



US006104107A

United States Patent [19]

[11] **Patent Number:** **6,104,107**

Avramenko et al.

[45] **Date of Patent:** **Aug. 15, 2000**

[54] **METHOD AND APPARATUS FOR SINGLE LINE ELECTRICAL TRANSMISSION**

[75] Inventors: **Stanislav Avramenko; Konstantin Avramenko**, both of Moscow, Russian Federation

[73] Assignee: **Uniline Limited**, St. Holier, United Kingdom

[21] Appl. No.: **08/331,658**

[22] PCT Filed: **May 10, 1993**

[86] PCT No.: **PCT/GB93/00960**

§ 371 Date: **Jan. 11, 1995**

§ 102(e) Date: **Jan. 11, 1995**

[87] PCT Pub. No.: **WO93/23907**

PCT Pub. Date: **Nov. 25, 1993**

[30] **Foreign Application Priority Data**

May 8, 1992 [RU] Russian Federation 5036137

[51] **Int. Cl.**⁷ **H02J 1/20**

[52] **U.S. Cl.** **307/149; 331/67; 331/36 C**

[58] **Field of Search** 307/149, 17; 333/99; 331/36 C, 67, 71, 86, 87, 88, 89, 90, 91, 187

[56] **References Cited**

U.S. PATENT DOCUMENTS

- 454,622 6/1891 Tesla .
- 568,176 9/1896 Tesla .
- 593,138 11/1897 Tesla .

OTHER PUBLICATIONS

Grotz, "Wireless Transmission of Power, An Attempt To Verify Nikola Tesla's 1899 Colorado Springs Experiments, Results Of Research And Experimentation," Proceedings of the 26th IECEC Conference, vol. 4 (1991) pp. 404-409.

"Fachlexikon ABC Physik," VEB Edition Leipzig (1974) p. 1548.

G. Trinkaus, "Tesla—The Lost Inventions," Vantage Press (1988) pp. 13-14.

V.N. Dulin and M.S. Zhuk (editors), *Manual of Radio and Electronic Equipment Components* (Moscow 1977), pp. 69-70.

I. V. Alyamovsky, *Electron Beams and Electron Guns* (Moscow 1966), pp. 13-13-15, 59, and 108.

N. Tesla, "The True Wireless," *Electrical Experimenter* (May 1919).

Y. A. Khramov, "Physicists: A Biographical Reference Book" (Nauka 1983), pp. 8-9, 20-23, 26-27, 80-81, 84-85, 86-95, 102-103, 106-131, 136-139, 142-143, 178-179, 240-241.

M. Faraday, "Experimental Researches in Electricity" (Dover Publications, Inc. 1839), pp. 24-29.

"The Large Soviet Encyclopedia," vol. 26 (Moscow Publishing House 1977).

C. Gillispie, "Dictionary of Scientific Biography," vol. IV, pp. 532-535 (Charles Scribner's Sons 1971).

C. Gillispie, "Dictionary of Scientific Biography," vol. V, pp. 515-517 (Charles Scribner's Sons 1972).

C. Gillispie, "Dictionary of Scientific Biography," vol. IX, pp. 209-213 (Charles Scribner's Sons 1974).

G. Polvani, "Alessandro Volta" (Domus Galilæana 1942), pp. 340-353, 485.

M.I. Radovski, "Galvani and Volta," (1941), pp. 30-31, 58-59.

K.E. Swartz, "The Uncommon Physics of Common Phenomena," vol. 2 (1987), p. 148.

B.N. Rzhonsnitsky, "Nikola Tesla" (Molodaya Gvardiya 1959) pp. 6-7, 116-120.

G.K. Tserava, "Nikola Tesla" (Nauka 1974) pp. 160-161, 176-177.

J.K. Maxwell, "Selected Works on Electromagnetic Field Theory" (Gosizdat 1952) pp. 252-255, 320-321.

J.J. O'Neill, "Prodical Genius, The life of Nikola Tesla" (Neville Spearman 1968) pp. 70-73, 128-133.

John O'Neill, "Electrical Prometheus" (History of Technology ("Molodaya Gvardiya") 1959).

Primary Examiner—William M. Shoop, Jr.

Assistant Examiner—Kim Lockett

Attorney, Agent, or Firm—Reid & Priest L.L.P.

[57] **ABSTRACT**

This invention relates to the field of electrical technology, and relates particularly to a method for the continuous transformation of electrical energy with its subsequent transmission from an initial source (transformer) to a consuming device, and also to an apparatus for the implementation of this method of transformation and the supplying of power to electrical devices through a transmission line which does not form a closed circuit, ie consists of a single conducting wire. This invention therefore provides a method and associated apparatus for supplying power to an electrical device(s), including generation and subsequent transmission thereof to a receiving device via a transmission line, the method being characterised by the transformation of the electrical energy which is generated into the energy of oscillation of a field of free electrical charges such as the displacement current or longitudinal wave of an electrical field, the density of which charges varies in time, and the transmission of the energy via a transmission line which does not form a closed circuit comprising a single-wire transmission line and, where necessary, its transformation into the electromagnetic energy of conduction currents.

23 Claims, 3 Drawing Sheets