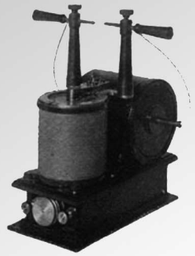


Tesla's Tesla Coils:

Defining a Tesla Coil using Nikola Tesla's standards.

The modern definition of a Tesla Coil is drastically different than that which is represented in Nikola Tesla's series of High Frequency patents. To better understand Tesla Coils, and how they operate it is vital to study the earliest working models of these coils created by Tesla himself. The following excerpts are from an article written by Tesla in 1919*, describing the early forms of "Universal" Tesla Coils. These devices could operate on alternating or direct currents, utilizing a variety of voltages from 110V to 220V.

"... From the very beginning I felt the necessity of producing efficient apparatus to meet a rapidly growing demand and during the eight years succeeding my original announcements I developed not less than fifty types of these transformers or electrical oscillators, each complete in every detail and refined to such a degree that I could not materially improve any one of them today. Had I been guided by practical considerations I might have built up an immense and profitable business, incidentally rendering important services to the world. But the force of circumstances and the ever enlarging vista of greater achievements turned my efforts in other directions. And so it comes that instruments will shortly be placed on the market which, oddly enough, were perfected twenty years ago!"...

What are the components of a Tesla Coil?

"The essential parts of an oscillator are: a condenser, a self-induction coil for charging the same to a high potential, a circuit controller, and a transformer which is energized by the oscillatory discharges of the condenser."...

How do Tesla Coils operate?

"The operation is as follows:
When the switch is thrown on, the current from the supply circuit rushed through the self-induction coil, magnetizing the iron core within and separating the contacts of the controller. The high tension induced current then charges the condenser and upon closure of the contacts the accumulated energy is released through the primary, giving rise to a long series of oscillations which excite the tuned secondary circuit."...

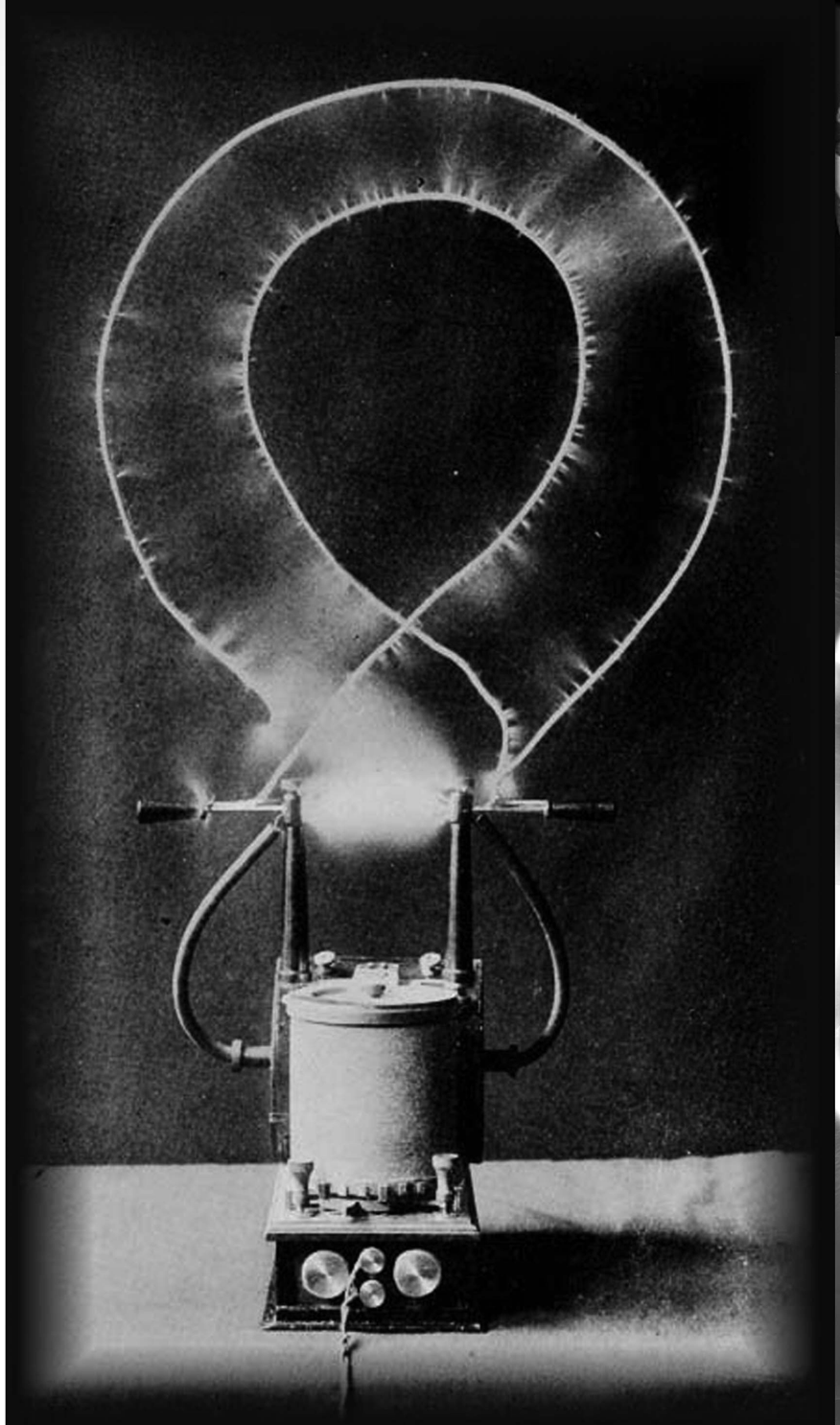
How efficient are Tesla Coils operated by this method?

"Under favorable conditions an efficiency as high as 85% is attainable, that is to say, that percentage of the energy supplied can be recovered in the secondary of the transformer. While the chief virtue of this kind of apparatus is obviously due to the wonderful powers of the condenser, special qualities result from concatenation of circuits under observance of accurate harmonic relations, and minimization of frictional and other losses which has been one of the principle objects of the design."

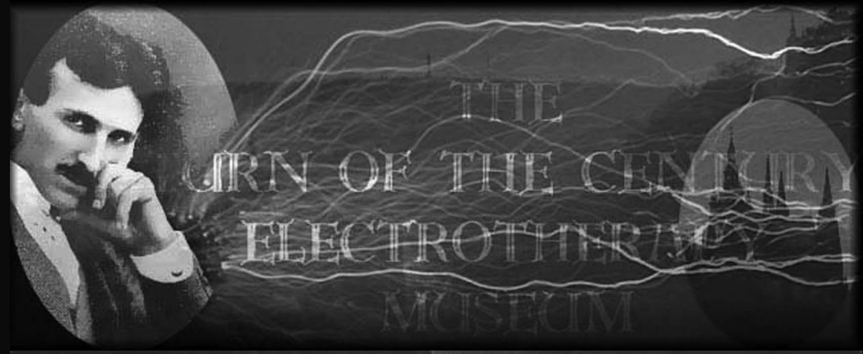
Are the interrupters of these apparatus a source of inefficiency?

"Contrary to what might be naturally expected, little trouble was experienced with the contacts, although the currents through them were heavy, namely, proper conditions of resonance existing, the great flow occurs only when the circuit is closed and no destructive arcs can develop. Originally I employed platinum and iridium tips but later I replaced them by some of meteorite and finally of tungsten. The last have given me the best satisfaction, permitting working for hours and days without interruption."

* *Compiled from Electrical Oscillators, Electrical Experimenter, July 1919.*



Ca. 1897 Tesla Oscillator
Illuminating an area of one square meter
by electrical effluves.
Current Consumption: 20 Watts at 110V (AC or DC)

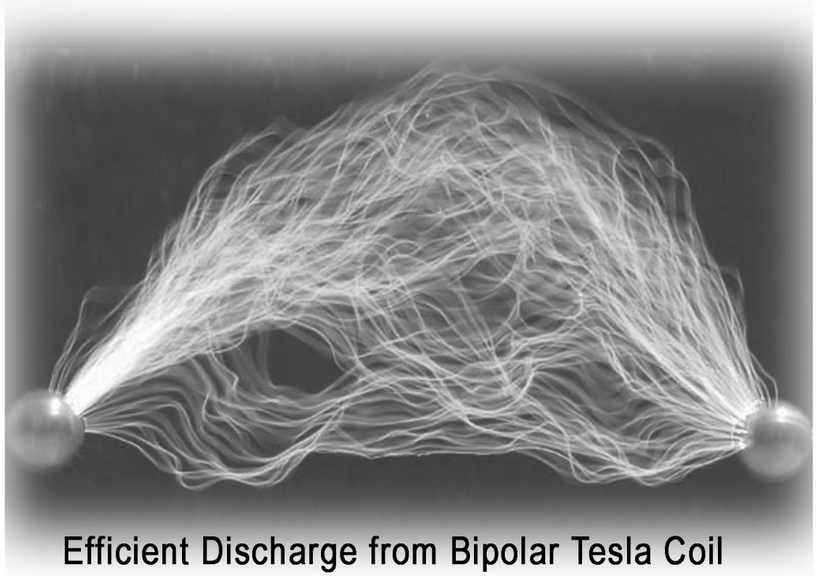


Redefining Tesla Technologies

Jeff Behary

c/o
The Turn Of The Century Electrotherapy Museum

Reproduction 1890s Tesla Oscillator



Efficient Discharge from Bipolar Tesla Coil

Thomas B Kinraide Collection

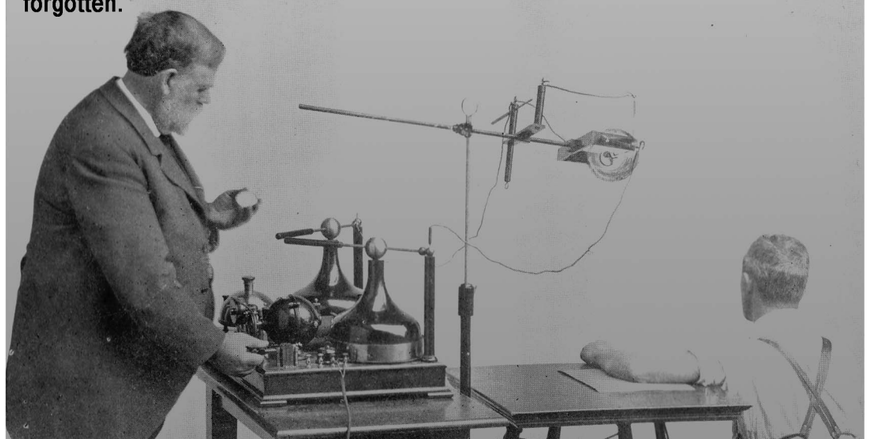
A Permanent Exhibit Of The Turn Of The Century Electrotherapy Museum

Forgotten Pioneer of Tesla Technologies:
Thomas Burton Kinraide (1864-1927)

The Turn Of The Century Electrotherapy Museum houses a special permanent exhibit of one of the century's most important pioneers of Tesla Technologies, Thomas Burton Kinraide. In his Jamaica Plain Laboratory he developed the concept of "Pancake Coils", a special variety of Tesla Coil in the form of a flat or multi-layered spiral. These coils produce discharges of much greater quantity and quality than standard Tesla Coils due to their efficient and unique design. Combining the recent discoveries of Tesla and Röntgen, Kinraide revolutionized the newly discovered field of X-Rays with his "Kinraide Coils". His work inspired Boston physician Frederick Finch Strong to begin studying the therapeutic effects of High Frequency Currents. Strong became a pioneer in this field, and developed Multi-Frequency Currents as well the famous glass vacuum electrodes for applying these currents to the human body. Kinraide also inspired S. H. Monell, an authorative physician who wrote over a dozen books on Electrotherapeutics and X-Rays.

One of the most unique exhibits of the museum are the remains of several hundred glass plate negatives of Electric Discharges made by Kinraide in the 1890s. These plates mark an epoch in science, showing for the first time the elaborate intricacy and varied detail of electrical discharges.

These plates were created by Kinraide with what is surely the rarest items of the museum: Eight of the earliest surviving Tesla Coils. These coils were recovered in Kinraide's underground Laboratory, which remained virtually untouched for over a century. It took over a decade of research to find these remains, and it has been a primary goal of the museum to restore and preserve such items, so that the work and lives of such important figures is never forgotten.



Preserving the work of Tesla and his contemporaries through example.
No fringe science. No free energy.
Real apparatus. Authentic Reproductions.

Please visit our website for over 2 Gigabytes of information on Forgotten Tesla Technologies. Countless photos, hundreds of patents and thousands of pages from original books, manuals, and texts.

The Turn Of The Century Electrotherapy Museum

http://www.electrotherapymuseum.com

Email: jeff_behary@hotmail.com