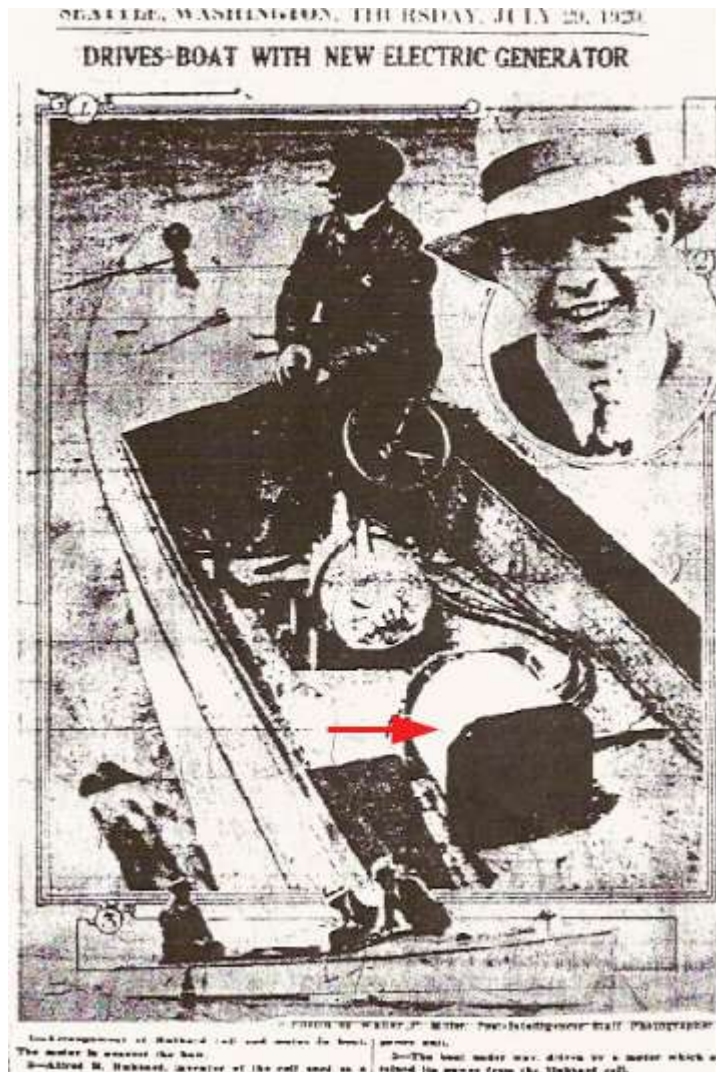


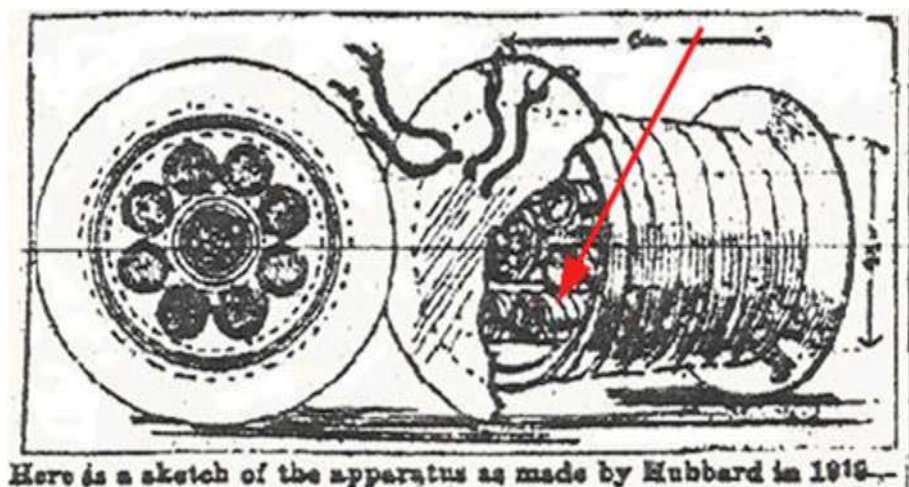
MOVING BEYOND OIL and *a//* Fossil and Radioactive Fuels!

An Energy Revolution: A Fuel Free Generator of Electricity Without Moving Parts. A 24/7/365 Alternative to Intermittent Solar Panels. Electric Vehicles can Sell Electricity when suitably parked. A Substantial New Source of Income. Speed Replacement of Oil, Gas, Coal and Nuclear Power. Environmentally Clean & Safe.

The Hubbard Coil – The First Autonomous Generator – Created by a Teen Aged Friend of Nikola Tesla.



Alfred Hubbard. More than a Century ago, in 1919, at Portage Bay on Lake Union, Seattle, Washington, Alfred Hubbard, a young acquaintance of Nikola Tesla, demonstrated a self-powered generator of electricity. The device was about 14 inches (350 mm) tall and 11 inches (280 mm) in diameter. It powered a 35 H.P. electric motor, which pushed an 18-foot boat containing no batteries, continuously around the bay for several hours. This demonstration was witnessed by thousands and ended because the wiring was beginning to overheat.



Hubbard made the above sketch of one of his smaller generators, which was used for ordinary household electrical appliances. It had a very simple design which had eight cylindrical primary coils each of which was wound on a solid iron bar and connected in series. These primary coils surrounded a slightly larger secondary coil wound around a hollow tube filled with metal bars or wires. This smaller device was about six inches (150 mm) tall and about five inches (125 mm) in diameter. Each core had one layer of thick insulated wire.

Later in 1919 the Post-Intelligencer carried a first page spread titled, "Hubbard's New Energy Device No Fake." Rev. Father William E. Smith, professor of physics at Seattle College, a Catholic institution, was quoted by the Post Intelligencer as stating he had examined the Hubbard device carefully, had tested it as fully as his means allowed. Father Smith said, "I unhesitatingly say that Hubbard's invention is destined to take the place of existing power generators, and that within a few years it will have advanced the whole theory and practice of electricity beyond the dreams of present day scientists."

J.D. Ross, superintendent of the municipal lighting department, and one of the foremost authorities on experimental electricity in the northwest, declared it possible that Hubbard had stumbled upon the answer to the question of the ages – can the power of the atmosphere be utilized?

"It is hard to believe", said Ross, "that this boy has done what the world's scientists have failed to do, yet there is much in the statement that in the field of electricity nothing is impossible. I am inclined to believe, since I have not seen the device, that there is some trickery, but those who have seen it tell me that such is apparently not the case, and I must confess that I have no alternative but to admit the demonstration is almost unbelievable".

Hubbard demonstrated the ability to generate electricity without fuel more than 100 years ago. Imagine the implications if his work had been mass produced.

Consider the advantages and impact a modern example now under development will have with regard to the Global Climate Emergency!



Photo which appeared in the Seattle "Post-Intelligencer" in 1919 shows Alfred M. Hubbard demonstrating his mysterious energy transformer in his home laboratory.

Starting on Page 8 below are three roughly 100 year old newspaper articles about the Hubbard work. The photographs from them appear above.

By wide employment of this inexpensive alternative to fossil fuels visualize how different our rapidly heating and polluted world would be today. Think about the huge savings for billions of people everywhere on the planet without bills for fuel or electric power! And in some locations excess power can be sold to utilities.

Several autonomous power generators are under development around the globe. Some are turbines. See **FUEL FREE TURBINES** on this site. Others are electromechanical, with one or more moving parts. Hubbard demonstrated that moving parts are not necessary. A modern example is in the works. One was inspired by Hubbard's achievement. To quote the inventor:

"Forces arise as a result of the interaction of field and charge. This is the Lorentz force. The field accelerates the charge. The accelerated charge excites the field. Another field. This chain of interactions can be arranged in space in such a way that the process of free vibrations will either damp or increase.

The first case is well known, but the second is quite specific and is described in the theory of parametric resonance. Yes, it is also known, but much less common.

Typically, parametric excitation requires commutation, that is, work. But in the presence of an "infinite source" of the field (not energy), the commutation can be replaced by periodic phase relations in the circuit.

Such an "infinite field source" is also known and is also widely used. These are ferromagnetic materials. Their domains are such sources.

And it becomes possible to create such an electricity generator that will work as long as the ferromagnetic properties of the core are preserved. Eternity, or a little less, becomes unimportant... the time is still colossal: say, '3194.5 year warranty'". Pavel Samarin, inventor

Electric vehicles will be able to sell electricity or power buildings when suitably parked!

ADVANTAGES OF AN AUTONOMOUS GENERATOR

Point-of-use power plants can produce electricity at less than 1 cent per kilowatt hour.

- More affordable than solar energy and independent of sunlight.
- More reliable than wind energy. Can operate 24 hours a day and 7 days a week, all year.
- There are no harmful emissions, whatsoever.
- Does not use any fuel to generate electricity.
- Variations can replace all coal, nuclear, natural gas and other fossil fuel-based power plants.
- There are no daily operating costs as the technology is self-sustaining.
- Operate efficiently for many years, perhaps with occasional replacement of parts.
- Easy to maintain with limited downtime all year round.
- Easy to install anywhere, indoors, outdoors and underground.
- Can provide independent electricity to residential, commercial and industrial buildings without connection to any external power grid.
- Does not discharge any toxic chemicals into the atmosphere, ground or seas that will require expensive

clean-up.

- Can produce clean and free energy for buildings, Power Plants, Electric Vehicles, boats, ships and aircraft, with unlimited range which will put an end to the current worldwide oil, gas and coal dependence.
- These technologies can produce electricity at a lower price than any power-generating system currently being used anywhere in the world.
- The free, clean and renewable energy generated by Autonomous Generator technology can bring down the cost of generating power for electricity and transportation by about 90% worldwide. This will enable the cost of manufacturing goods and services to be drastically reduced and also the cost of transporting goods and services, including food, will be negligible. The end result will be a dramatic reduction in inflation, automatic stimulation of economic activity in terms of increased productivity, high employment rate and resurgence in national prosperity worldwide.
- The huge amount of money saved from importing oil, natural gas, coal, uranium and other expensive energy products, which range from millions to billions of dollars annually, can be re-invested into each country's economy which can lead to exponential acceleration of national wealth.
- The threat of global warming and its catastrophic impact on human economic growth can begin to be reversed by removing the carbon footprints created by all fossil-fuel emissions, thereby restoring the protective ozone layer and rejuvenating the health of the planet. This will greatly benefit all nations.
- The current global recession and the heavy burden of unemployment fostered on many national governments can be relieved by the extensive manufacturing, distributing and servicing of products created by Autonomous Generation technology which can provide employment, each year, for several million people in the U.S.A. and millions more worldwide.
- It can increase the profit of wise electric utilities as well as transportation and delivery companies, worldwide.
- All existing fossil fuel-based power plants, automobile engines, marine engines and aircraft engines can be replaced with clean energy worldwide, which will effectively bring an end to the current global oil dependence and eliminate the inevitable energy crisis.
- The all-electric systems being developed will replace the present gasoline& diesel internal-combustion engines within a few years and ensure great savings to individuals and institutions worldwide because vehicle owners will no longer need to buy fuel.

A WORLD FREE FROM FOSSIL FUELS AND OIL DEPENDENCE!

Millions of students are aware of the fact that their lives are at hazard. They have accepted the climate science underlining that reality. Those with an interest in learning valid (but not yet generally accepted) new science - may find that by studying revolutionary energy science they can change the world - faster than most

with traditional science or engineering backgrounds assume is possible.

Imagine the benefit to car & truck owners - and the impact on the economy - when owners typically save at least \$2,000/year on fuel and can earn substantial income while parked. Vehicles are typically stationary about 23 hours each day.

Parking lots and municipal garages will become multi-megawatt power plants.

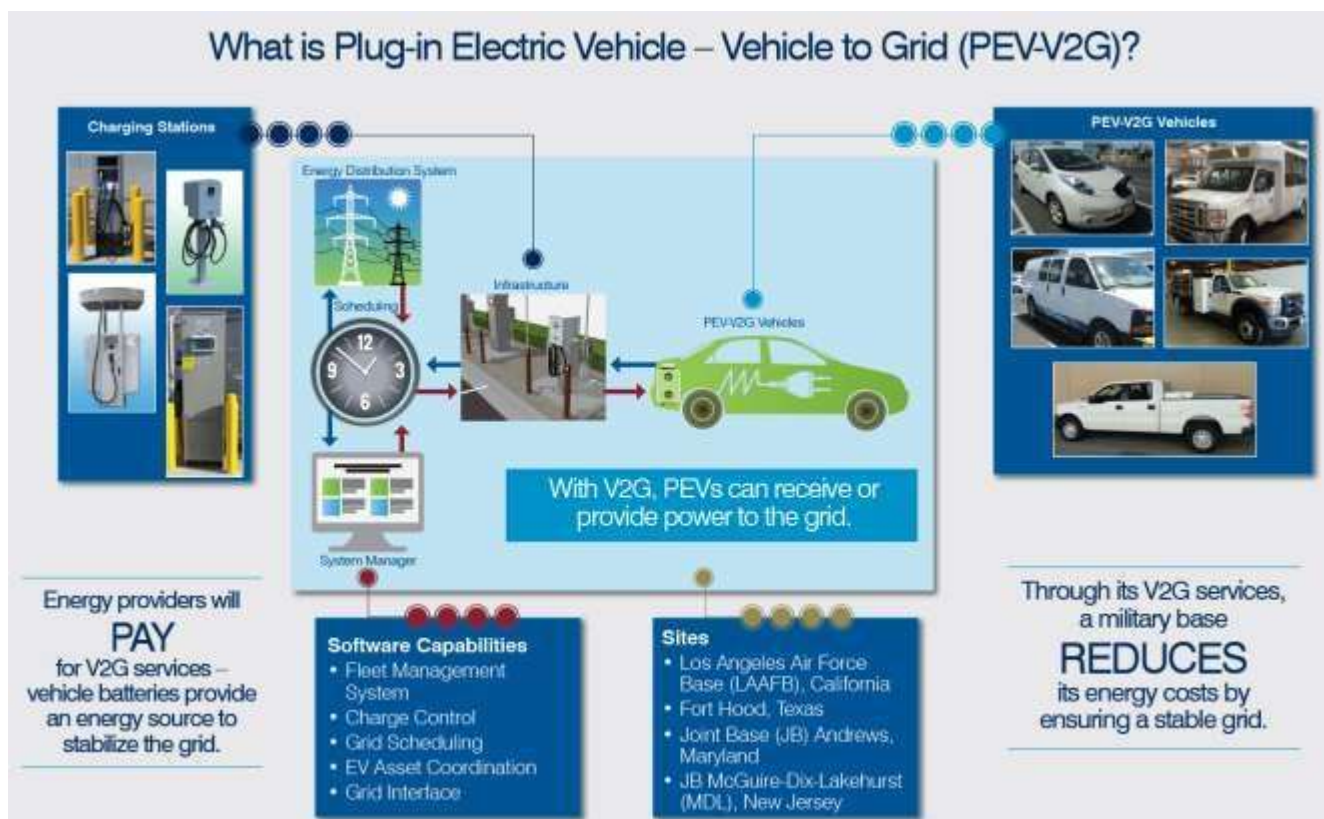
This will happen in spite of a ranting Troll and a legion of skeptics.

"The secret of change is to focus all of your energy not on fighting the old, but building the new." Socrates

Millions of cars, trucks & buses, selling power when parked, can gradually replace any need for centralized power. This heralds the end of coal, natural gas & nuclear power plants!

See below to understand how that would work.

U.S. Air Force Unveils World's Largest Electric Vehicle-to-Grid Fleet



We've talked about the profound change the electric vehicle will bring to the power grid. The military is showing how it's done with the world's largest vehicle-to-grid project to date. The Los Angeles Air Force

Base in California has acquired 42 plug-in electric vehicles, the most the military has ever assembled in one place. The cars, trucks, vans and a bus will be able to supply 700 kW, enough to power 140 typical American homes on a hot summer afternoon. Recently unveiled, the project marks the first time the Department of Defense has swapped out a base's entire non-tactical vehicle fleet with such vehicles. The military will use the new fleet to show how electric vehicles can serve and strengthen the California grid.

What's profound is that *the grid acts as a customer to the vehicle*. The vehicle can sell power to the grid. The vehicles also can help the grid function more smoothly by supplying ancillary services – frequency and the like. *The vehicles can therefore earn revenue* that helps offset energy costs at the base, as well as enhance grid reliability and power security. *In addition, the vehicles act as a low-cost mobile power source that helps the base keep the power flowing if the central grid fails.*

With autonomous generators most future cars could be electric. Fewer batteries are needed and they will constantly be charged. Range will be unlimited. Municipal parking garages can be megawatt power plants.



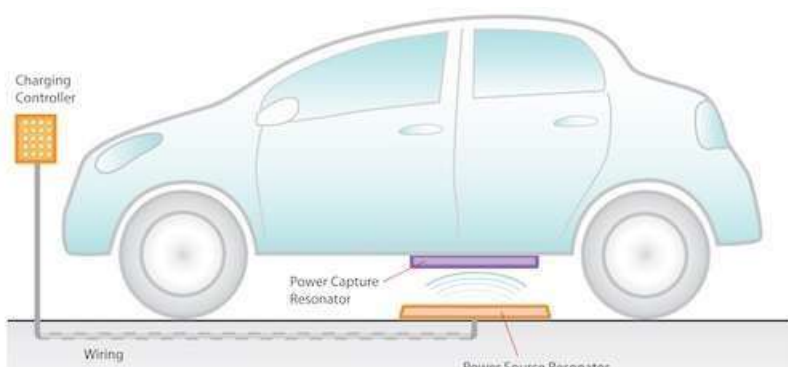
Christian Hartmann

A Hyundai BlueOn electric car is displayed at the Paris Mondial de l'Automobile. During the 2011 Japanese earthquake and tsunami some electric cars were turned into backup power sources in devastated regions.

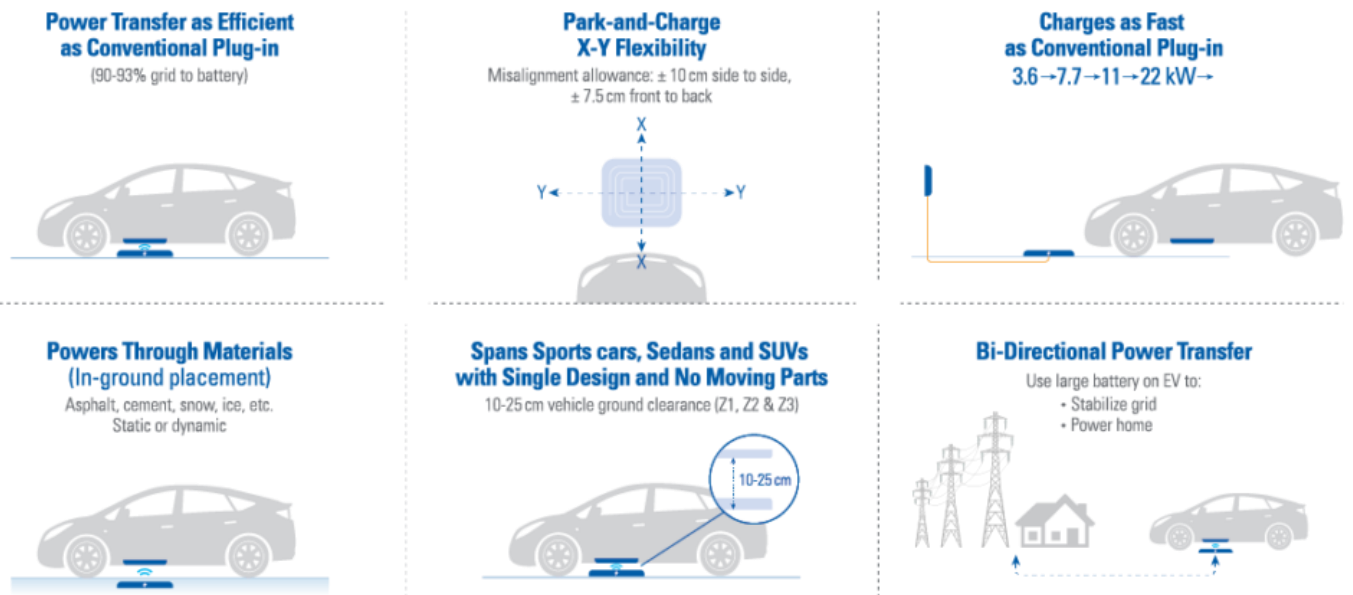
Smith Electric Vehicles equipped with V2G bi-directional charging system.

Vehicle to Grid (V2G) power: A few electric cars, equipped with two-way plugs, can sell 10 kW of electricity from the batteries to a few utilities today. The car owner can perhaps earn up to \$1,800 each year. The new technologies mentioned here might greatly increase those earnings.

Wireless, Vehicle to Grid (V2G) technologies, originally developed and proven for electric buses, can now be adapted to any such systems that prove practical. They will be able to transmit substantial amounts of electricity to the local utility, which can, without any physical connection, purchase the power. Fuel-free systems could help owners earn much more – eventually perhaps paying for the vehicle.



*Cars fueled by **autonomous** energy systems will provide substantial power to the local utility, or a home or business, when suitably parked. Reversing systems such as that illustrated above. No plug or wires required.*



Illustrated above: For more information, see: <http://witricity.com/products/why-magnetic-resonance/>

Energy conversion systems that will enable future vehicles to become power plants, promise to provide explosive growth. Imagine the dramatic economic impact and the power that can be available in emergencies.

Most of the inventions on this website are highly improbable innovations. Several are now emerging. One or two revolutionary new technologies will be sufficient to greatly accelerate replacement of fossil fuels. Since they reflect controversial science, most are slowed by disbelief and severely inadequate capital.

EXTRACTS FROM REX RESEARCH Sacramento & Seattle Newspaper Articles Regarding Alfred M. Hubbard

Sacramento Union, Number 211, Volume 52, December 22, 1919, Page 5
 Engineers Wonder as Youth Shows Device He Professes Captures Power of Universe

Alfred Hubbard of Seattle Demonstrates “Atmospheric Generator” Without Visible Source of Energy

Alfred M. Hubbard, inventor of the machine he calls the “atmospheric power generator” declares it will revolutionize the world of power and motion. He says: "It will junk every steam and gas engine in the world

... It will place electricity in every home without cost for current ... It will advance air, land and sea transportation hundreds of years ... It will do away with all present cumbersome methods of electrical production with their generators, transformers and transmission lines..."

SEATTLE DEC 20 – Has a 19-year-old Seattle boy solved the problem of the ages and realized the dream of science since electrical invention had birth? Has Alfred M. Hubbard, son of Mr. and Mrs. William Hubbard tapped the inexhaustible reservoirs of nature's energy and harnessed to the use of man the illimitable power that permeates the universe?

Hubbard has announced the perfection of an invention he terms an "atmospheric power generator" and made claims that last night caused Seattle's leading electrical engineers to doubt the evidences of their senses and to pause before they condemned as folly the assertions of the youth. With the apparatus, in appearance a small coil of wire about six inches in diameter surrounding a permanently magnetic core eight inches long, the entire contrivance easily carried in a man's hand. Hubbard gave a demonstration yesterday afternoon miles from his laboratory that, regardless of the principals involved, several Seattle engineers declared without parallel in electrical history.

MARVELOUS ANYWAY

An ordinary incandescent electric light connected with the two terminals of the atmospheric power generator glowed a cherry red for nearly one hour, and Hubbard volunteered to permit the lamp to burn for as many hours as was necessary to satisfy the most skeptical.

The young inventor claims that there are no moving parts connected with his generator; that there are no hidden batteries, storage or primary; and those who witnessed the demonstration made sure that there was no outside connection with any source of power.

Hubbard's explanation of the phenomenon is that he has succeeded in transforming the earth lines of magnetic force into electrical energy available for use. While electrical engineers were highly skeptical last night, and held to the possibility of fraud, as George Quinan, superintendent of the electrical operations of the Puget Sound Traction Light and Power company, said "no matter what the lad has done, it is a marvelous demonstration". All of the experts agreed that if as Hubbard declares, there are no moving parts and no concealed batteries, the invention was revolutionary. They had no explanation to offer for its operation.

J.D. Ross, superintendent of the municipal lighting department, and one of the foremost authorities on experimental electricity in the northwest, declared it possible that Hubbard had stumbled upon the answer to the question of the ages – can the power of the atmosphere be utilized?

ALWAYS POSSIBLE

"It is hard to believe", said Ross, "that this boy has done what the world's scientists have failed to do, yet there is much in the statement that in the field of electricity nothing is impossible. I am inclined to believe, since I have not seen the device, that there is some trickery, but those who have seen it tell me that such is apparently not the case, and I must confess that I have no alternative but to admit the demonstration is almost unbelievable".

Carl Edward Magnusson, acting dean of the University of Washington college of engineering declined to even hazard a guess as to the principal involved in the device. "It sounds like trickery to me and I can hardly believe that the

experiment as it has been described to me actually took place” he said. “I will not venture an opinion until I have seen it”.

C.F. Uhden, special engineer of the city, in charge of the Skagit River power development, declared himself intently interested in the invention and after canvassing the possibilities of chicanery, admitted that he wouldn’t dare form an opinion until he has seen the apparatus in operation. “It’s always possible” he said, “though there have been many to make the claim and no one to substantiate it in the past”.

DENIES PERPETUAL MOTION

But Hubbard, because his device has not been patented, owing to complications arising with his backers, it is said, has refused to allow technical men more than a glimpse at the apparatus. Hubbard appears untrained in business, and like many inventors, cautious. He has no appearance of the charlatan and made the blanket statement that any of the seemingly extravagant claims for his invention he was willing to prove by operation under test conditions. All that could be learned from Hubbard regarding the construction of the instrument follows:

BURNS LAMP LONG TIME

Hubbard’s claims for the invention bring into being a host of dreams. If, as he says, he can obtain four kilowatts, equivalent to more than five horse power, from a contrivance weighing less than twelve pounds, then his claim that he can build a generator less than eighteen feet in length to develop 18,000 horse power of sufficient electrical energy to drive the new battleship New Mexico is not unreasonable, in the opinion of the engineers.

Hubbard offers to build for \$50 a generator large enough to drive an automobile and much smaller than present engines (it ended up costing \$90). He offers also to build a generator and equip it with a motor to drive an airplane and to weigh about as much as the present motor without fuel. The tank and gasoline at present are one of the greatest weight factors of the airplane. The Hubbard generator, according to its inventor, would give the airplane unlimited flying range. Hubbard, who says he has a laboratory at his home with apparatus valued at \$10,000, declares that he worked 18 hours a day for two years before he came to Seattle and (has continued working) during the year since perfecting the apparatus. His first model was built a year and a half ago, he said. Hubbard asserts that his four-kilowatt machine has continuously excited the equivalent of 120 ordinary 25watt house lamps to full brilliancy for three months. The device during this time, (he says he is ready to take an oath on it), did not receive outward stimulus, and at the time of the test was completed the lights were burning at the same brilliancy. The machine, he said, is composed of several layers of wire about a steel core, which is magnetized after the construction is complete. Once magnetized, the core needs no further attention, he said, and the entire device will deliver energy unremittingly for an indefinite length of time. “I place a maximum of fifty years on the life of the generator” said Hubbard, “simply because one must fix a maximum. I know no reason why it would not last until time rots the insulation away from the wires”. Hubbard denies that his device is a perpetual motion machine. He maintains that it taps the vast storehouses of cosmic energy and the apparatus is founded upon sound scientific principles. (Which ones are those?)

GOT THE IDEA FROM A SPARK

“I have hitched my wires to the tail of the universe you might say”, he said. Hubbard has a high school education. His father is an electrical engineer, he said, and the family formerly lived in Spokane. It was while he was in charge of the air compressor at the Hercules mine near Coeur d’Alene, Idaho, that he first became interested in the problem. “I watched a great belt flit by me day after day, he related, and I noted thousands before me had that I could draw an electrical

spark from the belt with my finger. I had always been interested in electricity and had studied a great deal from books since I was a small boy. The spark of the belt fascinated me. One night I conceived the idea that developed later into the generator. I will not say that it utilizes in any way the current derived by friction as from the belt. That is not accurate. I am not prepared to divulge the nature of the actual translation of energy.

SMALL SIZE PUZZLES

He also said that eight such lights had been kept burning from electricity furnished by the apparatus while locked into a safety deposit box for seventy-two hours. This is an unheard-of feat, according to the men of science. Hubbard was reticent concerning the whole matter, declining to tell more than a little under pressure and consenting to a demonstration only after much persuasion. Electrical engineers who were not privileged to witness the demonstration last night ventured theories at the operation. They said that while there were theories that the apparatus seemed to coincide with, if Hubbard has what he says that he has, he has accomplished what most hard-nosed savants have believed impossible. Most of the engineers inquired as to the possibility of hidden springs driving a small dynamo, but most of them abandoned this when they learned that approximately 85V had been delivered by the machine under test conditions for almost one hour. Other believed that a varying of a powerful magnetic field by a paraffin or fiber disc might produce this effect but admitted this highly improbable. They doubted that so great a pressure could be obtained from a contrivance of so small a size.

SACRAMENTO UNION, Volume 212 Number 18, January 18, 1920 Page 4

NEW AIR MOTOR IS BAFFLING – INVENTION OF SEATTLE YOUTH PROVING MYSTERY TO INVESTIGATORS.

HIDDEN WIRE THEORY IS DISPROVED BY HOISTING MOTOR INTO AIR.

SEATTLE, Wash. – Experiments even more baffling than those witnessed by local electrical experts recently when Alfred M. Hubbard, 19-year old inventor, demonstrated his atmospheric power generator, were shown later when the young man threw the switch into place on a twenty-five horse power electric motor and instantly the motor jumped to life , developing its full capacity of power. Skeptics present said the motor was connected by unseen wires. Hubbard hoisted his motor with a block and tackle and allowed those present to make examinations and tests to assure themselves that no wires extended from the motor. The result of the demonstration was an even greater mystery regarding the young man's discovery, if it is one. Hubbard went even further. He told how the motor was made to operate, took it apart and showed those present just what it consisted of. He would not tell, however, how he had arranged the parts to change the polarity at the rate of 120 times per second, which he says is the secret of his invention.

ORDINARY MOTOR USED

The motor was an ordinary alternating current motor of twenty-five horse power, equipped with the usual armatures and fields. Hubbard's change on the motor was to insert six rods of manganese steel wrapped with wire in the head of each of the two armatures and a change in the wrapping of the two fields. This is the same principal upon which he says his small model works. In the center of the inserted wrapped rods Hubbard places a steel core which, when first put in place, is then magnetized. These rods and the steel core make up the physical construction of the power unit. Hubbard says the secret of his discovery lies in the wrapping of the coils. Last July 4th, Hubbard says he had a boat equipped with a similar twenty-five horse power motor. With this power it was much faster than a gasoline engine boat. He entered

races at Union City on Hood's canal. He won by a big margin. His success attracted the attention of many boat owners who were curious as to the engine that drove his craft. Hubbard told them freely he says, of his discovery and inventions, knowing the secret could not be read from an exhibition of the motor. Hubbard says his backers became alarmed at his free-handed manner of displaying his invention and insisted that he dismantle the boat.

NEW MODEL PROMISED

Hubbard is loath to give a public demonstration, as many here want him to do, until he has completed his patents, he says. He will, however, show his new model on its completion within the next two weeks. Hubbard's mail since his announcement of the invention has contained several bona-fide offers from large corporations in the east now using gasoline motors, to adopt his device if it proves satisfactory. Hubbard smiles at these letters and replies courteously and remarks to his friends that the day is not far distant when the writers will be forced by competition to adopt his device.

Hubbard's smiles are not saved alone for enterprising corporation representative's letters. He smiles at the experts and university professors when they accuse him of having a battery somewhere in the device. Hubbard's mail also contains letters from women, accompanied by photographs, offering proposals of marriage. Several attorneys have written offering legal advice. One letter offers the theory that Hubbard's device is operate by personal magnetism.

While engineers have not yet given Hubbard's device their endorsement, scientific circles here have been aroused to a discussion of age-old master problems of science. Theories unnumbered are offered to account for the performance of Hubbard's device, but Hubbard persists that he has told and shown all there is to tell and see about. Within the next two months, Hubbard says, he will fit one of his discoveries to an automobile. He says the device will continue in operation until shut-off by a switch, or if left running continuously, until the metal it is composed of disintegrates.

The Post-Intelligencer (Seattle WA), Thursday, July 29, 1920 ~

Hubbard Coil Runs Boat On Portage Bay Ten Knots An Hour; Auto Test Next

Seattle Boy Inventor Makes Good His Claims of Last December When He Announced Discovery to P.I.

Hubbard's Claims

If young Hubbard's claims are correct regarding the newest coil he has perfected, and which propelled a boat yesterday, these are a few of the things the coil would do without cost other than the initial outlay of \$90:

Drive a large touring car at normal speed.

Illuminate a moderate-sized office building.

Furnish current for lighting, cooking, and heating for a large residence

Heat seven two room apartments.

Alfred M. Hubbard, Seattle boy inventor of a device which for want of a better name he terms an atmospheric power generator, yesterday made good his prediction that he would drive a motorboat with the apparatus as a source of power.

An eighteen foot boat, propelled by a thirty-five-horse power electric motor, which obtained its current from the Hubbard coil, was driven about Portage Bay on Lake Union. Among those who witnessed the demonstration was a well-known local capitalist, the inventor's father, William H. Hubbard, and a Post Intelligencer reporter.

The boat traveled at a speed of between eight and ten knots--silently, except for the whirring of a chain belt which connected the motor with the propeller shaft. When the chain belt was removed, the motor ran free at a speed estimated at 3,500 revolutions [the rest of this line is unreadable]

No Hidden Wires Found

To guard against the possibility of ordinary storage batteries concealed about the boat as a power source, instead of the Hubbard coil, both electric motor and coil were lifted free from their blocks, but no hidden wiring was revealed. The coil used as a power unit was eleven inches in diameter and fourteen inches in length. According to Hubbard, tests of the coil show a current of 280 amperes and 125 volts, which, he pointed out was equivalent to approximately forty-five horse power, or sufficient to drive an automobile. The current is pulsating.

The electric motor was approximately twelve inches in diameter eighteen inches in length. It had been reconstructed in order to be used with the Hubbard coil.

After his ride in the strange powered craft the capitalist declared that he was frankly puzzled, but that he desired an electrical engineer in his employ to make an examination of the coil before he felt free to discuss it.

Since last December, when the Post-Intelligencer first made public the claims of the youthful inventor, he has been more or less in retirement, perfecting his coil. He took up his residence in Everett where, with the assistance of Everett backers he worked on his device.

A local capitalist agreed to witness a demonstration of the coil to determine its practicability as a power source. The motorboat was fitted with blocks on which to rest the motor and the propeller shaft geared for a chained belt.

When the motor was first tried out after its installation in the boat it ran backwards. So involved are the connections between the motor and the coil that fully a half-hour's experimentation was necessary before the motor shaft revolved in the right direction.

That the capitalist was frankly skeptical of the device was plain when he, with two other passengers, boarded the boat at the Seattle Yacht Club wharf. All the machinery that was visible was the coil and the motor, the latter plainly geared to the propeller shaft. The boat shoved off, Hubbard threw the switch, and instantly the boat began to pick up speed.

It circled about the bay and returned to the wharf, with never a slackening of speed. The wires connecting coil and motor had begun to heat under the excessive current, and, fearing that some part of the coil might give way under the extra heavy strain put on it, Hubbard declined to permit the motor to be run continuously for any length of time. It was tried out later several times, after brief periods which allowed the wires to cool, and its power apparently showed no diminution. No instruments were used to test its wattage.

The capitalist admitted that the demonstration intrigued his interest, but that he would wait for his expert's opinion before discussing it.

Following the demonstration, the young inventor declared that within a few days he expected to drive an automobile with the coil as a power unit.

The Coil used yesterday had been built especially for the demonstration, and is nearly twice the size of the coil Hubbard used in his demonstration last winter. The large coil cost approximately \$90 to construct. The inventor says that so far as he has been able to learn its life as a power unit is indefinite. He declared that a coil large enough to drive an airplane would be no more than three times the size of the coil used yesterday, and that a machine thus equipped could fly around the world without stopping, so far as the power supply is concerned.

While the device has been patented, the claims for it are so broad that Hubbard says he does not feel safe in making public his secret. In general, he says, it is made up of a group of eight electro-magnets, each with primary and secondary windings of copper wire, which are arranged around a large steel core. The core likewise has a single winding. A coil thus constructed, he says, is lifeless until given an initial impulse. This is done by connecting the ends of its windings for a fraction of a second to an ordinary[two words unreadable R.L.R.] -ing circuit, he says.

The manner of this momentary charging, however, constitutes the principal secret of the device, according to the inventor, who says that while machinists have built a number of coils for him under his direction, they have been unable to "start" them. In the event the power of the coil should diminish, it can be rejuvenated in less than a second, Hubbard says.