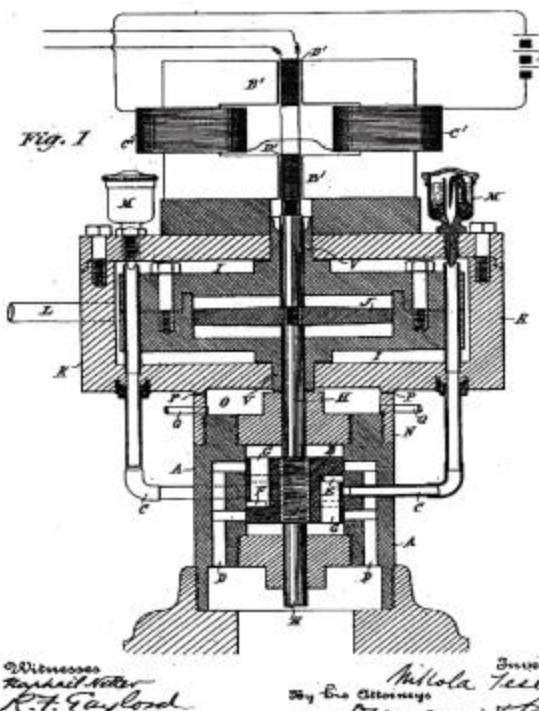




(No Model.)  
N. TESLA.  
ELECTRIC GENERATOR.  
No. 511,916.  
Patented Jan. 2, 1894.



Witnesses  
Fayard Stetson  
R. T. Gaylord

Inventor  
Nikola Tesla  
By his Attorney  
Duncan & Page.

Nikola Tesla

## **QEG SYSTEM DESCRIPTION**

**3-25-2014**

The Quantum Electric Generator system (QEG) is an adaptation of one of Nikola Tesla's many patented electrical generator / dynamo / alternator designs. The particular patent referenced is No. 511,916, titled simply "Electric Generator", and dated January 2, 1894 (see back of this manual). The adaptation is a conversion from a linear system, to a rotary system.

The QEG prototype is scaled to produce electrical power in the range of 10-15 kW (kilowatts) continuously, and can be set up to provide either 120 Volt or 230-240 Volt single phase output. We are also planning future designs to provide 3-phase power.

Service life of the device is limited only by certain replaceable components, such as bearings, v-belts, and capacitors. The basic machine should operate trouble-free (with minimal maintenance) for as long as any good quality electro-mechanical appliance, such as a quality washing machine or refrigerator. Heavy-duty mechanical components are used throughout for reliability.

The QEG is not a complicated device, as it is designed (like Tesla's other 'discoveries'), to work in harmony with natural laws, rather than with the power-wasting symmetric motor and generator designs used in today's mainstream industry.

An effective way to understand the operating principle of the QEG is to think of it as a high-powered, self-resonant oscillator (a power tank circuit), which generates high-voltage AC (15 to 25kV). These HV oscillations are then transformed into line voltage AC output, at current levels up to approximately 85 A. In today's alternative energy terminology, it would be called a type of resonance machine.

The circuitry that develops high power in this device is really based on an existing but under-utilized power oscillator configuration, however, the 'quantum' part of the design has to do with how the generator output is tuned for maximum power. Conventional alternators (AC generators) consume more input power than the output power they provide. For example, one brand of power take off (PTO) alternator uses 18,000 watts (24 horsepower) to develop 13,000 watts of output power. In the QEG, input power is used only to maintain resonance in the core, which uses a small fraction of the output power (under 1000 watts to produce 10,000 watts), and once running, the QEG provides this power to its own 1 horsepower motor. This is known as over-unity. Once the machine builds up to the resonant frequency, it powers itself (self-running).

In the QEG, the exciter coil is used to provide a conduction path through the quantum field (zero point) into the generator core. This has the effect of polarizing the core, which increases power output over time.

James M. Robitaille

# **NOTICE**

## **TO BE READ AND UNDERSTOOD BY ALL QEG PROJECT CREWS**

Fix the World (FTW) is not responsible for the actions of others. We can only tell you our experience. We have discovered it is essential that those wishing to build a QEG use careful thinking, patience, and consideration for the greater good.

The inhabitants of planet Earth are entering into a new paradigm and a new way of doing business. In honor of Nikola Tesla, the QEG is a gift freely given to the world, and FTW's involvement is strictly altruistic.

The QEG is an electromechanical device and as such, safety for the individual and end user should always be of prime concern. It is therefore essential that persons assembling the device are experienced in the field of electro-mechanical assembly. A considerable level of knowledge in quantum physics is also required.

**IF YOU ARE TRAINED IN TRADITIONAL PHYSICS, AND HAVE NOT BEEN DOING THIS WORK FOR MANY YEARS, YOU MUST FIRST DO YOUR RESEARCH ON BASIC QUANTUM ENERGY DEVICES AND HOW THEY WORK (e.g. resonance and tuning).**

Electrical / Mechanical devices are inherently dangerous. Electrical shock hazards can cause serious injury and in some cases death. Mechanical hazards can result in dismemberment and in some cases death.

Due diligence has been applied to ensure that the QEG instructions are complete and correct. All local and country-specific electrical and mechanical code implications, by which a QEG might be installed and operated, cannot possibly be known. Nor is it conceivable that any and all possible hazards and/or results of each procedure or method have been accounted for.

It is for these reasons that the QEG must be either directly installed or supervised by an experienced electromechanical engineer to ensure the installation is done safely and in accordance with local electrical code, however, the QEG is installed the same way as any commercial generator and does not violate any electrical codes. Anyone who uses the QEG installation instructions (including but not limited to any procedure or method of installation) must first satisfy themselves that neither their safety, nor the safety of the end user, will be endangered over the course of the installation and operation of the QEG.

**It is imperative to understand YOU NEED PROFESSIONALS AND EXPERT ADVICE to build a QEG.**

The installation instructions are designed to show how we have found the building of the device to be accomplished, and any negative outcomes that result are completely the responsibility of the person/company building it; FTW provides no guarantee for the successful installation of the QEG.

This notice serves the purpose of communicating the serious nature of building a quantum machine, as we are well aware that there have been severe restrictive agencies involved with their suppression. Quantum free energy isn't taught at University and most designers have heretofore been unsuccessful at mass distribution. It is YOUR RESPONSIBILITY therefore to make certain you are building the QEG with positive intentions for humanity, and lashing out legally or otherwise to FTW, HopeGirl and/or the designer and his family, is a violation of goodwill and will in no way be attended to. We know of no other way to do this but to go back to the "HONOR SYSTEM."

In reading this notice I agree that:

- 1) I WILL NOT ATTEMPT TO BUILD A QEG UNLESS I DO SO APPROPRIATELY WITH AN ELECTROMECHANICAL ENGINEERING PROFESSIONAL.
- 2) I WILL NOT COMMISSION (TURN ON) OR INSTALL THE QEG WITHOUT AN ELECTROMECHANICAL ENGINEERING PROFESSIONAL.
- 3) UNDER THE ABOVE CONDITIONS, I MAY USE THE QEG INSTALLATION INSTRUCTIONS FOR PERSONAL USE, AND UNDERSTAND THE NEED FOR IMPECCABLE COMMITMENT TO THE BETTERMENT OF HUMANITY. IN THE BEST INTEREST OF THE PEOPLE OF PLANET EARTH, I WILL NOT ATTEMPT TO MISUSE OR MONOPOLIZE THE QEG INSTALLATION INSTRUCTIONS IN ANY CAPACITY, NOR WILL I ATTEMPT TO MAKE A HUGE PROFIT AT THE EXPENSE OF ANOTHER HUMAN BEING.

**IMPORTANT – Please make certain that persons who are to use this equipment thoroughly read and understand these instructions and any additional instructions prior to construction, installation and operation. In addition, we require you to read this notice again when you are ready to assemble the core.**

Dear Builder,

It is no easy task to build the QEG, and we want to encourage you by offering a short treatise on the importance of ‘consciousness’ in this endeavor. Many are becoming more familiar with Nikola Tesla, his desire for all people to have access to free energy, and his failed attempt to expose this technology to the world. Many have followed him with the same aspirations and, similar to Tesla’s plight, have also been prevented by powers beyond their control. The “free” energy movement is rife with horror stories ranging from government theft of patents, to reputations destroyed, to the murder of untold numbers of brilliant scientists/inventors.

We must all consciously and constantly rise above these tyrannical infringements, and create an environment for ourselves and our neighbors, and rediscover Nature’s Laws to be able to live and thrive. We must leave off responding in incredulity to what was “done to us” when we were told and believed we couldn’t create free energy. We are now awake to the point that we know they were lying. Who’s they? The elite for starters – follow the money (watch [THRIVE](#)); J.P. Morgan couldn’t put a meter on an energy plan for the world, and so destroyed any chance of that happening through several vicious attacks on Tesla’s reputation and livelihood – basically got Tesla’s ideas out of the way for his own profit and power – and maliciously destroyed the man (youtube: [Tesla’s Autobiography](#)). While the electric companies have told the people theirs is the only way to get electricity, and we are dependent on them, the truth is that we have been deprived of this alternative (quantum) energy source for close to 130 years. Morgan’s grip on the energy supply has not loosened one bit in all that time, in fact, you are probably paying more for electricity than ever before, all things being equal.

So how do we effect our future now, and free ourselves and the generations to come after us completely from energy tyranny? Building the QEG is one way. It is a journey that requires you think deeply about processes that will, in turn, expand your senses to enable you to receive information from the quantum field of consciousness, or God if you prefer this reference. We believe we had Divine inspiration and help, which began with a burning desire to “get off the grid” and also do something significant for humanity. The timing is wonderful because, as of the writing of this, the entire planet is in turmoil as never before, and people will need to not only be self-sufficient, we will all need to live according to what is good for all (Ubuntu), and help each other for our continued evolution as species/planet.

It is with great love that the QEG is offered to the world, and as you take on the task of building one, it is hoped that this becomes your path also: the mission of free energy for all! The next step we ask you to take on your journey, before and during building, is to listen to the discussion here: <http://www.youtube.com/watch?v=3FqzTW7qh2U&feature=youtu.be> with HopeGirl, Ralph and Marsha Ring, Fernando Vossa and the 3D Global Network.

I am, in service to Gaia and its inhabitants, deeply grateful for this technology, and the opportunity to share it!

Valerie Robitaille

## **IMPORTANT ADDITIONAL INFORMATION**

We are not professional writers or photographers and didn't always have opportunities to document or photograph every step of development. Therefore, please take the level of engineer/electrical experience required to build a QEG very seriously as we are giving these to you under this premise. You will discover the advanced level of knowledge of mechanical/electrical processes needed quickly enough. The correct construction of the QEG requires patience and careful thought. We made several mistakes in development and have given here the steps that were successful. You will probably still make mistakes – and these will be your greatest learning opportunities as you gain more knowledge about this type of energy.

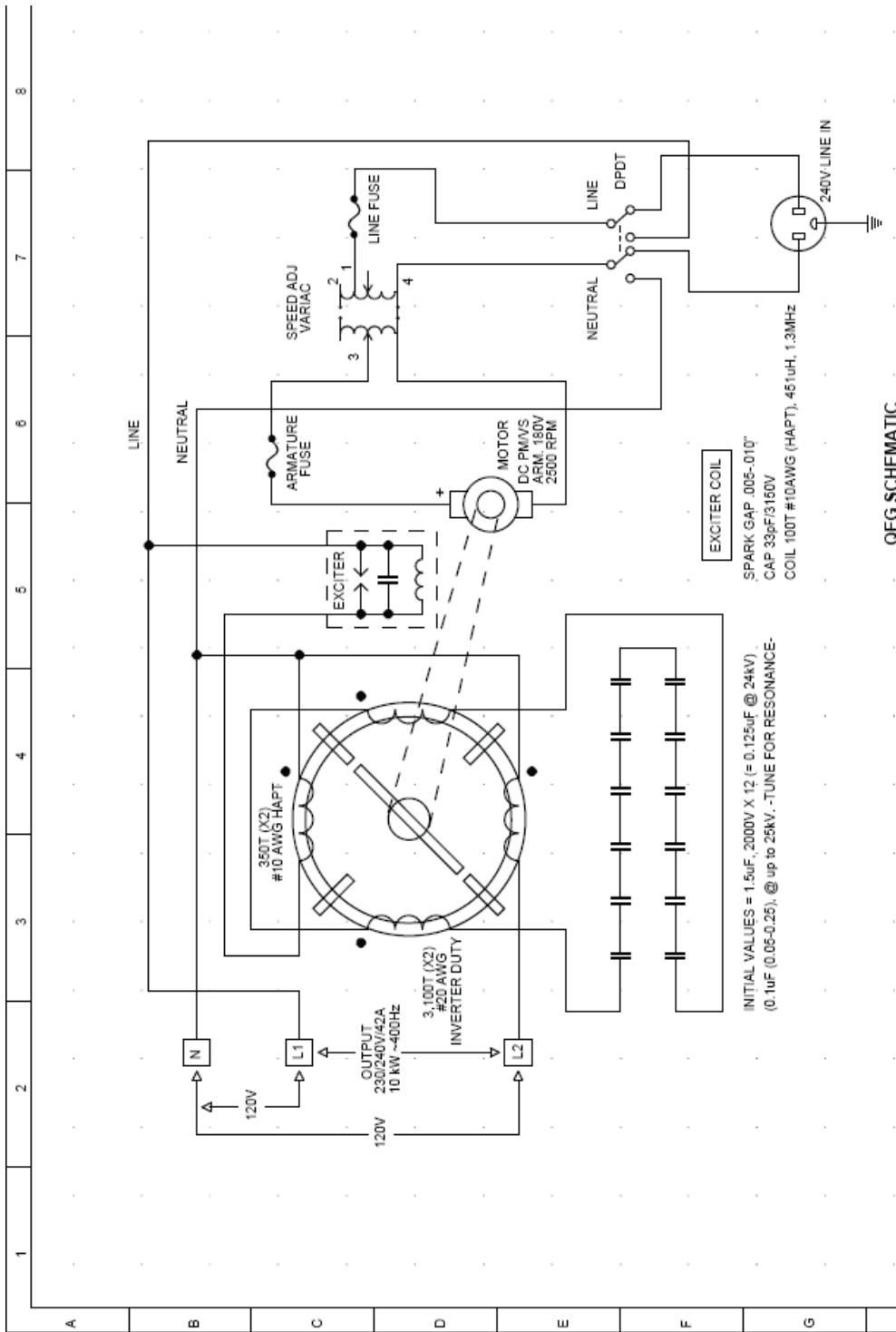
Before beginning to build, consider how much you would like to outsource to one of the cottage industry community units (CICUs) near you! In the US we recommend Polaris for the steel stator/rotor construction, and Torelco for toroidal winding. As FTW continues to roll out the distribution plan, and more connections across the world are made, we think CICUs will be commonplace and hence, QEG parts accessible (many people will be making them!)

When website URLs were available we provided links for the person reading this online. You may certainly use your own sources for materials but it is imperative you do not alter the instructions/parts herein if you are building a QEG. (We know with increased knowledge you will discover many applications for this technology.) When photographs can be shown to help you visualize a process, they are provided. Please remember, we are not professional manual writers. What we offer you here is free of charge and our gift to humanity – but it comes with great responsibility. Learn as much as you can, use discernment and wisdom, share freely, and you will be privileged to know the secrets of energy creation from the quantum field.

We would like to dedicate the success we've experienced to our first teacher, Sir Timothy Thrapp, and WITTS Ministries, without whose guidance none of this would be available so soon. We acknowledge and honor the work WITTS has done for over 200 years bringing technology forward, and hope that you will consider making a donation to the ministry for their great work.

We would also like to thank our greatest teacher and fellow humanitarian, Nikola Tesla. It is our most gratifying honor to present modern plans for a quantum energy generator to the world, based on Tesla's discoveries, especially at a time when we the people are being manipulated and controlled by a corrupt energy economy. Tesla wanted everyone on the planet to have energy. We continue to carry out his vision.

## SCHEMATIC



## Parts List

<b>Part</b>	<b>Type, Model # or MFG PN</b>	<b>Quantity</b>
<b>Capacitors</b>		
Ceramic Disc Capacitors	15pF 3150volts	2
Film Capacitors	2.5uF 2000V	12
<b>End Plates and Shrouds</b>		
Fiberglass reinforced epoxy laminate (for 2 end plates)	G10/FR4	(1) sheet ½ inch thick by 3 feet by 4 feet
Fiberglass reinforced epoxy laminate (shrouds)	G10/FR4	(2) 1/8" x 5.875" diameter
<b>Exciter Coil</b>		
Clear Cast Acrylic Tube	4-3/4" OD x 4-1/2" ID, 1' Length	1
#10 Magnet wire (see generator core)		
<b>V-Belts and Pulleys</b>		
Goodyear 4L430 V-Belt	GDYR_4L430	1
1 Groove, 3" x 7/8" bore, type A Pulley (Motor)	AK30 x 7/8	1
1 Groove 2.50" Pulley 7/8" bore type A (Generator)	AK25X7/8	1
<b>Drive Motor</b>	DC PM Variable Speed, 2500 RPM, 180V armature, 7/8" shaft, with base	1
<b>Generator Core</b>		
Spacer Blocks 1-1/2" x 1-1/2" x 4-1/2"	Aluminum 6061-T6	16
Mica Tape 1.00" x 50YD	MICA77956X1X50	1
Bonder for shaft/rotor	LOCTITE 648	1
7387 Activator (use with bonder)		1.75oz
Mica Plate NEMA 6	36" x 36" x .030	1
7/8" Three Bolt Flange Bearings	SATRD205-14G	2
Magnet Wire #10 Round HPT or HAPT		~620'
Magnet Wire #20 Round Pulse Shield	HTAIHSD 6" SPL/060-Heavy MW35, 73, 36	~5200'

Teflon tubing	TFT20019 NA005 (Alpha Wire)	8 pieces (12" each)
Fiberglass sleeving w/PVC for #10 HAPT wire (tubing)	PF1308	8 pieces (12" each)
Tape, white, 1"fiberglass, hi-temp (outer wrap)	RG48 (Intertape)	2 rolls
Tape, black, 1" reinforced, high-strength	60020719 (Von Roll)	2 rolls
Nomex Corner Insulation	Torelco	16
Shafting 7/8" dia. x 11.0" long w/standard 3/16" x 3/32" keyway	C1045 TGP Trukey	7/8" dia. x 11"
8 inch Bolts, 1/4 - 28 thread, Grade 8	1050095555 (Instock Fasteners)	8
<b>Electrical Terminals</b>		
Assorted ring, spade, and quick connect terminals		
<b>Additional Parts</b>		
Variac, 120/240V in, 0-280V out, 9.5 Amps	Type 1520 (STACO)	1
Console Box w/panel	1456FG4BKB (Hammond Mfg.)	1
Plexiglass sheet for mounting 2.5uF capacitors	1/4 inch thick by 12 inches sq.	1
Electrical box	4" x 4"	1
50 amp plug		1
50 amp receptacle		1
Switch, start/run	DPDT center off, 15 amp, 240V	1
Bridge Rectifier	600 volt, 25 Amp., quick connect terminals	1
Nuts	1/4 - 28 Grade 8	8
Washers	1/4 " flat	16
<b>Frame and Base</b>		
Angle aluminum	1 1/2" x 1 1/2" x 4 feet. 1/8" thk.	1

## Suppliers and Parts/Service List

[POLARIS LASER LAMINATIONS](#) – Generator Core; Rotor

[TORELCO](#) – Toroidal winding service and complete core processing ready to ship

[FASTENAL](#) – Retaining (bonding) compound (Loctite 648: bonds rotor to shaft) with activator

[EIS – Mica tape](#); 20 gauge Magnet wire

[S & W](#) – 10 gauge Magnet wire

INDUSTRIAL SENSORS AND CONTROLS (ebay) – Motor controller KBIC-240D variable speed DC motor controller; Resistor

[MOUSER](#) – Capacitors, Enclosures, Variac, Rectifiers, Start/Run switch

JDS (ebay) – V belt; pulleys

[EMCO PLASTICS](#) – End plates

[ASHEVILLE-SCHOONMAKER MICA](#) – Mica plates

[DISCOUNT STEEL](#) – Aluminum squares (spacers)

[BRIGHTON BEST](#) – 8 in. bolts

MCMASTER-CARR – Clear acrylic tube for exciter coil

LAKE CITY ELECTRIC (ebay) – Variable speed DC Motor (1 hp)

[THE BIG BEARING STORE](#) – 7/8" Three Bolt Flange Bearing w/set screws

## Additional Parts

High-temperature fiberglass tape (outer wrap)

4" x 4"electrical box

50 amp plug

50 amp receptacle

Black fiberglass sleeving (pvc-coated)

Black mylar insulating tape

Wood or welded steel tubular frame for base

12 - TPC Thomson / AVX Medium Power Film Capacitors

Angle aluminum

Start/run switch

## **MAJOR GENERATOR COMPONENTS**

- Stator
- Rotor
- Bearings
- V belts
- Capacitors
- External exciter coil
- End panels/plates
- Magnet wire
- Drive motor
- Control box
- Frame and packaging
- Variac
- Inverter
- Pulleys

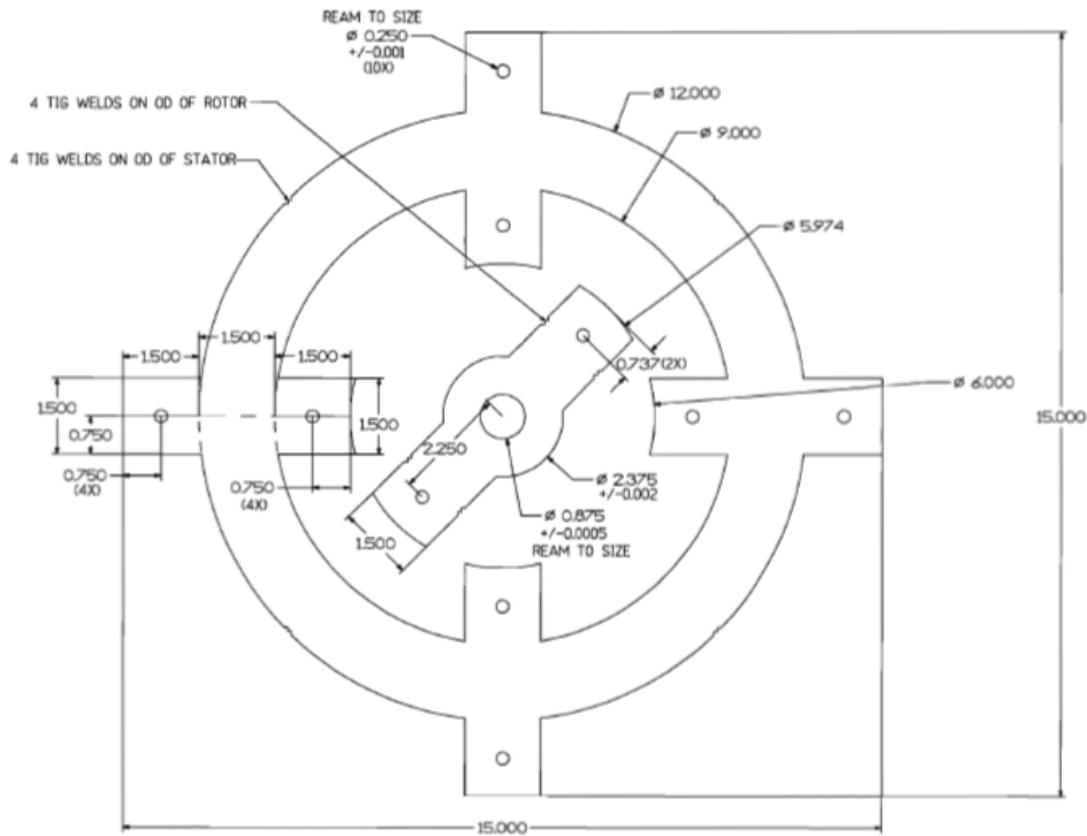
**THE STATOR**, or generator core, is made using 140 laminations of 24 gauge M19 C5 electrical steel forming a stack of 3 - ½ inches, with a 4 pole configuration. Corresponding **ROTOR** with 2 poles. Both STATOR and ROTOR are tig welded in 4 places.

## GENERATOR STATOR AND ROTOR

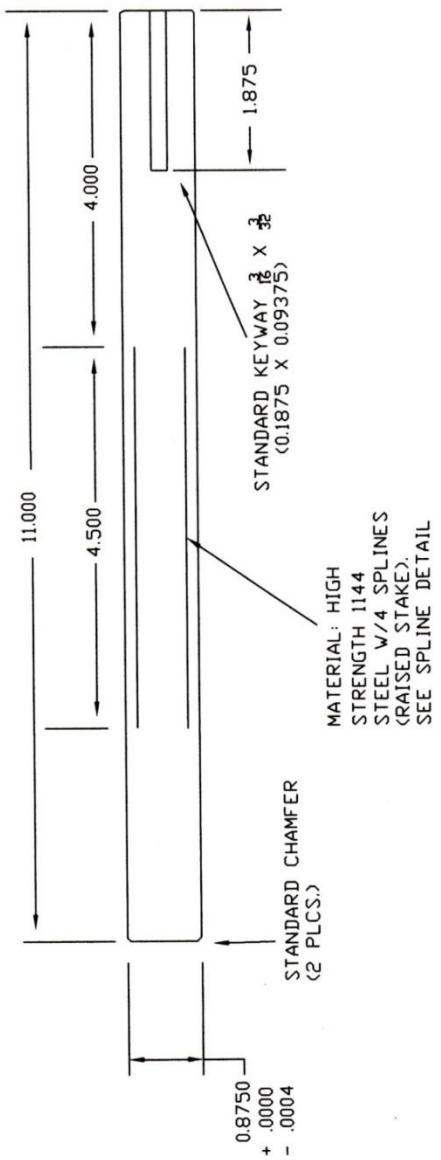
DRAWING # 7410-1

USE MATERIAL : 24GA / M19C5 (0.025")

STACK AND TIG WELD STATOR AND ROTOR TO : 3.500"+/-1 LAMINATION LENGTH

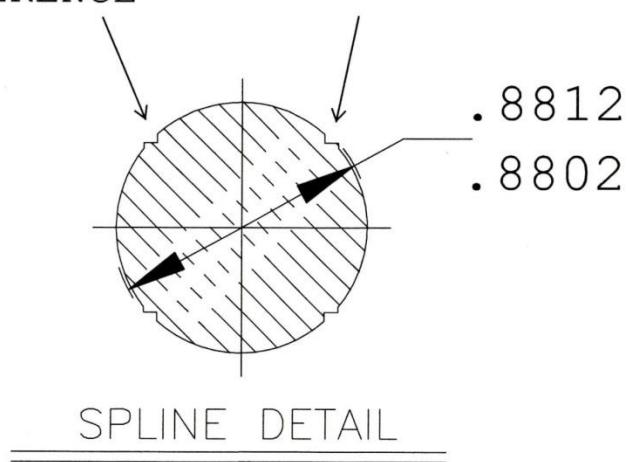


## Shaft



### Shaft cont'd\*

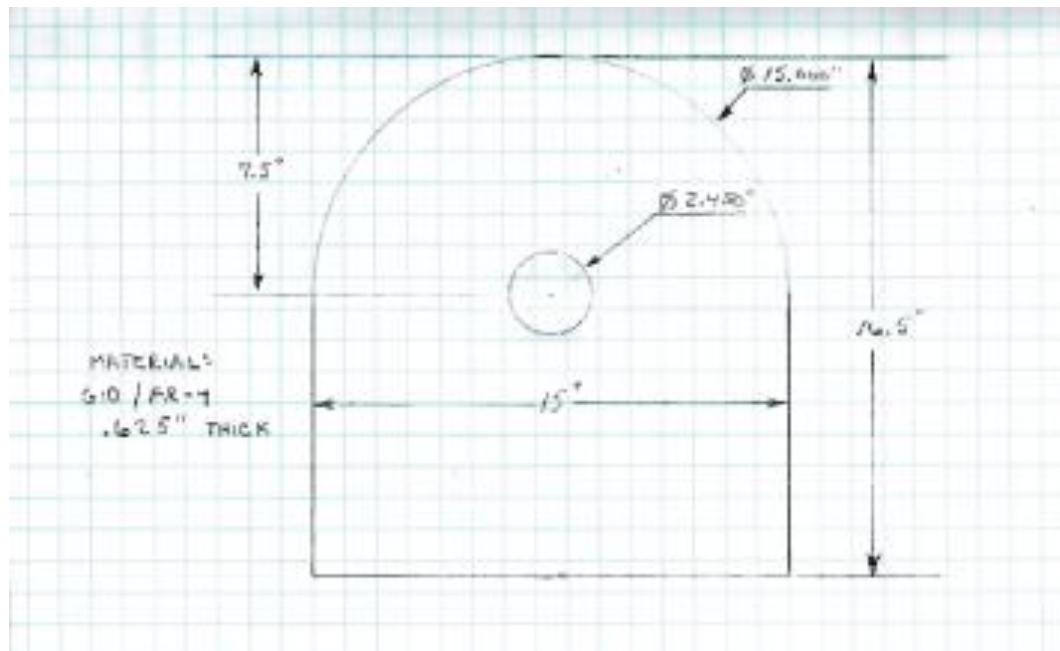
4 SPLINES (RAISED STAKE)  
EQUIDISTANT AROUND SHAFT  
CIRCUMFERENCE



\* We didn't use the splines, rather, we used Loctite 648 retaining compound to bond the rotor to the shaft. This technique works very well with a close slip fit between the parts.

## End Plates

Fiberglass reinforced epoxy laminate (FR-4/G10) is used for end plate construction. End plates must be constructed of insulating material, but must also be structurally strong as they support all generator components, including bearings, shaft, rotor and stator. FR4 is the same material used to make circuit boards and is very strong, machinable, and dimensionally stable. Dimensions: End Plates: .500" Thk. G10/FR-4 15" X 16.5" with 15" radius and 2.450" center hole.



## Bearings

The bearings should have a narrow inner ring with set screws for attaching to the shaft. Housing is cast iron with a grease zerk for re-lubing the bearing. We used a 3-bolt flange type mount, but 2-hole or 4-hole can also be used. Bearings are mounted on the inside of the end plates toward the rotor.

## Capacitors

The capacitors are a critical part of the system. The initial configuration on our prototype uses 12 caps, 2.5uF (microfarad) each. Each cap is rated for 2000V. These capacitors are wired in series in order to be able to withstand up to 25,000V in the primary circuit. The value and quantity of these capacitors will be adjusted to tune the frequency of the generator.

## **Variac**

The variac is used to control the drive motor speed which effectively controls the system power. It's used during construction/tuning, and prior to self-running set-up when it can be replaced with the smaller, lighter electronic motor drive circuit board.

## **Drive motor control circuit board**

The drive motor control circuit board is an industry standard SCR type DC motor drive manufactured by KB Electronics. The control board can be mounted in the console box we have included in the parts list, and is provided with a speed control potentiometer for adjusting motor speed.

## **End Plate Layout**

We used the bare core as a template to drill all the core mounting holes in the proper locations on the end plates. After end plates are cut and finished, place one on a flat work surface that will support 100 lbs. Place the bare core over end plate, aligning the center bore of the core with the center hole in the end plate. Make sure the pole pieces are right to the edge of the radius at the top of the end plate. We used an extra long drill bit to drill the 8 mounting holes. Repeat this process for the other end plate.

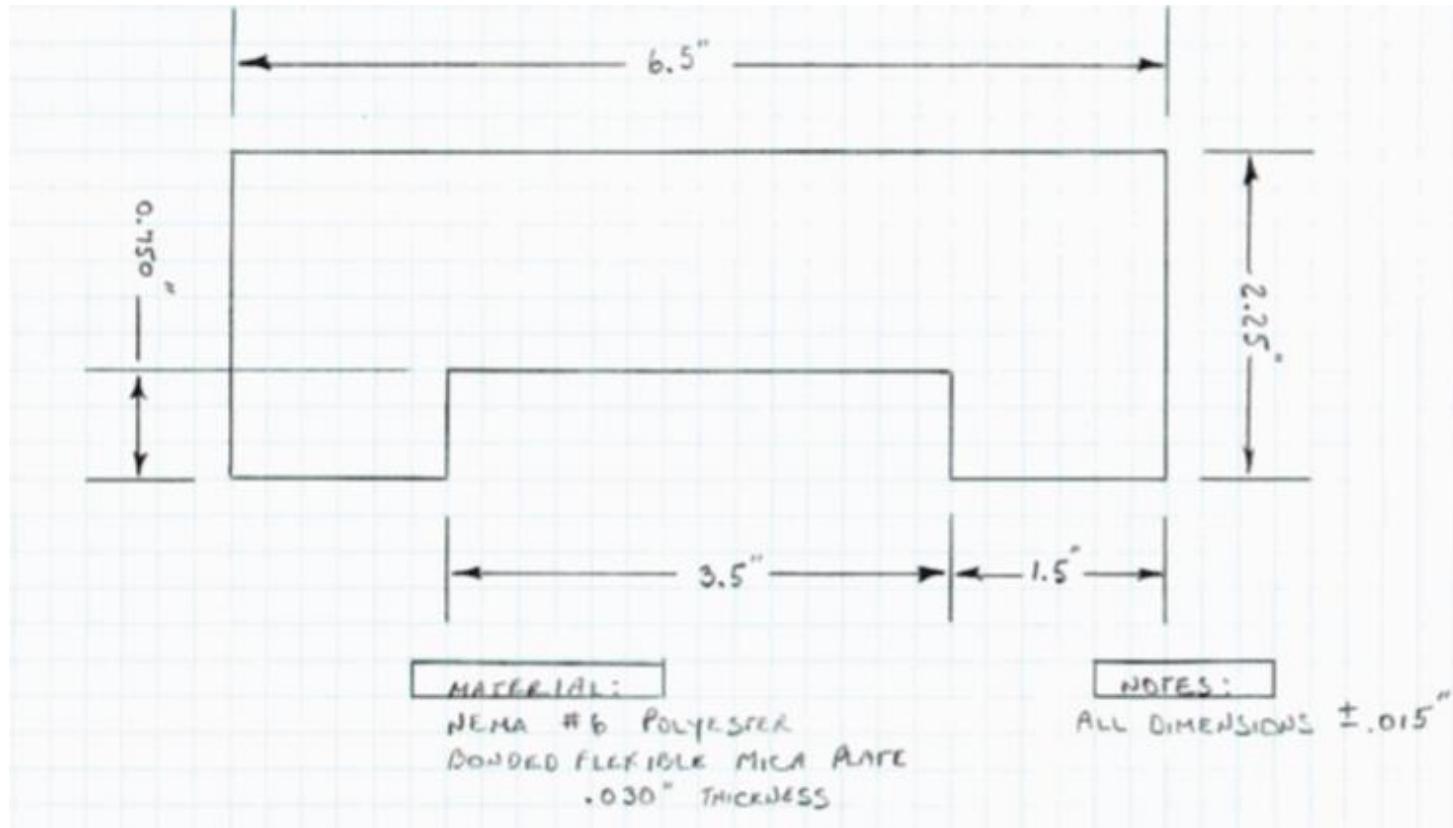
Alternately, a long pin could be used as a center punch to mark hole locations and drill the holes using a drill press. If using the core as a template be sure to make assembly marks on the core and the end plate so that final assembly will have all the parts in the same orientation and the mounting bolts will go through without binding. Be sure to mark the in-facing and out-facing sides of each panel.

# CORE ASSEMBLY

**This is the time to review the NOTICE and section on consciousness at the beginning.**

We highly recommend ordering your generator set (stator and rotor) from an experienced professional lamination house. When your stator/rotor is welded and drilled, you are ready to bolt down the 8 spacers and wrap the core with 2 types of tape: Wrap 2 layers mica tape around the steel core (round part) followed by 1 layer of 1" reinforced, high-strength black tape. These 3 layers will bring the thickness needed for insulation to 17 mil (be very mindful at the corners of the pole pieces making certain there is no opening in the insulation for the wire to fall down into contact with the steel. If this happens, the coil will be short-circuited).

## Mica Plate Cuts (16 pieces)



### **Installing Mica Plates**

After you've cut 16 c-shaped mica plates, install them on the top and bottom of each pole piece (front and back). We used a small amount of contact cement to hold them in place for the rest of the processing, but they can also be taped in place with the reinforced black mylar tape. These are installed after core taping and before winding.

### **Wiring**

You will need to commission a toroidal winding service. They might agree to process the entire core if you supply the materials (mica tapes and plates, corner insulation, aluminum spacers, bolts, outer taping, etc.). Proper winding is critical.

Teflon sleeving is installed on the first complete turn of each winding of the #20 wire, and fiberglass/PVC sleeving on the #10 wire. Two coils of 3100 turns each of #20 wire are wound o'n opposing sides (left and right), and 2 coils of 350 turns each of #10 wire on the other sides (top and bottom). Leave about 3 feet of wire at the start of each winding and also at the finish for lead wires. Use enough sleeving to make sure the lead wires are completely insulated where they come through the back end panel. Be sure to secure the finish leads of each coil so that they don't unravel during handling.

### **Outer Wrap Taping**

Wrap a single layer of 1" white fiberglass tape tightly and securely around each coil making sure that all wire is covered and tape is butted up against the 4 pole pieces.

## **Generator Assembly Steps**

### **Rotor/Shroud Assembly**

Drawings are provided for the shaft showing an optional spline operation that can be used to mount the rotor to the shaft, if desired. We used Loctite 648 industrial adhesive (with activator), which is effective with close fitting parts.

Drill a 7/8" center hole, and two 1/4" mounting holes into the shroud disks (mounting holes are lined up with the holes in the rotor). Slide one disk onto the shaft on each side of the rotor. Bolt both shrouds to the rotor using two 4" or 4-1/4" long 1/4 - 28 through-bolts and nuts. These bolts should not be any

longer than necessary or a rotor imbalance can occur. Shrouds are used to quiet the windage noise generated by the spinning rotor.

## Bearings

Mount bearings to the *inside* of the front and rear end plates. Center each bearing on the 2.450" hole in the center of the plate. Drill the holes oversize for the mounting bolts. This is done to provide adjustability in the position of the shaft at final assembly. The bearings will have to be moved slightly to center the rotor in the bore of the generator. The gap between rotor and stator is very small (.010") and the rotor will need to be positioned so it does not rub on the stator bore. Only tighten finger tight at this time.

We opted to bring the leads from the coils out directly through holes drilled in the rear end plate. You may decide to bring the leads out a different way. Here are the steps for our method:

- 1) Insert all 8 bolts into the rear end plate, then lay the plate down on a flat work surface with the bolts pointing up. The work surface should have a hole under the center hole in the end plate to provide clearance when the rotor is inserted. About 1 ½ inches of clearance is needed below the plate.
- 2) With an assistant or two, place the fully processed core (about 90 lbs.) down onto the bolts. Slide the core all the way down into contact with the end plate.
- 3) Insert the short end of the rotor/shaft/shroud assembly through the stator bore and into the rear bearing. Let the rotor assembly drop gently to the bottom and place the front end plate with bearing over the bolts and shaft end. Tap into place with rubber mallet if necessary. Once plate is in contact with stator assembly, install washers and nuts and tighten securely.
- 4) With assistance, place the assembly upright onto the raised portion of the base. We used 5 lag bolts across the bottom of the end plates on each side to mount the assembly to the wood base/frame. Other methods could be employed.
- 5) Mount the drive motor to the base/frame. We mounted the shaft end of the motor onto the aluminum angle on the front of the base with one bolt to provide adjustability for belt tightening. We built a sliding mount for the rear of the motor using sheet metal parts, but sliding motor bases are commercially available that provide adjustability for proper belt tensioning.
- 6) When the motor is mounted to the base, install 3" pulley on motor shaft using set screws.
- 7) At this point the rotor position should be adjusted so that it spins freely inside the core without rubbing. This is where you may need to adjust the bearing positions repeatedly until the rotor spins freely. (The gap between the rotor and stator is .010" making this step a little delicate.) however, once the rotor is tightened in position it does not tend to move. Place the 2 ½" pulley on the generator shaft at this time; it can be used to turn the rotor by hand while adjusting its position.

- 8) Place the V-belt over both pulleys and position pulleys as close to the motor and the generator as possible. Both pulleys should be positioned an equal distance from the faces of the motor and generator to assure that the belt runs true.
- 9) The variac can be mounted on the base at this time. We used two 1/4 – 20 x 1" bolts with nuts to mount the variac to the aluminum angle. After all the components are mounted on the base, wiring and testing will be performed using the variac. (After set-up and testing is completed, the variac can be replaced with the electronic motor control circuit board for less bulk and weight. The console box in the parts list can be used as an enclosure/control panel for the motor speed control board, and for mounting the DPDT start/run switch.)
- 10) With all components mounted on the base, wiring can begin. Please follow the schematic to make connections. We mounted a 4" x 4" electrical box on the base to support a large (50 Amp) receptacle to bring the power out of the generator.

**Wiring Notes:** The generator output can be wired in series (220, 230-240V), or parallel (110, 115, 120V). For the series connection shown on the schematic, the start leads from each coil are connected together. This connection provides the highest voltage output from the windings. If using a parallel connection for lower voltage/higher current, be careful to connect the four leads with polarity opposed (start lead of one coil connected to finish lead of other coil).

The variac we used can be wired for 120 or 240 volt input, and provides 0-280 volts output, at up to 9.5 amps. This is a versatile variac and can be used with either a 120 or 240 volt system. The output of the variac is connected to a 600 volt, 25 Amp full-wave bridge rectifier to power the variable speed DC drive motor.

### **Set-up and testing**

Starting with the wiring setup as shown in the schematic, disconnect the primary coils from the series capacitor string on one end (disconnect capacitors). This will prevent resonance momentarily.

Connect input power to the variac. We started with a full 240 volt series wired system, but parallel 120 volt wiring can also be used.

Test mechanical assembly by spinning up the motor/rotor/belt and observing operation. Adjust variac voltage from zero to about ¾ through its range. The active rpm range is under 2500 rpm, so we don't need to spin very fast. Assure there is no stack rub (rotor scrubbing on stator), or other mechanical issues that need to be corrected for smooth operation.

When proper mechanical operation is assured, re-connect the series capacitor bank. The initial configuration of 12 (twelve) 2.5 uF, 2000 volt capacitors gives us .208uF, that will withstand up to 24,000 volts. This initial value should be in the range to produce resonance.

As the machine spins up to resonance, the sound will change, and the rotor speed will lock into the resonant frequency. At this point any further increase of the motor speed control will change the speed only slightly, but the additional mechanical power (horsepower) will drive the core deeper into resonance, thereby increasing the power output. With a single control, the voltage and current (power) can be increased or decreased.

As previously mentioned, the exciter coil is used to provide a conduction path through the quantum field (zero point) into the generator core. This has the effect of polarizing the core, which increases power output over time. After the QEG is first built, the spark gap on the exciter coil should be adjusted (with power off) to between .005" and .010". Start the generator and let it spark for 2-3 seconds, and repeat this 4 or 5 times. Do this whenever starting the generator for the first few weeks of operation.



BEARINGS



SHROUDS



CAPACITORS



WOUND CORE



ACRYLIC TUBING & PLATE



MICA TAPING



MOTOR



EXCITER COIL



ASSEMBLY MARKS



MICA PLATING TOP



MICA PLATING BOTTOM



FIBERGLASS SLEEVING



MOTOR CONTROL BOX

ASSEMBLY MARKS



SHAFT



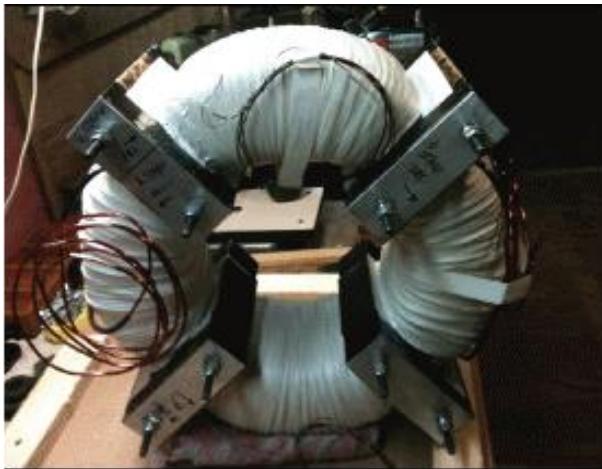
ROTOR & SHAFT



CAPACITORS



VARIAC



FULLY WRAPPED CORE



END PANEL FRONT



END PANEL REAR



OUTER WRAP



TOROIDAL WINDER



STATOR



ELECTRICAL BOX



END PLATES



WOOD FRAME



WRAPPED CORE-END PLATES



STATOR/ROTOR/SHAFT



WIRED CORE





MOTOR CONTROLLER



20 GAUGE MAGNET WIRE



10 GAUGE MAGNET WIRE



SPACER BLOCKS

# UNITED STATES PATENT OFFICE.

NIKOLA TESLA, OF NEW YORK, N. Y.

## ELECTRIC GENERATOR.

SPECIFICATION forming part of Letters Patent No. 511,918, dated January 2, 1894.

Application filed August 19, 1893. Serial No. 483,562. (No model.)

To all whom it may concern:

Be it known that I, NIKOLA TESLA, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Electric Generators, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

10 In an application of even date herewith, Serial No. 483,563, I have shown and described a form of engine invented by me, which, under the influence of an applied force such as the elastic tension of steam or a gas under 15 pressure, yields an oscillation of constant period.

In order that my present invention may be more readily understood I will explain the conditions which are to be observed in order 20 to secure this result.

It is a well known mechanical principle that if a spring possessing a sensible inertia be brought under tension, as by being stretched, and then freed, it will perform vibrations which are isochronous, and as to period, in the main, dependent upon the rigidity of the spring, and its own inertia or that of the system of which it may form an immediate part. This is known to be true in all 25 cases where the force which tends to bring the spring or movable system into a given position is proportionate to the displacement.

In the construction of my engine above referred to I have followed and applied this 30 principle, that is to say, I employ a cylinder and a piston which in any suitable manner I maintain in reciprocation by steam or gas under pressure. To the moving piston or to the cylinder, in case the latter reciprocates 35 and the piston remains stationary, a spring is connected so as to be maintained in vibration thereby, and whatever may be the inertia of the piston or of the moving system and the rigidity of the spring relatively to each other, 40 provided, the practical limits within which the law holds true that the forces which tend to bring the moving system to a given position are proportionate to the displacement, are not exceeded, the impulses of the power impelled 45 piston and the natural vibrations of the spring 50 will always correspond in direction and coincide in time. In the case of the engine referred

to, the ports are so arranged that the movement of the piston within the cylinder in either direction ceases when the force tending to impel it and the momentum which it has acquired are counterbalanced by the increasing pressure of the steam or compressed air in that end of the cylinder toward which it is moving, and as in its movement the piston has shut off at 55 a given point, the pressure that impelled it and established the pressure that tends to return it, it is then impelled in the opposite direction, and this action is continued as long as the requisite pressure is applied. The length of 60 the stroke will vary with the pressure, but the rate or period of reciprocation is no more dependent upon the pressure applied to drive the piston, than would be the period of oscillation of a pendulum permanently maintained 65 in vibration, upon the force which periodically impels it, the effect of variations in such force being merely to produce corresponding variations in the length of stroke or amplitude of vibration respectively. 75

In practice I have found that the best results are secured by the employment of an air spring, that is, a body of confined air or gas which is compressed and rarefied by the movements of the piston, and in order to secure a spring of constant rigidity I prefer to employ a separate chamber or cylinder containing air at the normal atmospheric pressure, although it might be at any other pressure, and in which works a plunger connected 80 with or carried by the piston rod. The main reason why no engine heretofore has been capable of producing results of this nature is that it has been customary to connect with the reciprocating parts a heavy fly-wheel or 85 some equivalent rotary system of relatively very great inertia, or in other cases where no rotary system was employed, as in certain reciprocating engines or tools, no regard has been paid to the obtaining of the conditions 90 essential to the end which I have in view, nor would the pressure of such conditions in said devices appear to result in any special advantage. 95

Such an engine as I have described affords 100 a means for accomplishing a result heretofore unattained, the continued production of electric currents of constant period, by imparting the movements of the piston to a core or

coil in a magnetic field. It should be stated however, that in applying the engine for this purpose certain conditions are encountered which should be taken into consideration in order to satisfactorily secure the desired result. When a conductor is moved in a magnetic field and a current caused to circulate therein, the electro-magnetic reaction between it and the field, might disturb the mechanical oscillation to such an extent as to throw it out of isochronism. This, for instance, might occur when the electro-magnetic reaction is very great in comparison to the power of the engine, and there is a retardation of the current so that the electro-magnetic reaction might have an effect similar to that which would result from a variation of the tension of the spring, but if the circuit of the generator be so adjusted that the phases of the electro-magnetic force and current coincide in time, that is to say, when the current is not retarded, then the generator driven by the engine acts merely as a frictional resistance and will not, as a rule, alter the period of the mechanical vibration, although it may vary its amplitude. This condition may be readily secured by properly proportioning the self induction and capacity of the circuit including the generator. I have, however, observed the further fact in connection with the use of such engines as a means for running a generator, that it is advantageous that the period of the engine and the natural period of electrical vibration of the generator should be the same, as in such case the best conditions for electrical resonance are established and the possibility of disturbing the period of mechanical vibrations is reduced to a minimum. I have found that even if the theoretical conditions necessary for maintaining a constant period in the engine itself are not exactly maintained, still the engine and generator combined will vibrate at a constant period. For example, if instead of using in the engine an independent cylinder and plunger, as an air spring of practically constant rigidity, I cause the piston to impinge upon air cushions at the ends of its own cylinder, although the rigidity of such cushions or springs might be considerably affected and varied by the variations of pressure within the cylinder, still by combining with such an engine a generator which has a period of its own approximately that of the engine, constant vibration may be maintained even through a considerable range of varying pressure, owing to the controlling action of the electro-magnetic system. I have even found that under certain conditions the influence of the electro-magnetic system may be made so great as to entirely control the period of the mechanical vibration within wide limits of varying pressure. This is likely to occur in those instances where the power of the engine while fully capable of maintaining a vibration once started, is not sufficient to change its rate. So, for the sake of illustration, if a pendulum is started in vibration,

and a small force applied periodically in the proper direction to maintain it in motion, this force would have no substantial control over the period of the oscillation, unless the inertia of the pendulum be small in comparison to the impelling force, and this would be true no matter through what fraction of the period the force may be applied. In the case under consideration the engine is merely an agent for maintaining the vibration once started, although it will be understood that this does not preclude the performance of useful work which would simply result in a shortening of the stroke. My invention, therefore, involves the combination of a piston free to reciprocate under the influence of steam or a gas under pressure and the movable element of an electric generator which is in direct mechanical connection with the piston, and it is more especially the object of my invention to secure from such combination electric currents of a constant period. In the attainment of this object I have found it preferable to construct the engine so that it of itself controls the period, but as I have stated before, I may so modify the elements of the combination that the electro-magnetic system may exert a partial or even complete control of the period.

In illustration of the manner in which the invention is carried out I now refer to the accompanying drawings.

Figure 1 is a central sectional view of an engine and generator embodying the invention. Fig. 2 is a modification of the same.

Referring to Fig. 1 A is the main cylinder in which works a piston B. Inlet ports C C pass through the sides of the cylinder opening at the middle portion thereof and on opposite sides. Exhaust ports D D extend through the walls of the cylinder and are formed with branches that open into the interior of the cylinder on each side of the inlet ports and on opposite sides of the cylinder. The piston B is formed with two circumferential grooves E F which communicate through openings G in the piston with the cylinder on opposite sides of said piston respectively.

The particular construction of the cylinder, the piston and the ports controlling it may be very much varied, and is not in itself material, except that in the special case now under consideration it is desirable that all the ports, and more especially the exhaust ports should be made very much larger than is usually the case so that no force due to the action of the steam or compressed air will tend to retard or affect the return of the piston in either direction. The piston B is secured to a piston rod H which works in suitable stuffing boxes in the heads of the cylinder A. This rod is prolonged on one side and extends through bearings V in a cylinder I suitably mounted or supported in line with the first, and within which is a disk or plunger J carried by the rod H. The cylinder I is without ports of any kind and is air-tight except as a

- small leakage may occur through the bearings V, which experience has shown need not be fitted with any very considerable accuracy. The cylinder I is surrounded by a jacket K which leaves an open space or chamber around it. The bearings V in the cylinder I, extend through the jacket K to the outside air and the chamber between the cylinder and jacket is made steam or air-tight as by a suitable packing. The main supply pipe L for steam or compressed air leads into this chamber, and the two pipes that lead to the cylinder A run from the said chamber, oil cups M being conveniently arranged to deliver oil into the said pipes for lubricating the piston. In the particular form of engine shown, the jacket K which contains the cylinder I is provided with a flange N by which it is screwed to the end of the cylinder A. A small chamber O is thus formed which has air vents P in its sides and drip pipes Q leading out from it through which the oil which collects in it is carried off.
- To explain now the operation of the engine described, in the position of the parts shown, or when the piston is at the middle point of its stroke, the plunger J is at the center of the cylinder I and the air on both sides of the same is at the normal pressure of the outside atmosphere. If a source of steam or compressed air be then connected to the inlet ports C C of the cylinder A and a movement be imparted to the piston as by a sudden blow, the latter is caused to reciprocate in a manner well understood. The movements of the piston compress and rarefy the air in the cylinder I at opposite ends of the same alternately. A forward stroke compressed the air ahead of the plunger J which acts as a spring to return it. Similarly on the back stroke the air is compressed on the opposite side of the plunger J and tends to drive it forward. The compressions of the air in the cylinder I and the consequent loss of energy due mainly to the imperfect elasticity of the air, give rise to a very considerable amount of heat. This heat I utilize by conducting the steam or compressed air to the engine cylinder through the chamber formed by the jacket surrounding the air-spring cylinder. The heat thus taken up and used to raise the temperature of the steam or air acting upon the piston is availed of to increase the efficiency of the engine. In any given engine of this kind the normal pressure will produce a stroke of determined length, and this will be increased or diminished according to the increase of pressure above or the reduction of pressure below the normal.
- In constructing the apparatus proper allowance is made for a variation in the length of stroke by giving to the confining cylinder I of the air spring properly determined dimensions. The greater the pressure upon the piston, the higher the degree of compression of the air-spring, and the consequent counteracting force upon the plunger. The rate or period of reciprocation of the piston, however, is mainly determined as described above by the rigidity of the air spring and the inertia of the moving system, and any period of oscillation within very wide limits may be secured by properly portioning these factors, as by varying the dimensions of the air chamber which is equivalent to varying the rigidity of the spring, or by adjusting the weight of the moving parts. These conditions are all readily determinable, and an engine constructed as herein described may be made to follow the principle of operation above stated and maintain a perfectly uniform period through very wide limits of pressure.
- The pressure of the air confined in the cylinder when the plunger J is in its central position will always be practically that of the surrounding atmosphere, for while the cylinder is so constructed as not to permit such sudden escape of air as to sensibly impair or modify the action of the air spring there will still be a slow leakage of air into or out of it around the piston rod according to the pressure therein, so that the pressure of the air on opposite sides of the plunger will always tend to remain at that of the outside atmosphere.
- To the piston rod H is secured a conductor or coil of wire D' which by the movements of the piston is oscillated in the magnetic field produced by two magnets B' B' which may be permanent magnets or energized by coils C' C' connected with a source of continuous currents E'. The movement of the coil D' across the lines of force established by the magnets gives rise to alternating currents in the coil. These currents, if the period of mechanical oscillation be constant will be of constant period, and may be utilized for any purpose desired.
- In the case under consideration it is assumed as a necessary condition that the inertia of the movable element of the generator and the electro-magnetic reaction which it exerts will not be of such character as to materially disturb the action of the engine.
- Fig. 2 is an example of a combination in which the engine is not of itself capable of determining entirely the period of oscillation, but in which the generator contributes to this end. In this figure the engine is the same as in Fig. 1. The exterior air spring is however omitted and the air spaces at the ends of the cylinder A relied on for accomplishing the same purpose. As the pressure in these spaces is liable to variations from variations in the steam or gas used in impelling the piston they might affect the period of oscillation, and the conditions are not as stable and certain as in the case of an engine constructed as in Fig. 1. But if the natural period of vibration of the elastic system be made to approximately accord with the average period of the engine such tendencies to variation are very largely overcome and the engine will preserve its period even through a considerable range of variations of pressure. The

generator in this case is composed of a magnetic casing F' in which a laminated core G' secured to the piston rod H is caused to vibrate. Surrounding the plunger are two exciting coils C' C', and one or more induced coils D' D'. The coils C' C' are connected with a generator of continuous currents E' and are wound to produce consequent poles in the core G'. Any movement of the latter will therefore shift the lines of force through coils D' D' and produce currents therein.

In the circuit of coils D' is shown a condenser H'. It need only be said that by the use of a proper condenser the self induction of this circuit may be neutralized. Such a circuit will have a certain natural period of vibration, that is to say that when the electricity therein is disturbed in any way an electrical or electro-magnetic vibration of a certain period takes place, and as this depends upon the capacity and self induction, such period may be varied to approximately accord with the period of the engine.

In case the power of the engine be comparatively small, as when the pressure is applied through a very small fraction of the total stroke, the electrical vibration will tend to control the period, and it is clear that if the character of such vibration be not very widely different from the average period of vibration of the engine under ordinary working conditions such control may be entirely adequate to produce the desired results.

Having now described my invention, what I claim is—

1. The combination with the piston or equivalent element of an engine which is free to reciprocate under the action thereon of steam or a gas under pressure, of the moving conductor or element of an electric generator in direct mechanical connection therewith.
2. The combination with the piston or equivalent element of an engine which is free to reciprocate under the action of steam or a gas

under pressure, of the moving conductor or element of an electric generator in direct mechanical connection therewith, the engine and generator being adapted by their relative adjustment with respect to period to produce currents of constant period, as set forth. 50

3. The combination with an engine comprising a piston which is free to reciprocate under the action of steam or a gas under pressure, and an electric generator having inducing and induced elements one of which is capable of oscillation in the field of force, the said movable element being carried by the piston rod of the engine, as set forth. 55

4. The combination with an engine operated by steam or a gas under pressure and having a constant period of reciprocation, of an electric generator, the moving element of which is carried by the reciprocating part of the engine, the generator and its circuit being so related to the engine with respect to 60 the period of electrical vibration as not to disturb the period of the engine, as set forth.

5. The combination with a cylinder and a piston reciprocated by steam or a gas under pressure of a spring maintained in vibration 70 by the movement of the piston, and an electric generator, the movable conductor or element of which is connected with the piston, these elements being constructed and adapted in the manner set forth for producing a 75 current of constant period.

6. The method of producing electric currents of constant period herein described which consists in imparting the oscillations of an engine to the moving element of an electric generator and regulating the period of mechanical oscillation by an adjustment of the reaction of the electric generator, as herein set forth. 8c

NIKOLA TESLA.

Witnesses:

PARKER W. PAGE,  
R. F. GAYLORD.

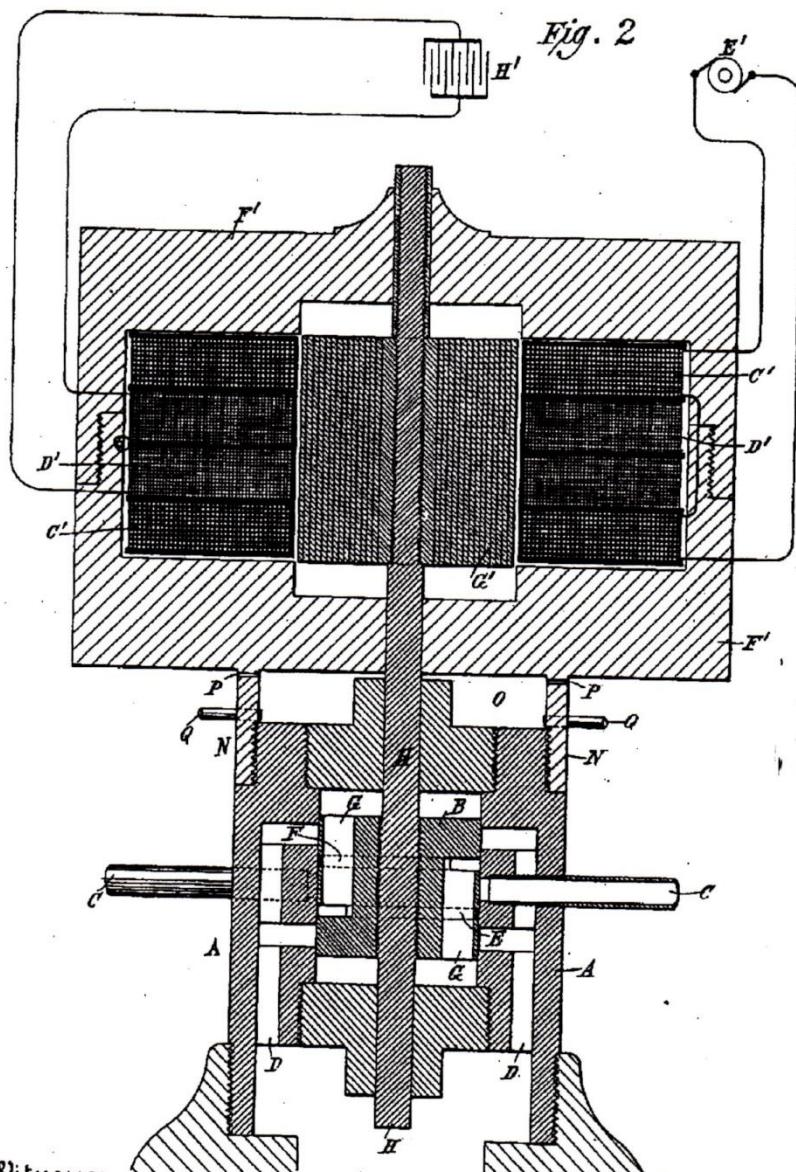
(No Model.)

2 Sheets—Sheet 2.

N. TESLA.  
ELECTRIC GENERATOR.

No. 511,916.

Patented Jan. 2, 1894.



Witnesses  
Raphael Nettie  
R. T. Gaylord

Inventor  
Nikola Tesla  
By his Attorney  
Duncan & Sage.

## Frequently Asked Questions

- Where is the energy this device is using coming from ?

*The quantum field*

- How much overall power does the QEG produce?

*10 KW (same design scaled up can produce 40 KW)*

- If 'free' energy devices work, why aren't the electric companies using them?

*This should be obvious but in case you need a reference, please see:*

[\*http://hopegirl2012.wordpress.com/\*](http://hopegirl2012.wordpress.com/)

- How is the QEG started up if it doesn't require fuel?

*All that's needed is to spin the machine up to resonance. At that point it will run itself. It can be started using existing electrical power if available, or a crank mechanism, or a battery powered motor-start system. A battery start system could also keep its own batteries fully charged, by tapping some power from the generator.*

- How long will the QEG run?

*Indefinitely (or until parts wear out)*

- How did the QEG improve upon Tesla's work?

*This design adapts the linear, reciprocating element of the Patent, to a rotating element, and some electronics are employed for added stability; controlled amount of power and correct frequency range.*

- Does the QEG slow down when more of a load is added?

*No – it's not that type of energy.*

- Does the QEG emit radiation?

*No – it's not that type of energy.*

- What form of energy does QEG use?

*Electromagnetic and atmospheric charge*