"*Tesla's* Tesla Coils"

Jeff Behary, c/o
The Turn Of The Century Electrotherapy Museum
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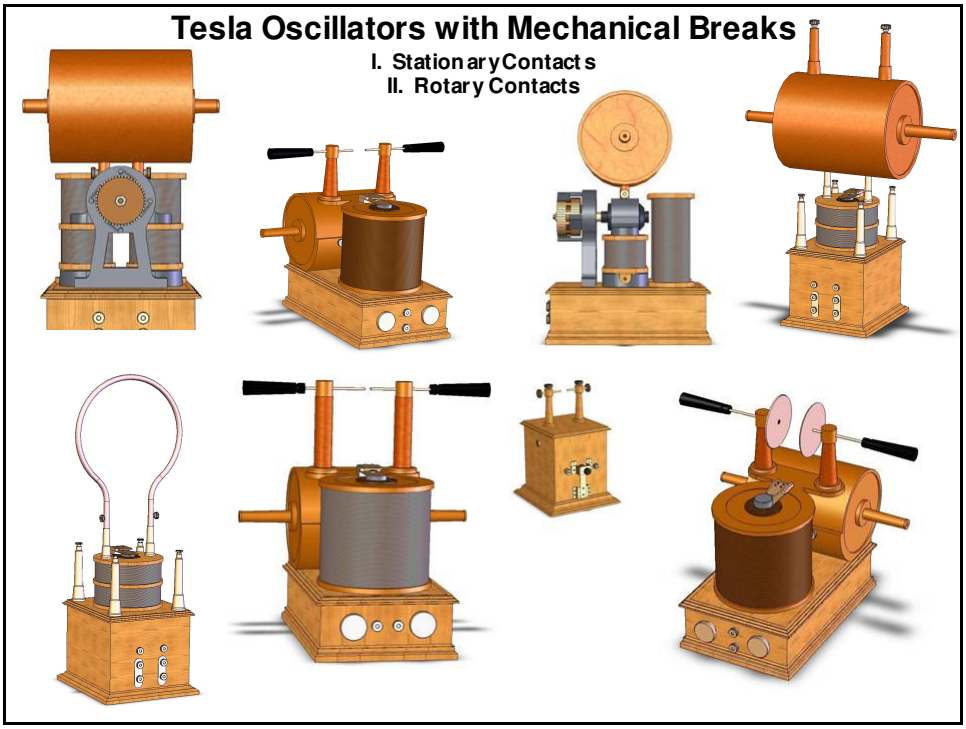
http://www.electrotherapymuseum.com

The Turn Of The Century Electrotherapy Museum
www.electrotherapymuseum.com
627 36th Street
West Palm Beach, FL 33407

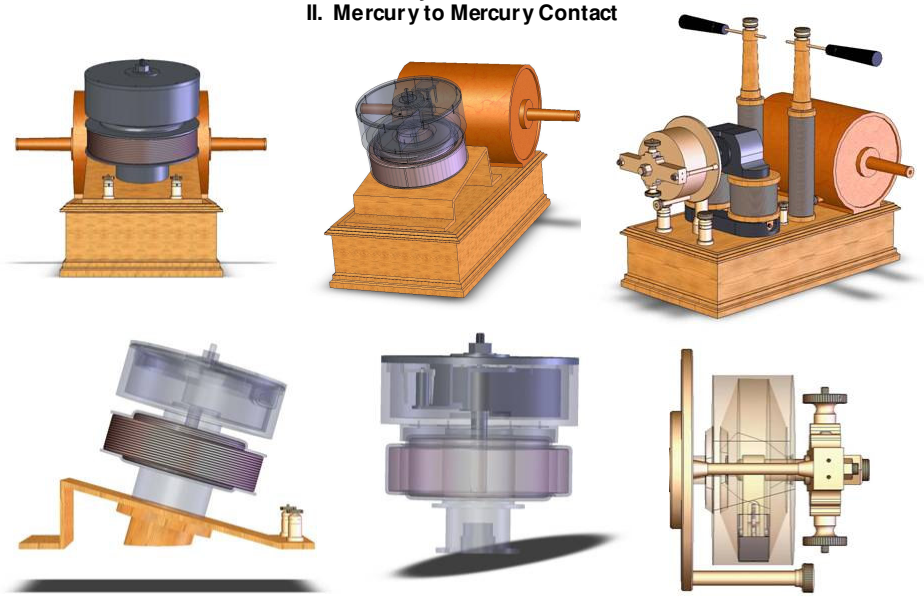
Tesla Oscillators with Mechanical Breaks

I. Stationary Contacts
II. Rotary Contacts



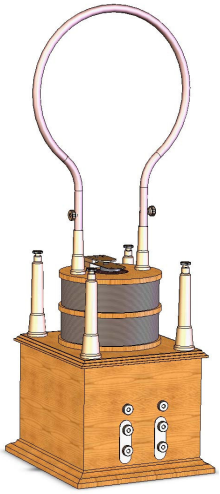
Tesla Oscillators with Mercury Circuit Controllers

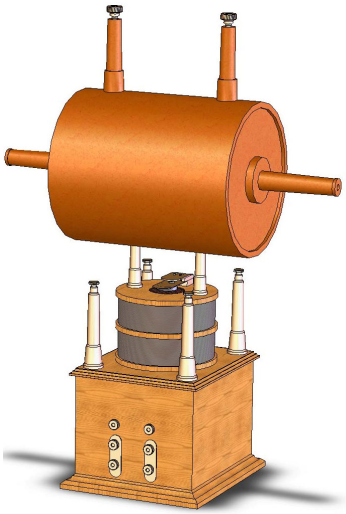
I. Mercury to Metal Contact
II. Mercury to Mercury Contact



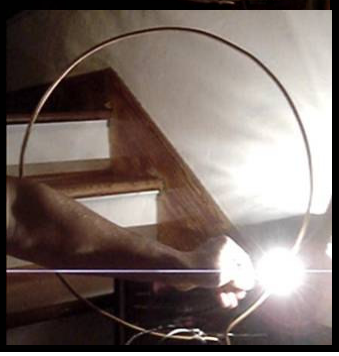
Tesla Oscillator with detachable disruptive discharge coil for experimental purposes

I. Tesla Oscillator For Demonstrating Impedance
II. Tesla Oscillator For Demonstrating Electrical Discharges





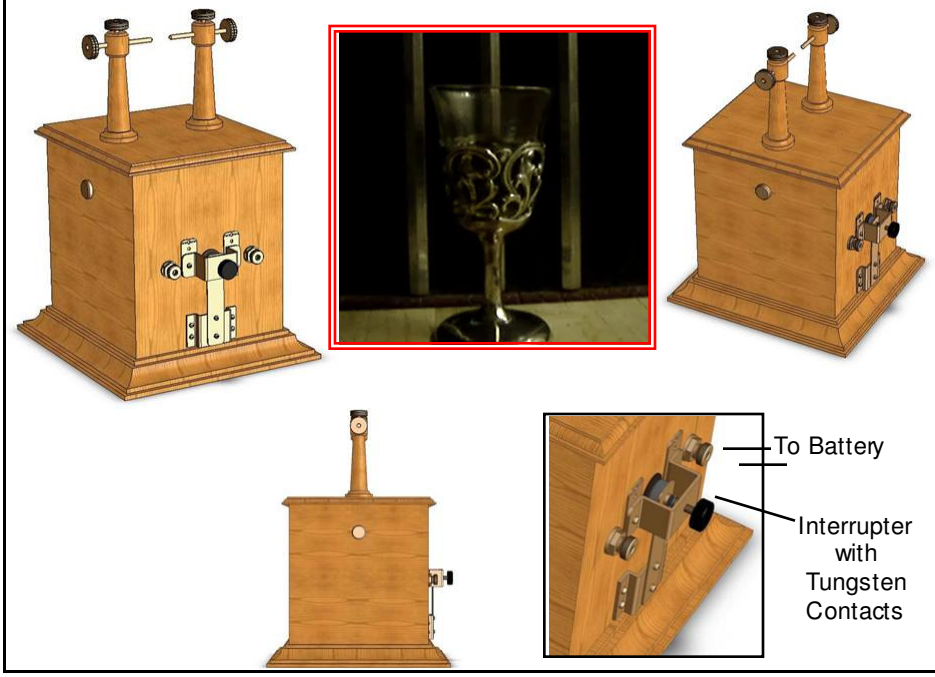
Tesla Oscillator For Demonstrating The Phenomenon Of Impedance



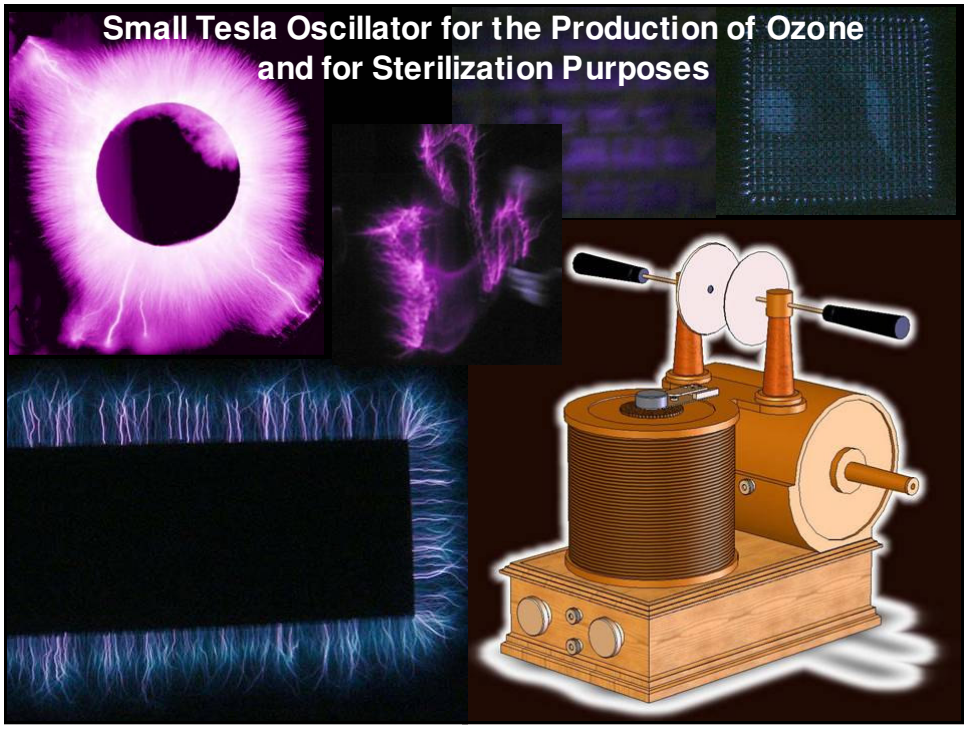
Behary - Curtis Reproduction: Adaptation of Tesla Coil from Thomas Stanley Curtis "High Frequency Apparatus"

Behary - Curtis Reproduction: Adaptation of Tesla Coil from Thomas Stanley Curtis "High Frequency Apparatus"

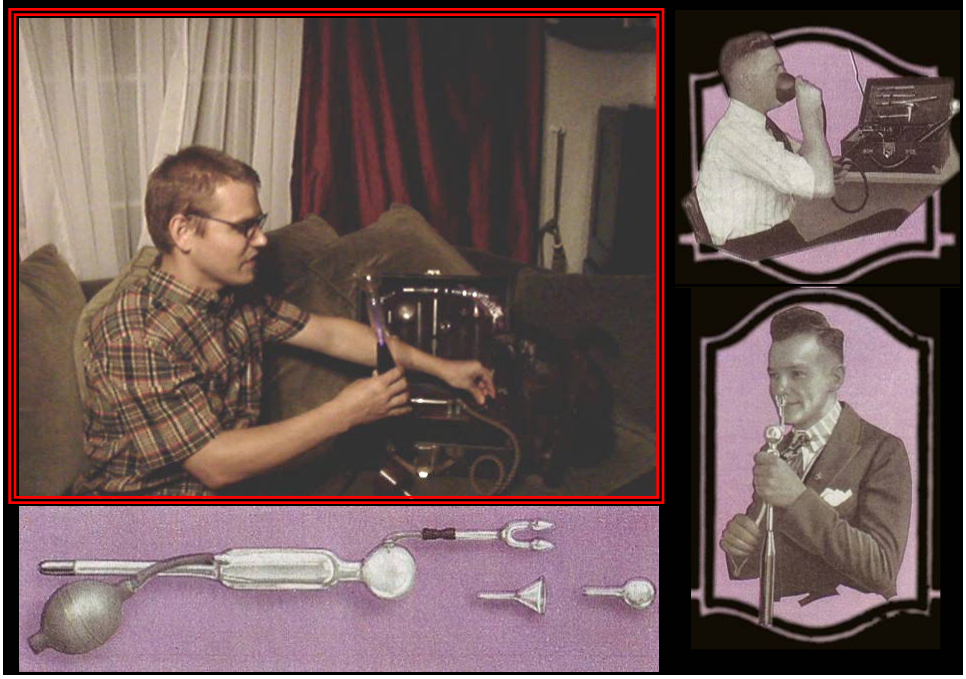
Tesla Coil For Ignition Purposes: Patent 609,250



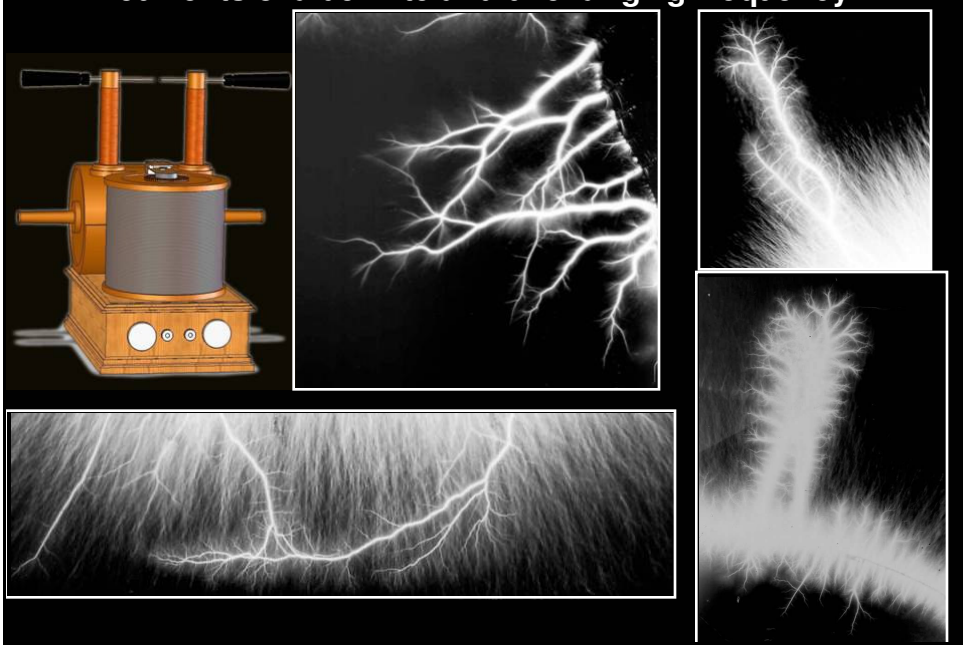
Small Tesla Oscillator for the Production of Ozone and for Sterilization Purposes



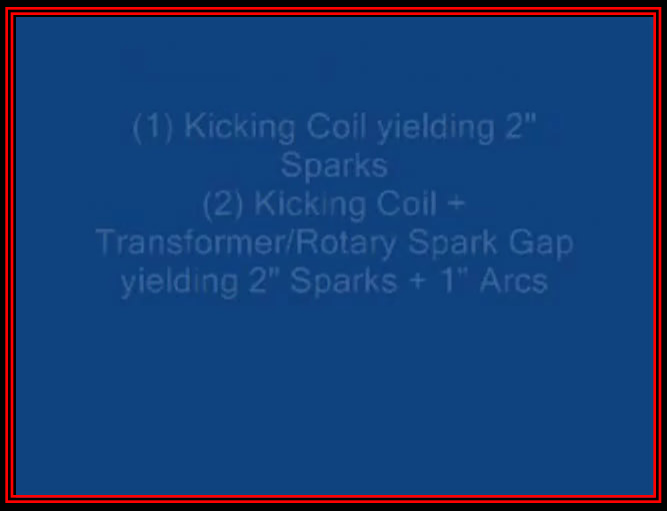
“Violet Ray” Tesla Coil with two types of Ozone Generators



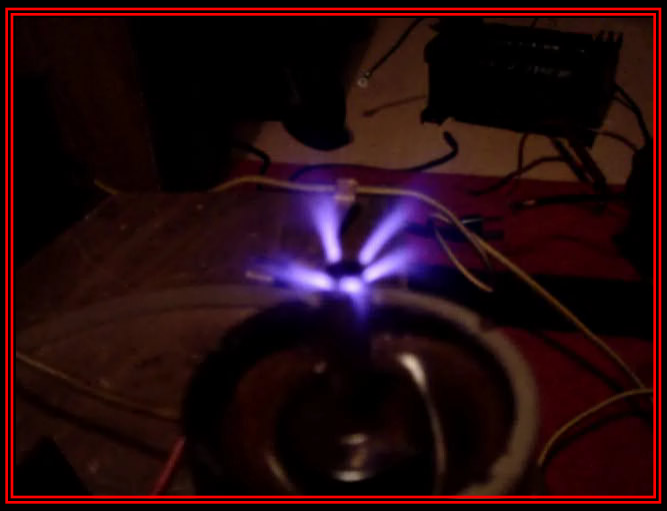
Large oscillator with an additional tuned circuit for producing currents of a definite and unchanging frequency



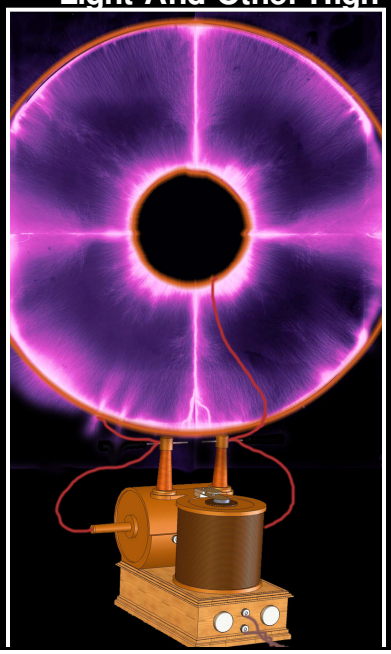
Single Pancake Coil with 3 separate tank circuits and 3 distinct forms of electrical discharges at once

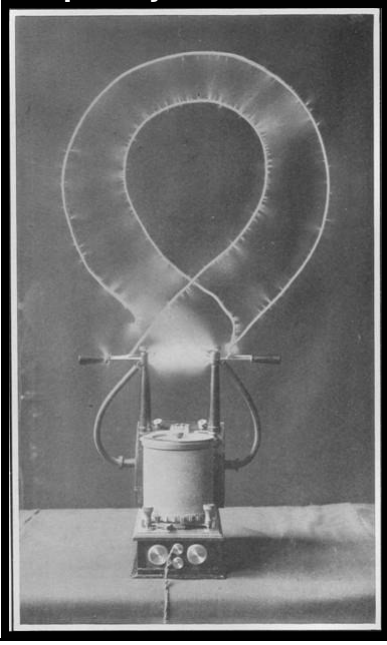


Unusual Discharges from single Pancake Coil: Both effluves and flaming arcs simultaneously…?!

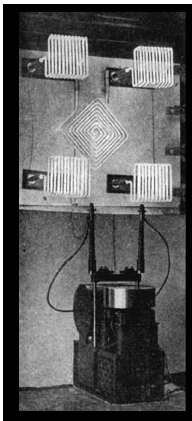


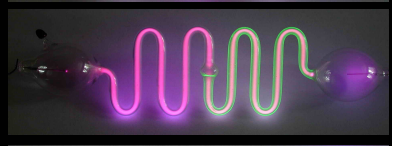
Tesla Oscillator for the production of "Light And Other High Frequency Phenomenon"

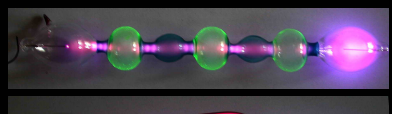


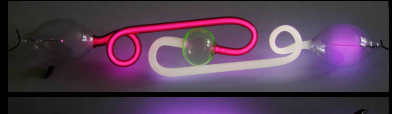


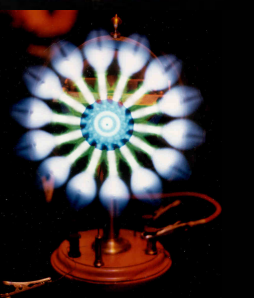
Wireless Lighting and Geissler Tubes

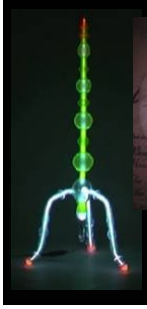


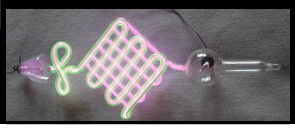












Tesla Transformer for the production of Röntgen Rays

THE OHIO DEMOCRAT.

THURSDAY, June 11, 1896.

Rontgen has published some new facts about his rays. He finds that all solid bodies can generate them; the only difference being in the intensity, the greatest intensity being produced by platinum. He finds that the insertion of a Tesla coil between the Ruhmkorff coil and the ray-producing apparatus is very advantageous, and that the X rays and the air traversed by them can discharge electric bodies.

THE DAVENPORT DAILY LEADER.

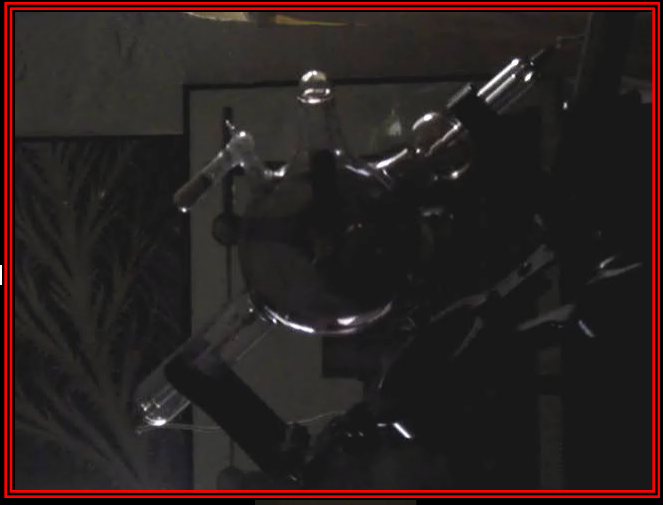
THURSDAY, AUGUST 13 1896.

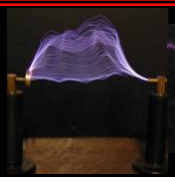
Tesla and the X-Rays.

Tesla and the X-Rays.

New York, Aug. 12—The Roentgen rays, which have astonished the world by bringing light out of dark places, are now declared to be material particles by no less an authority than Nikola Tesla. Mr. Tesla has been led to take this view for some time from the result of experiments which he has been conducting in his laboratory. But now he comes forward without hesitation and says that the electrical conditions within the tubes from which the rays issue produce absolute particles. They are material as cannon balls, infinitesimal and attenuated, it is true, but actual material which bombard the glass and any object which may come in line with their motion. And this motion is no insignificant thing, and would make the most rapid moving cannon ball appear to stand still, for Mr. Tesla says the experiments show them to move at a velocity of not less than sixty-two miles a second. Mr. Tesla further says he can feel the effects of these particles striking against his eye, and has noticed the sensation produced when they have come in contact with his brain.

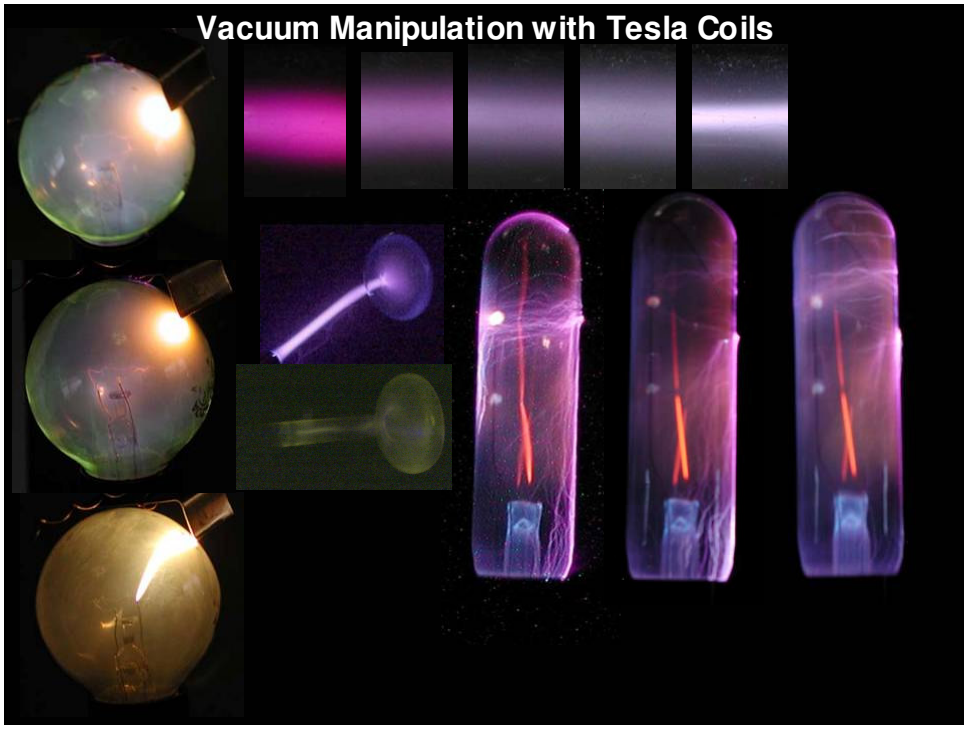
Mr. Tesla make public his conclusions in relation to the Roentgen rays in a letter to the Electrical Review of this week, in which, after referring to Professor Roentgen's theory that the rays were longitudinal waves of ether, he





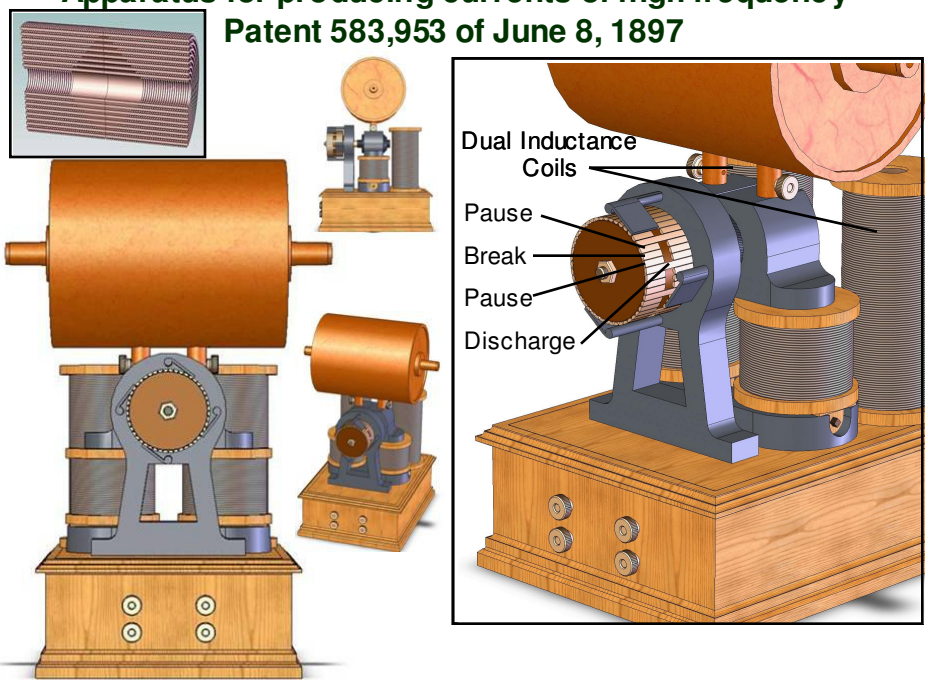
Crookes Tubes & Röntgen Rays

Vacuum Manipulation with Tesla Coils

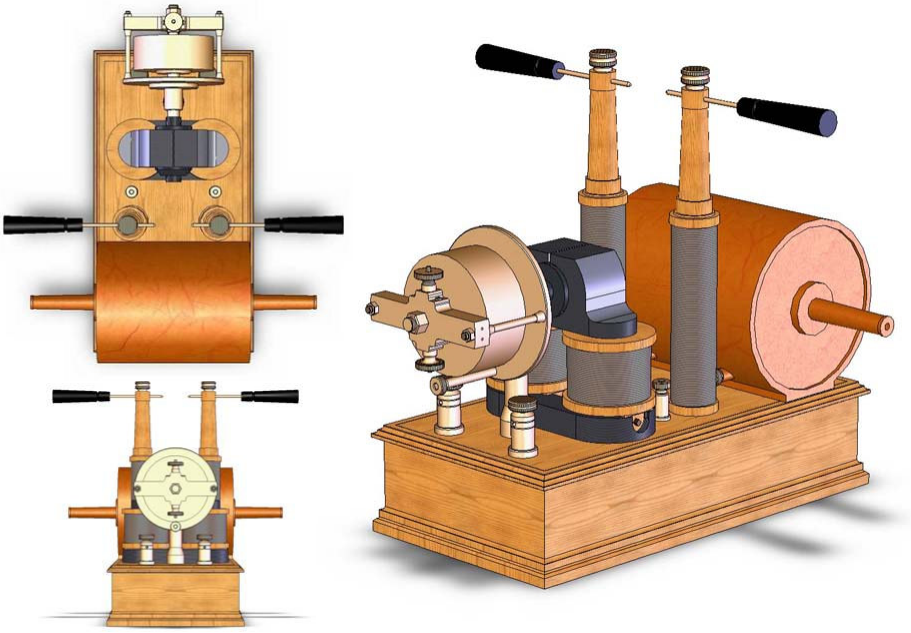


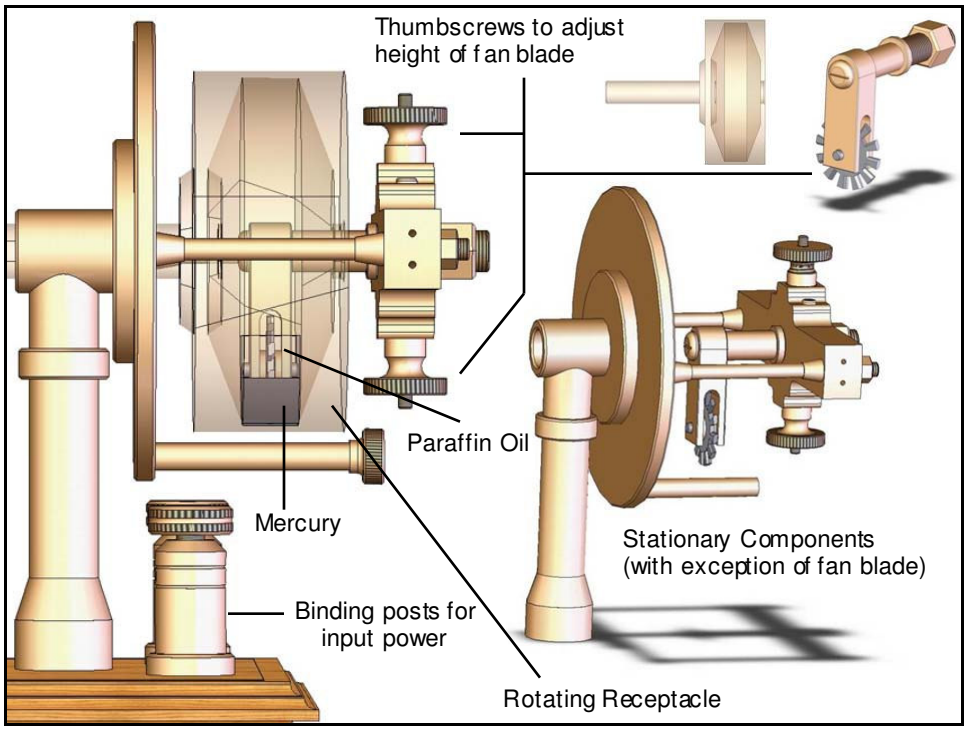
Lichtenberg Figures In Single Filament Bulb

Apparatus for producing currents of high frequency
Patent 583,953 of June 8, 1897

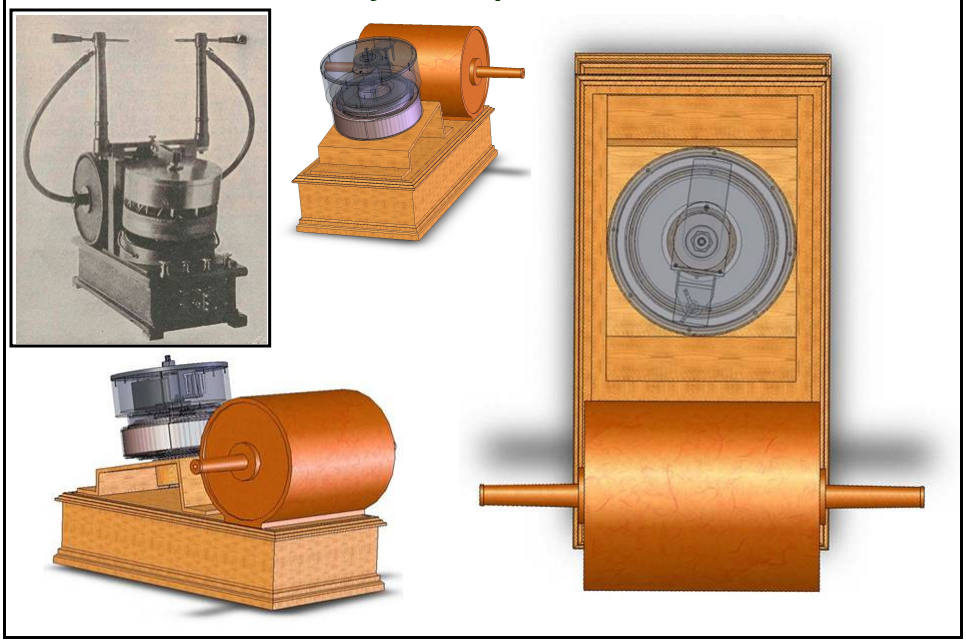


Tesla transformer with mercury interrupter from patent number 609,251 of August 16, 1898

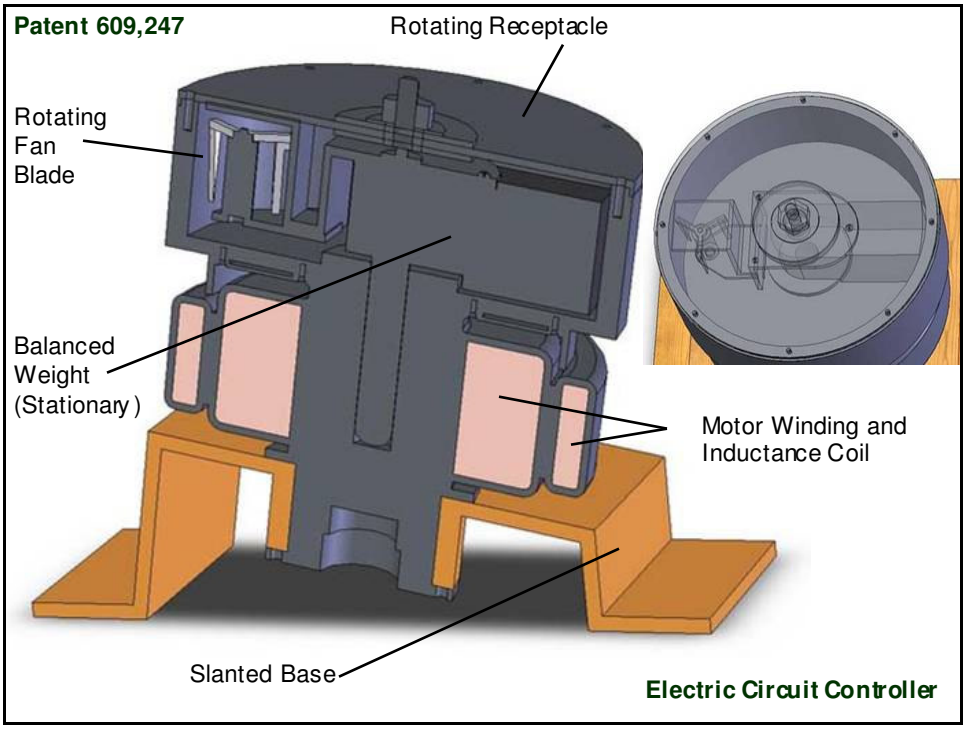




Tesla transformer with a gravity controlled hermetically sealed mercury interrupter – Patent 609,247

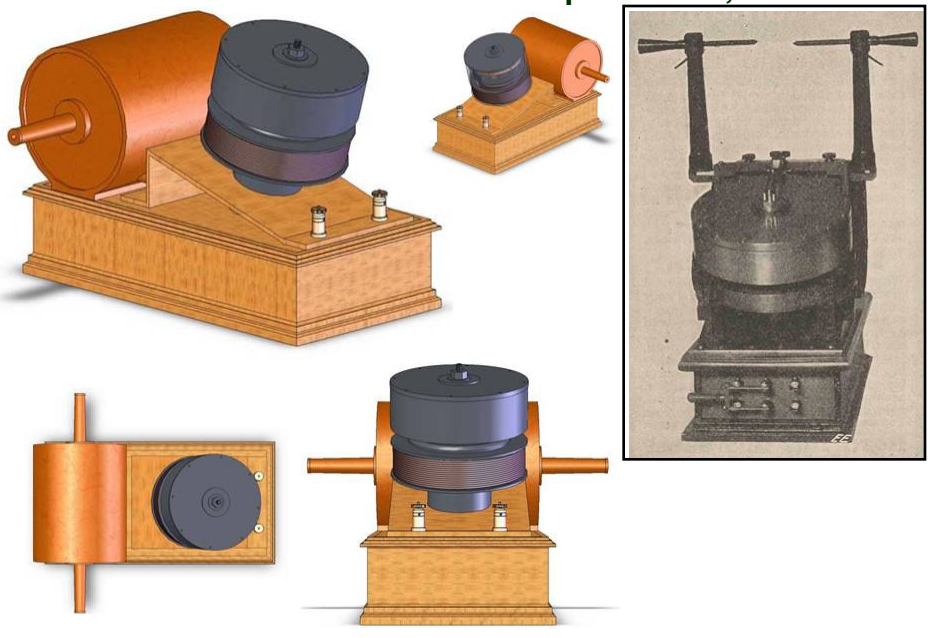


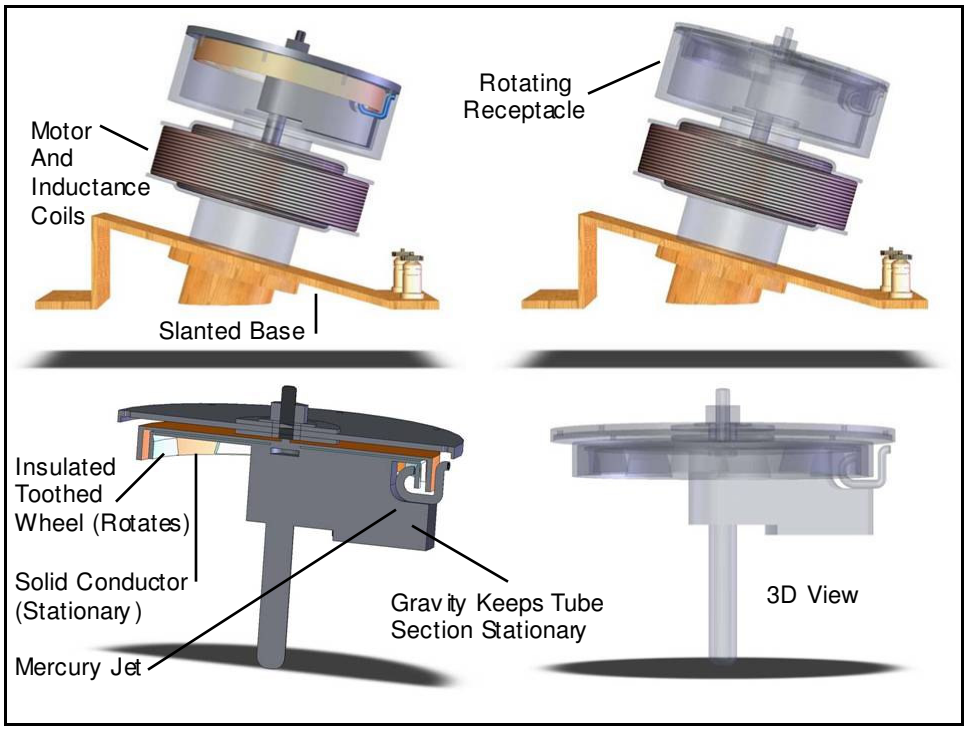
Patent 609,247



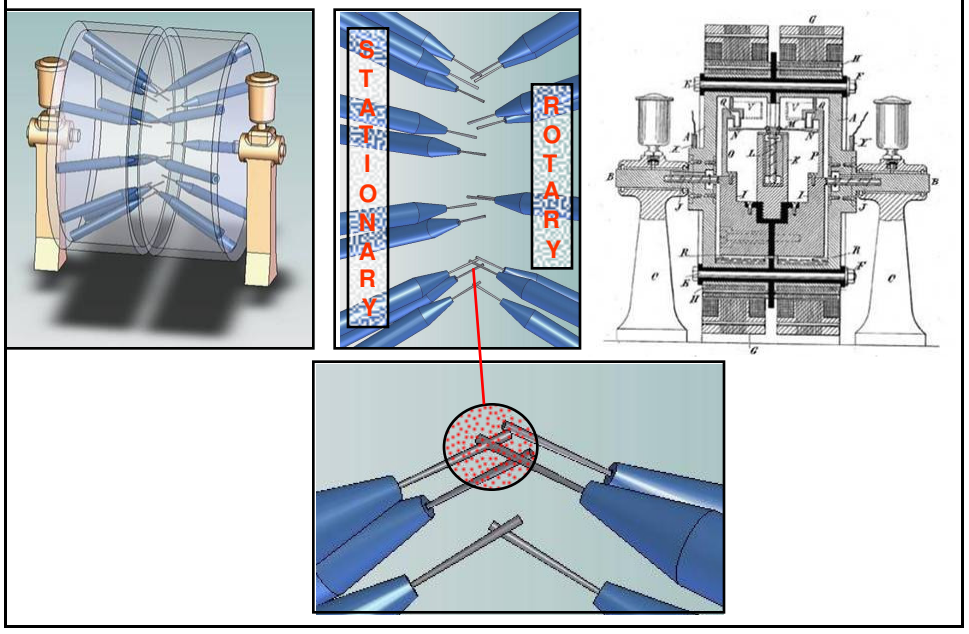
Electric Circuit Controller

Tesla oscillator with a mercury jet impinging against an insulated toothed wheel – patent 609,248





Electric Circuit Controller
Patent 609,249 of August 16, 1898

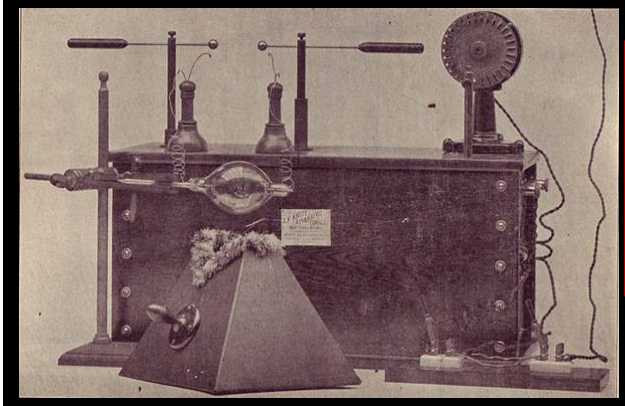


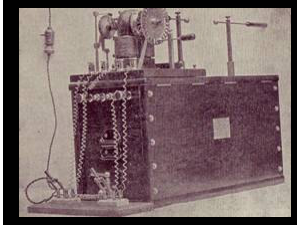
Behary Pseudo-Static Tesla Coil:
Bipolar Pancake Coils with Rotary Break

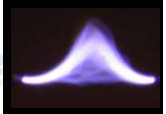
Behary Pseudo-Static Tesla Coil:
Bipolar Pancake Coils with Rotary Break

L. E. Knott Apparatus Company 1896 – 1920s

First Commercial Tesla Coil For Laboratory and X-Ray Use

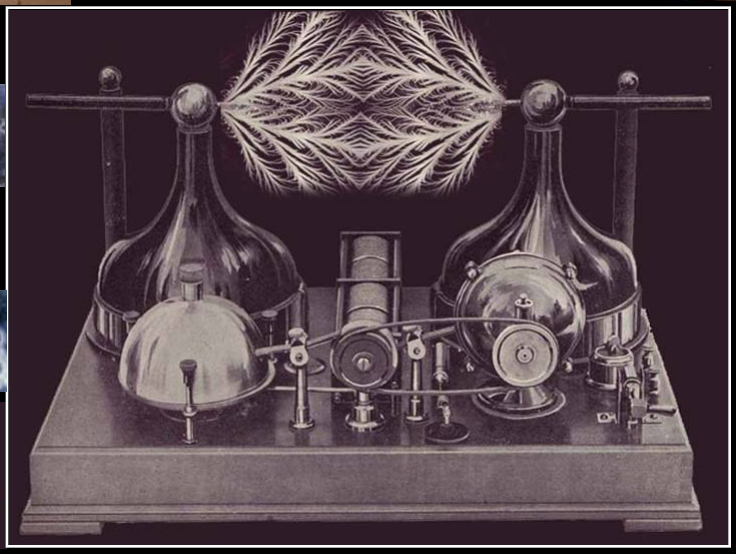


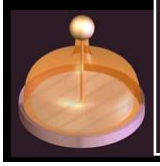


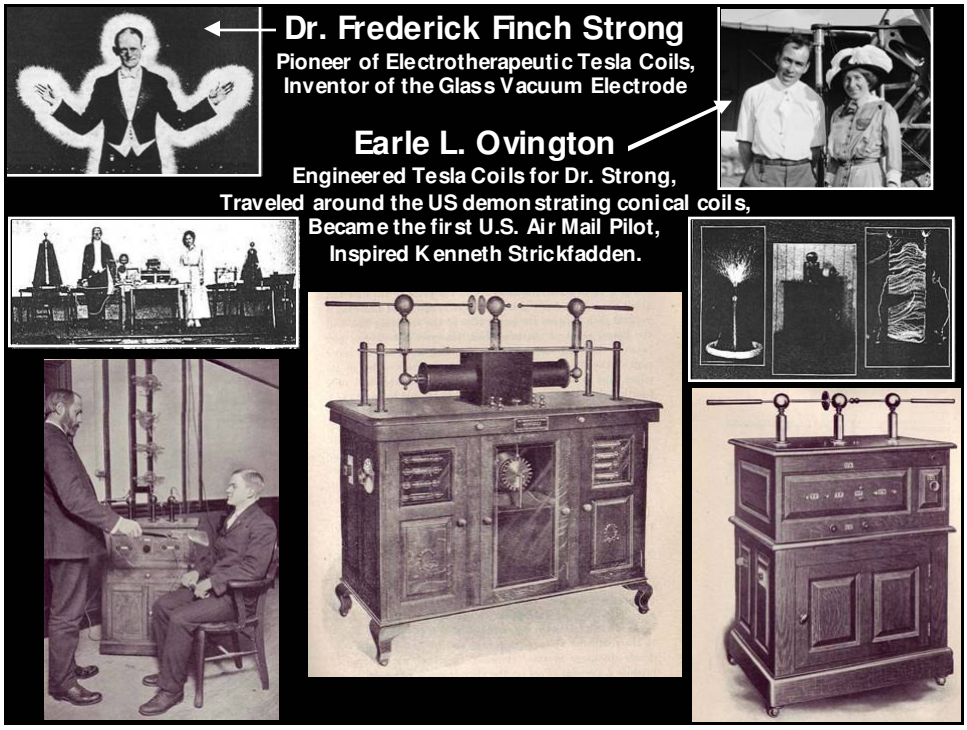


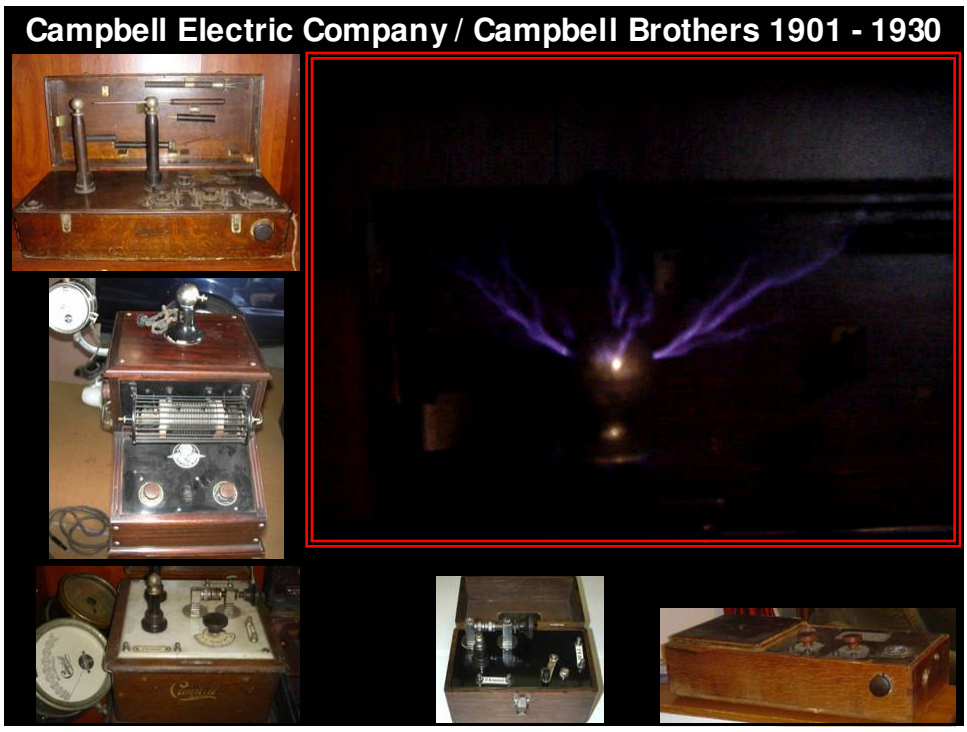
Thomas Burton Kinraide

Pioneer of Pancake Style X-Ray Coils, Methods for Producing Electrical Discharges, Quenched Spark Gaps, Point-Plane Rectifiers, Special Interrupters and Induction Coils.

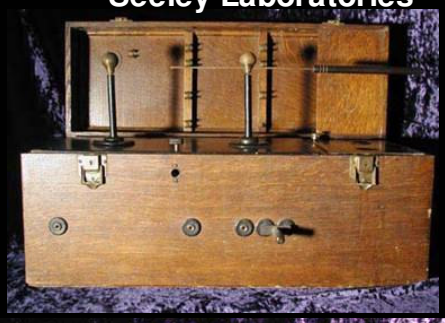


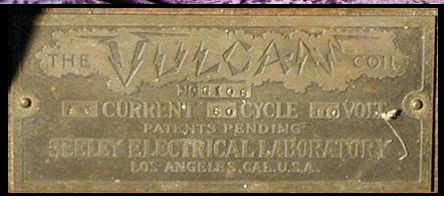


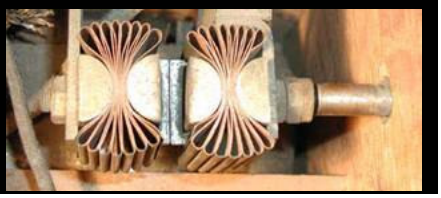

Dr. Frederick Finch Strong
Pioneer of Electrotherapeutic Tesla Coils,
Inventor of the Glass Vacuum Electrode
Earle L. Ovington
Engineered Tesla Coils for Dr. Strong,
Traveled around the US demonstrating conical coils,
Became the first U.S. Air Mail Pilot,
Inspired Kenneth Strickfadden.


Campbell Electric Company / Campbell Brothers 1901 - 1930

Seeley Laboratories "Vulcan" Coils – ca. 1905

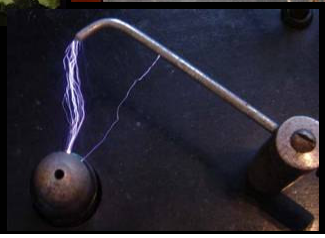




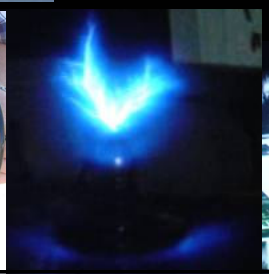


Victor X-Ray Tesla Coils – ca. 1910 – 1920s

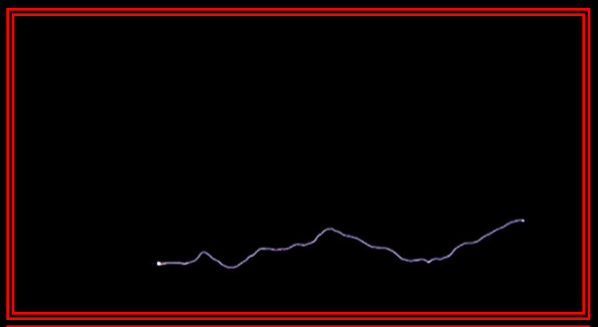
Frank S. Betz / Betzco / A. S. Aloe Company 1910 – 1930s

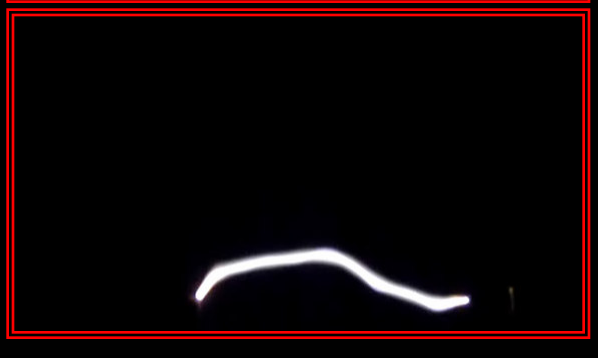


McIntosh Hogan Cabinet

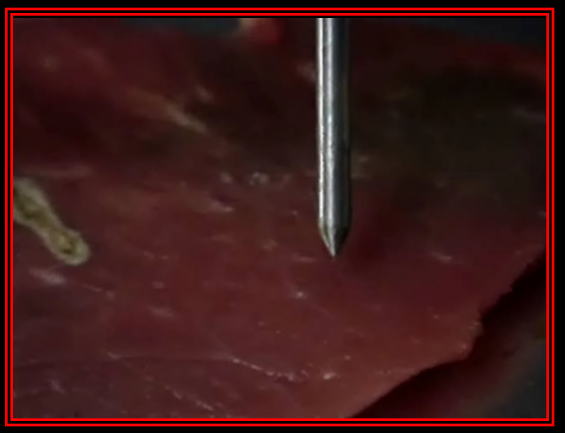


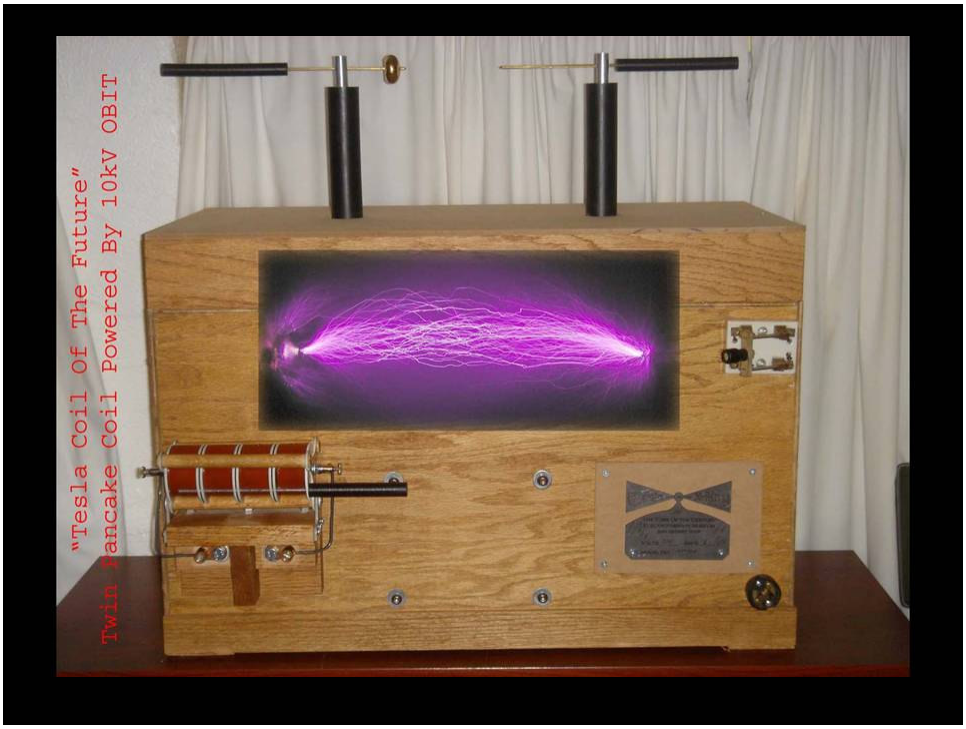
H. G. Fischer & Thompson Plaster Company 1910 - 1930





H. G. Fischer Surgical Tesla Coils

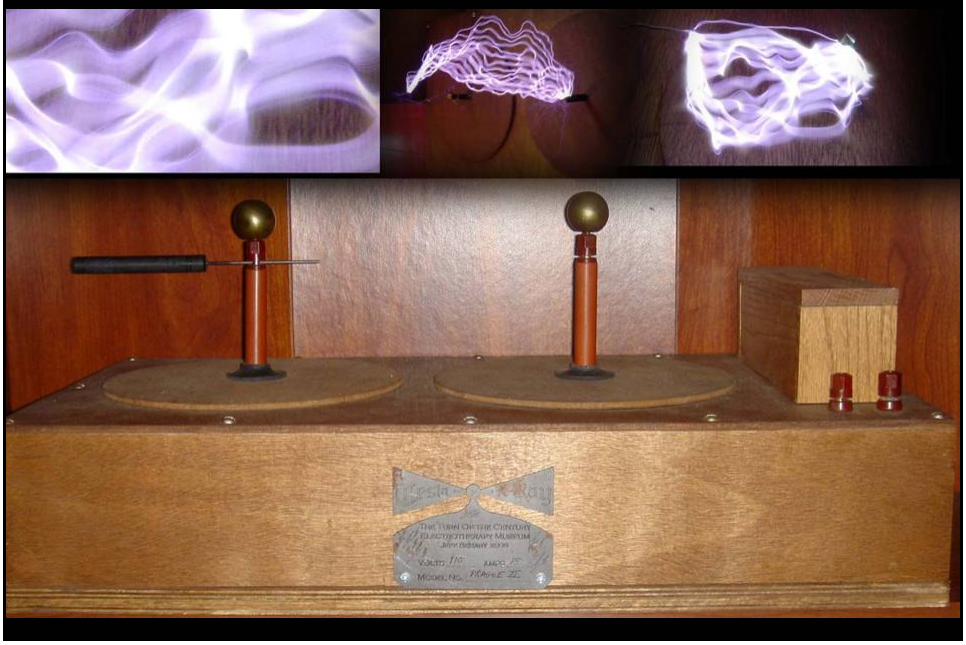




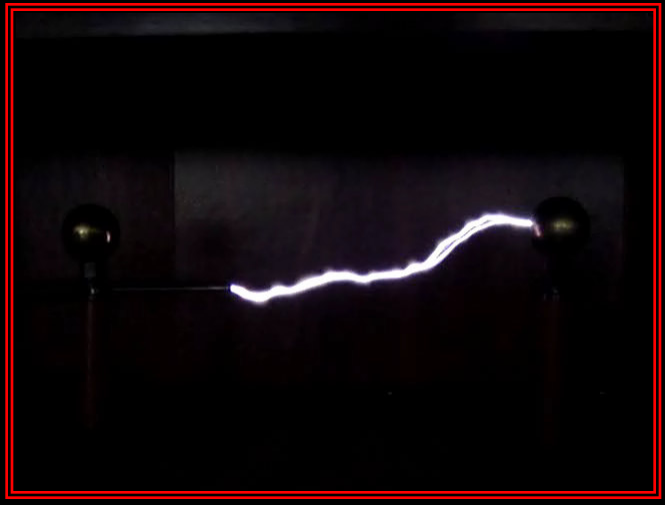
Behary "The Tesla Coil Of The Future"
Bipolar Flat Spiral Resonators using 10kV 23mA OBIT

Behary "The Tesla Coil Of The Future"
Bipolar Flat Spiral Resonators using 7.2kV 120mA Pole Xfmr

Behary 1KW Twin Pancake Tesla Coil
"The Kilowatt Kinraide Coil"



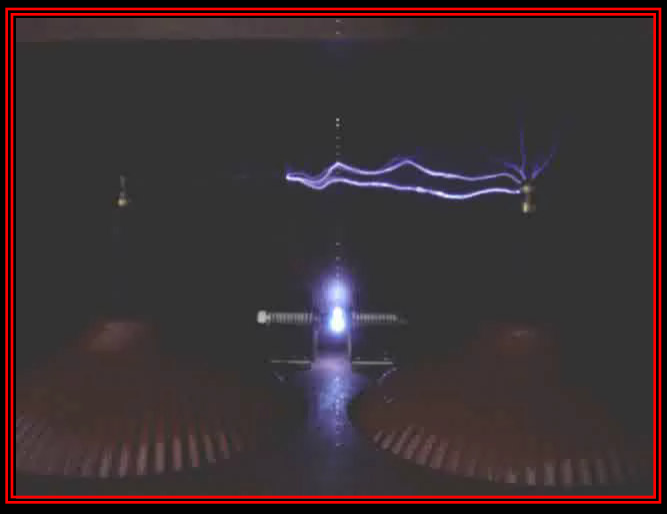
Behary Kilowatt Kinraide Coil: Flaming Discharges



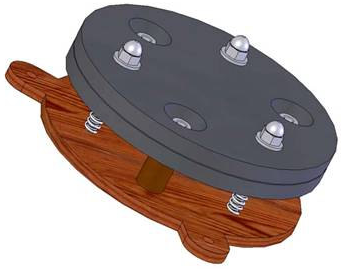
Behary – Jackson – Kinraide Coil

Behary - Kinraide Multilayered Conical Coils

Behary - Kinraide Multilayered Conical Coils

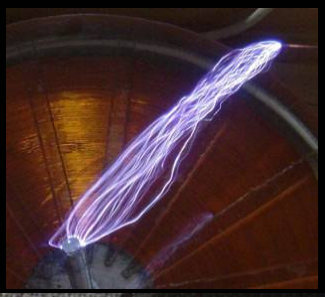


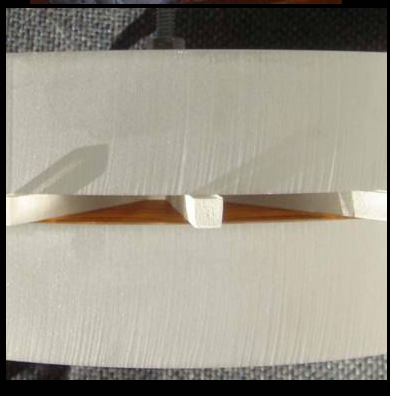
Behary Kinraide Coil Reproduction with 6” Quenched Gap



Behary Kinraide Coil Reproduction with 6” Quenched Gap

Oil-Filled Flat Spiral / Pancake Coils…

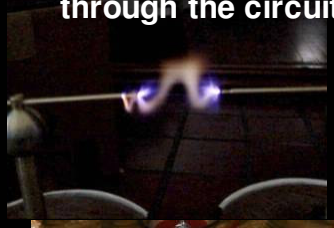




Sometimes they work…

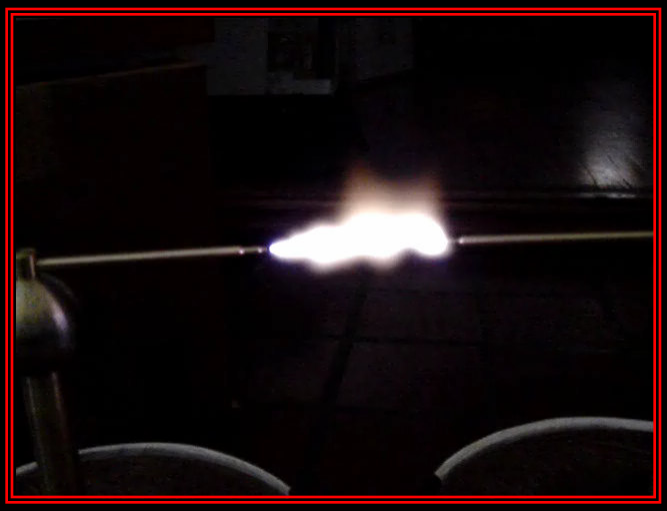
Often they don't!

"When the flaming discharge occurs, the conditions are evidently such that the greatest current is made to flow through the circuit" 20. May 1891



Flaming Discharges: Stage 1:
Purple Arcs with heat that can be felt several feet away

Flaming Discharges: Stage 2:
Yellow and orange flames amidst the purple arcs



Flaming Discharges: Stage 3:
White discharges, immense heat, able to melt wires

Flaming Discharges: Stage 4:
Blinding White Arcs, ability to melt and weld metals

NIKOLA TESLA.

Receiving an Electric Current of Two Hundred Thousand Volts.

Mr. Tesla has advanced the opinion, and sustained it by brilliant experiments of startling beauty and grandeur, that light and heat are produced by electrostatic forces acting between charged molecules or atoms. Perfecting a generator that give him currents of several thousand alternations per second, and inventing his disruptive discharge coil, he has created electrostatic conditions that have already modified not a few of the accepted notions about electricity.

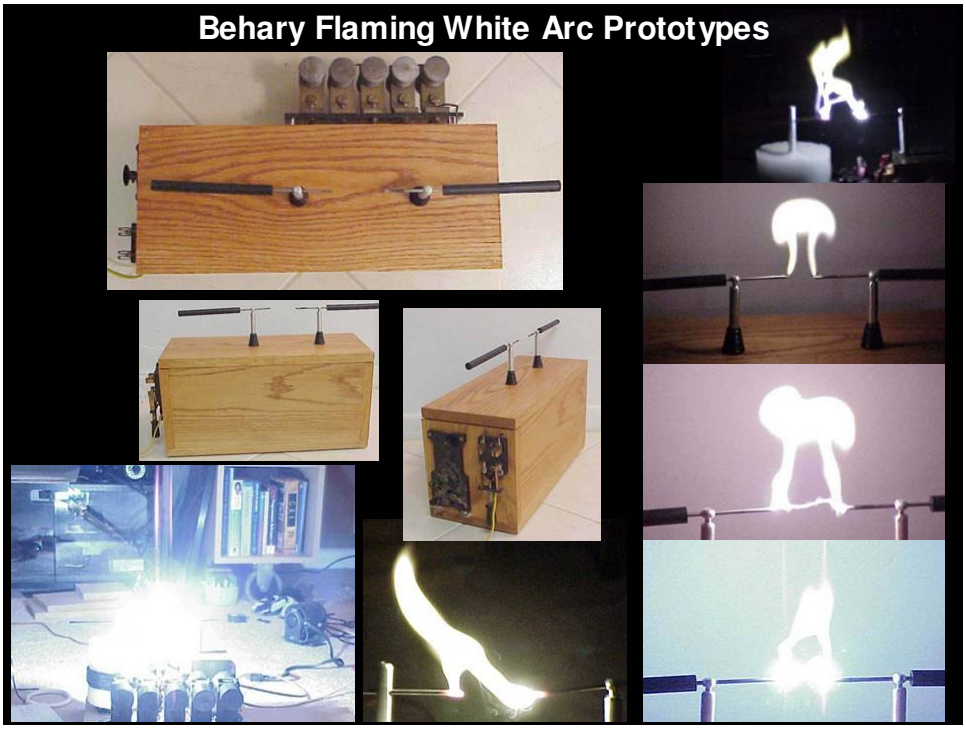
It has been supposed that ordinary currents of one or two thousand volts potential would surely kill, but Mr. Tesla has been seen receiving through his hands currents at a potential of more than two hundred thousand volts, vibrating a million times per second, and manifesting themselves in dazzling streams of light. This is not mere tour de force, but illustrates the principle that while currents of lower frequency destroy life, these are harmless. After such a striking test, which, by the way, no one has displayed a hurried inclination to repeat, Mr. Tesla's body and clothing have continued for some time to emit fine glimmers or halos of splintered light. In fact, an actual flame is produced by this agitation of electrostatically charged molecules, and the curious spectacle can be seen of pulsant, white, ethereal flames, that do not consume anything, bursting from the ends of an induction coil as though it were the bush on holy ground.

With such vibrations as can be maintained by a potential of three million volts Mr. Tesla expects some day to envelop himself in a complete sheet of lambent flee that will leave him quite uninjured. Such currents as he now uses would, he says, keep a naked man warm at the north pole, and their use in therapeutics is but one of the practical possibilities that has been taken up.—T. C. Martin, in Century.

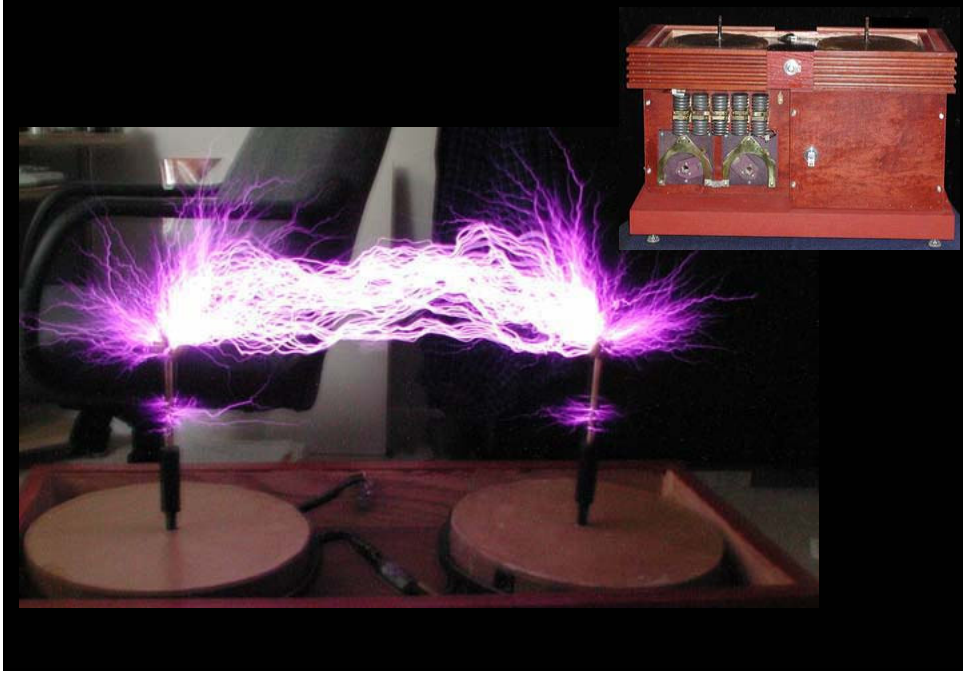
The Daily Republican.

DECATUR, ILLINOIS, SATURDAY, JUNE 2, 1894.

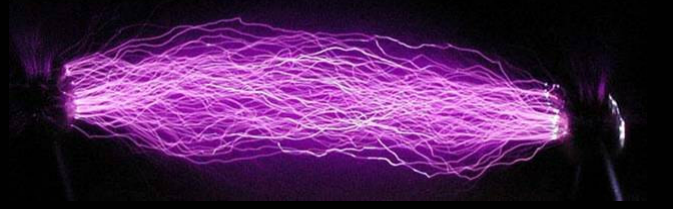
Behary Flaming White Arc Prototypes

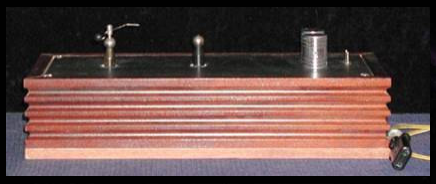


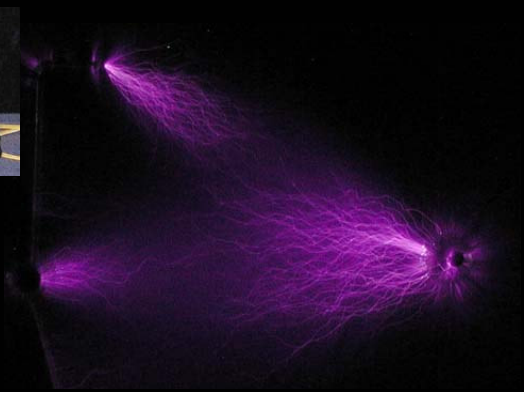
Behary "Prague" Coil: 16" Discharges at 1 kW input power



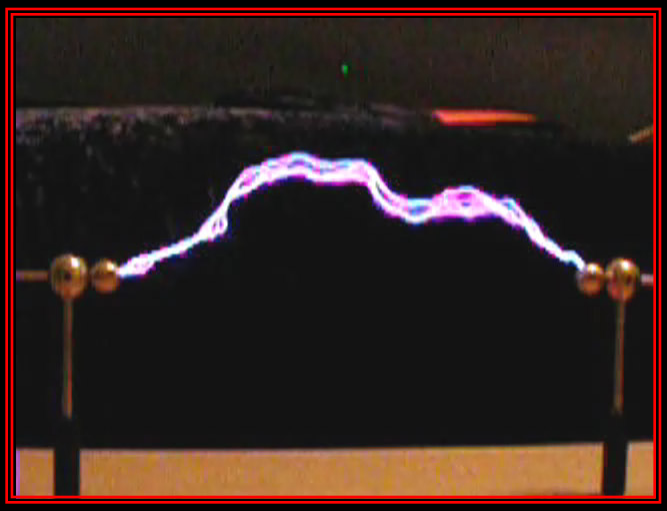
Behary Baby "Prague" Coil: 4" Discharges at 50W
(Twin 2.5" diameter Multilayered Pancake Coils)



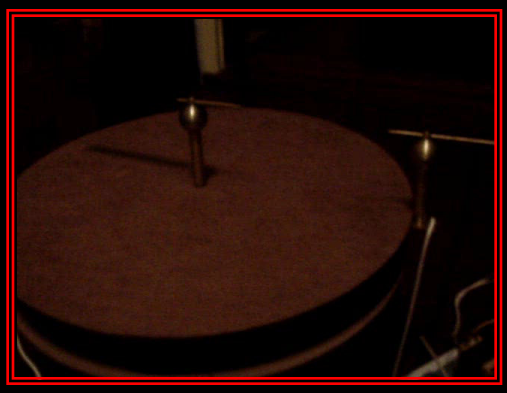


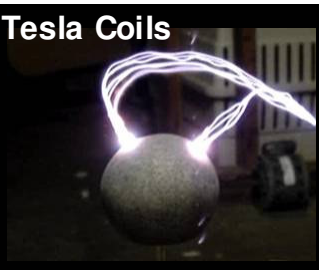


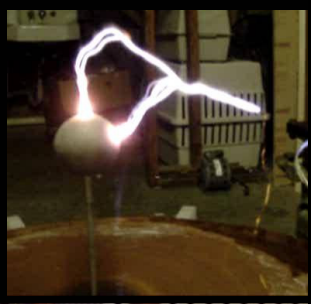
Prague Coil in action…

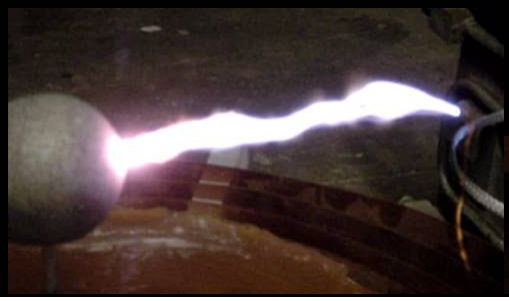


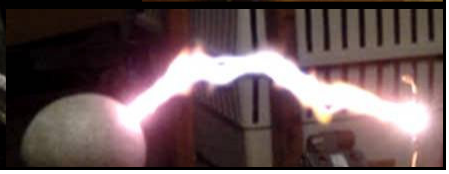
16” and 18” Diameter Flat Spiral Tesla Coils



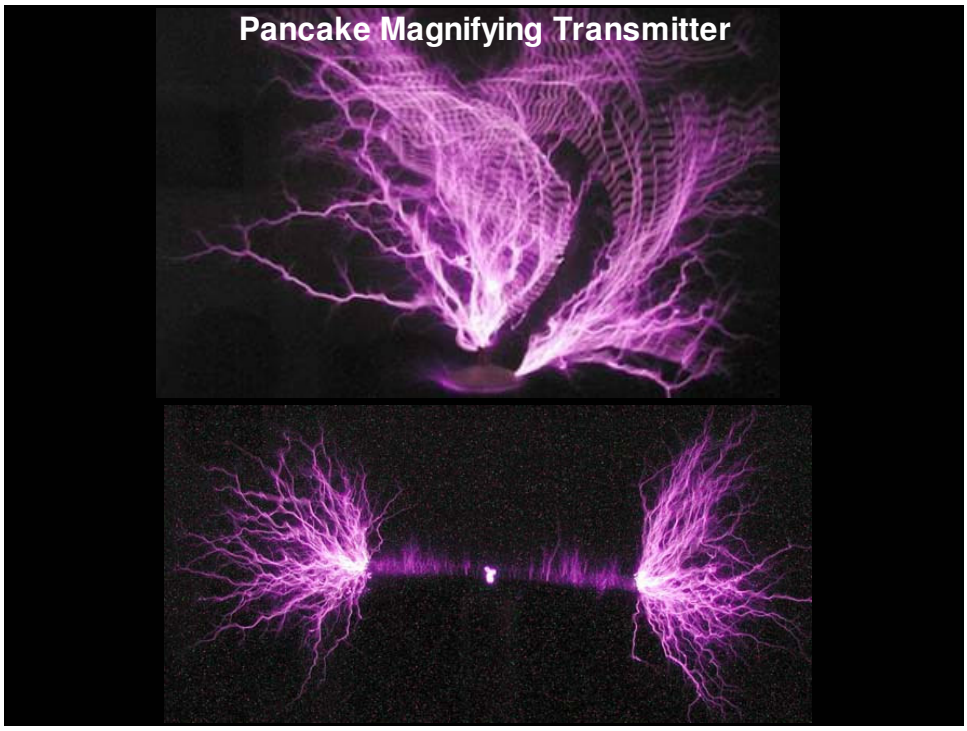








Pancake Magnifying Transmitter


Pancake Magnifying Transmitter