory. The coil creates millions of volts of electricity with a frequency rate of 100,000 alterations per second.*



Fig. 5 – *Nikola Tesla, with Roger Boskovich's book "Theoria Philosophiae Naturalis", in front of the spiral coil of his high-frequency transformer at East Houston St., New York.*



Fig. 6 – *The letterhead of Tesla's business stationer recalls some of his more important inventions.*



Fig. 7 – *Nikola Tesla's Museum in Belgrade.*

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Fig. 8 – *Tesla Monument at Niagara Falls unveiled on July 9, 2006. Tesla is standing atop an AC motor, one of the 700 inventions he patented. In the background is Niagara Falls, Canadian side.*