

A Mechanical Wheel That Propels a Car Forever Using Mass Transfer Technology and Electrostatic Potential Energy Conversions

Aritra Ray

Abstract: *This paper presents the concept of the most inexpensive, autonomous method of moving a car on road without the necessity to burn fossil fuels or any expenditure of non-renewable source of energy in any form to run an engine. In contrast to any conventional methods present today, it works on the principle of coulombic forces of attraction between two oppositely charged bodies along with the involvement of an unbalanced torque on the wheel to propel it in a unique direction. It exploits the concept that under the given conditions of how the wheel is built, electrostatic forces of attraction exceed the gravitational pull. It harnesses infinite source of electrostatic energy to produce mechanical torque about the rotating wheel's instantaneous axis of rotation, a promising way to cut off the world's automobile exhaust to an absolute nought.*

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I. Introduction

In the world where we witness a steep gradient in the advancement of technologies, the health of the atmosphere is worsening by the manufactured effects of global warming. Over-exploiting the much easily available non-renewable sources of energy like fossil fuels to run engines of vehicles, a major component of global energy consumption, which consumes 4.8 billion barrels of crude oil per year^[1], prospects a threat on quality of our lives. For a car to completely run on renewable source of energy, debarring the facilities of any form of operational engine can radically alter the automobile industry. Thoughts were once ushered on a water-fuelled car^[2], one that captivated human imagination, one that also denied the use of fossil fuels into its functioning. It took note that water on electrolysis splits into hydrogen and oxygen, which would later recombine to the former to release -68.3 kcal/mol of energy. Considering the laws of thermodynamics, this to and fro motion of water to oxidising hydrogen would also consume a part of energy supplied to during its electrolysis. This accentuates the fact that regardless of this effort, no useful work is derived. In this context, I am proposing a technology that can, regardless of the boundaries of time, can continuously derive mechanical torque from the ever existing electrostatic potential energy without the need of any external influence. This car can be on its wheels moving as per one's need ever; the supreme speciality of this concept, in advancing stage of its proofs, to be experimentally verified. Water-fuelled cars using Garrett electrolyte carburettor, from the hands of Charles H. Garrett, who allegedly demonstrated a water-fuelled car to run "for several minutes", was reported in The Dallas Morning News^[3]. The car generated hydrogen by electrolysis as can be seen by examining Garrett's patent, issued that same year, 1935^[4]. This patent included drawings which show a carburettor^[5] similar to an ordinary float-type carburettor but with electrolysis plates in the lower portion, and where the float is used to maintain the level of the water. Garrett's patent failed to identify a new source of energy. Stanley Meyer^[6] propped in 1980s, claimed that he had built a dune buggy that ran on water, although he gave inconsistent explanations as to its mode of operation. In some cases, he claimed that he had replaced the spark plugs with a "water splitter"^[7], while in other cases it was claimed to rely on a "fuel cell" that split the water into hydrogen and oxygen. The "fuel cell"^[8], which he claimed was subjected to an electrical resonance, would split the water mist into hydrogen and oxygen gas. It would then be combusted back into water vapour in a conventional internal combustion engine to produce net energy. Meyer's claims were never independently verified, and in an Ohio court in 1996 he was found guilty, calling him "gross and egregious fraud" for his activities related to this topic. In 2002, the firm Hydrogen Technology Applications patented an electrolyser design and trademarked the term "Aquygen" to refer to the hydrogen oxygen gas mixture produced by the device^{[9][10][11]}. Originally developed as an alternative to oxyacetylene welding, the company claimed to be able to run a vehicle exclusively on water, via the production of "Aquygen". Company founder Dennis Klein later no longer claimed it can run a car exclusively on water, and is instead marketing "Aquygen" production as a technique to increase fuel efficiency^[12], thus making it a hydrogen fuel enhancement rather than a water-fuelled car. Evolved in near past, 'Genesis World Energy' announced a market ready device which would extract energy from water by separating the hydrogen and oxygen and then recombining them^[13]. In 2003, the company announced that this technology had

been adapted to power automobiles^[14]. The company collected over \$2.5 million from investors, but none of their devices were ever brought to market. In 2006, Patrick Kelly, the owner of 'Genesis World Energy' found his place rightly at a prison cell in New Jersey. 'Genopax Water Energy System' claimed a car to run on water and air^[15] and launched a vehicle of the same prototype. It met its untimely end in 2009 due to claims from its own officials of hefty expenses involving in its manufactures^[16]. Though the core invention was never uprooted^[17], sources^[18] emphasize that it consumed metal hydrides to produce hydrogen on reaction with water, under optimum conditions^{[19] [20] [21]}. This evolved gas was oxidised to reproduce water, thereby liberating energy. Sri Lankan Thushara Priyamal Edirisinghe claimed for a water-fuelled car^{[22] [23] [24]}, so did Daniel Dingel from Filipino^[25], only to find better places behind bars^[26]. Pakistani Ghulam Sarwar claimed^[27] that a 3:2 mixture of water and fuel to run an engine would make it more efficient, after his research on water powered car. Agha Waqar Ahmed claims^{[28] [29]} of a similar technology of water-fuelled car yielded fraudulence activities as it violated the laws of thermodynamics^[30]. So generates the need to explore beyond these into a world full of promising ideas of a car to only depend on its mechanical wheel to run for an indefinite period of time, as conceptualised ahead in the paper. However, people also explored the possibilities of car powered by air^[31] alone. This surfaced technology was solely dependent on air or a hybrid mixture of gasoline, diesel, ethanol or an electric plant with regenerative braking. It's driven by the expansion of compressed air, in a similar fashion to that of the steam in a steam engine^[32], an obsolete way, well over the threshold of extinction. An electric powered car^[33] may be in use negligibly off-late, however depending on the source of electricity, the emissions may be the significant contributors to the rapid rate for disintegrating the ozone hole and a manifold increase in global warming. Many of these are yet to get a clean chit from the crash safety tests^[34] conducted in real time environment by the United States. We also witness the switch over to hybrid vehicles like Hydro-Mechanical Hydraulic Hybrid Drive Train with Independent Wheel Torque Control for an Urban Passenger Vehicle^[35]. That only focused on fuel efficiency of a vehicle. The electric hybrid cars, which were also worked upon, had its substantial shortcomings in relatively low power density of both electric motors and generators^[36]. Hybrid Electric Vehicle (HEV)^[37] is a combination of a conventional internal combustion engine and an electric propulsion system. It implies that HEV can be driven on I.C. engine as well as on electric power. HEV produces less emissions compared to a similar-sized gasoline car, however does not completely allow the emissions to an absolute nought as the case stated in this paper. Furthermore, by placing a hydraulic pump/motor at each of the four wheels, independent wheel torque control is also possible^[38]; however it continuously requires a source of energy by means of a cell or some other form, not the case as here as using an indefinite source of energy for expenditure, for it to be functional. Later, we also investigated on the prospects of how a magnetic wheel driven by the applications of an induction repulsive-type magnetic levitation and linear thrust using mechanically revolving permanent magnets was conceived^{[39] [40] [41] [42]}. Propositions were also made on two types of magnet wheels called "partial overlap type" and "tilt type"^[43], which harnessed magnetic energy, not electrostatic potential energy as the case stated in this paper. There has been good evidence of progress in the robotic bipeds^{[44] [45]} for transportation; however this paper presents a much simpler design of work on transportation of vehicles. There are availabilities of mecanum wheels^[46] too, however they are mere wheels only which allows to-and-fro movements or a side-ways one. However, they are not self-propelled, the supreme concept of this paper. Work continues in domains like self-balancing two-wheeler electric vehicle that uses electrical cell for its motion^[47] or the development of self-balancing controller for one-wheeled vehicles. These all do not consider the use of electrostatic potential energy at all, in this world of surging concerns on energy consumptions. Henceforth, I do affirm to accede beyond the limitations of running an engine in any form for transportation of a car. It is well the precise time we adventure into the conceptual grounds of a car running on road, devoured of the luxury of an engine, propelled by the whims and fancies of the driver, solely relying on the mechanical wheel. The invention of the wheel earmarked a footstep to a fairer world of the human civilisation, so we must embark on a journey, where we can, by technologies of an effective mass transfer per rotation of the wheel mechanically, develop the conceptual foundations, sow the seeds to reap the harvests of a self-dependent propelled wheel to run a car on any frictional surface.

II. Materials and Methods

In regard to this work, an annular hollow circular tube, made of plastic fibre the one with substantial tensile strength and durability, and being an insulator would allow electric lines of force to pass through it, is considered. A negatively charged, highly dense, possessing less viscous force and least cohesive-adhesive force with plastic fibres is chosen. A previously positively charged semi-circular ring, that too of plastic fibre or glass which can efficiently be positively charged at least effort, and can ably allow electric lines of force to pass through it, with thickness of its circumscribing mass exact to the diameter of the hollow annular plastic fibre tube is taken into account. Henceforth, a rubber tyre alongside a bent V-shaped wooden insulating rod, the one of umpteen necessities, is assembled. To prevent any form of charge leakage, molten plastic is smeared on all parts of wheel, barring the semi-circular positively charged ring. A rubber tyre may also be considered for the

same to be worn over the plastic fibre tube. With no previous records of efficient mass transfer in a unique direction, per rotation of a wheel to enable its motion in the same direction, this new technology would usher an able insight into extending horizons of automobiles into a new fairer dimension. To set-up the mechanical wheel, that uses efficient mass transfer technology alongside using an indefinite source of renewable energy in the form of electrostatic potential energy, the built-in requires the maximum out-set. The annular hollow plastic fibre tube is filled up with the highly dense, least viscous negatively charged fluid, the volume occupied by whom is exactly half of that of the capacity of the firm plastic fibre tube. It would rise up to equal heights on the wheel from the instantaneous axis of rotation at point C and C' as depicted in figure [A].

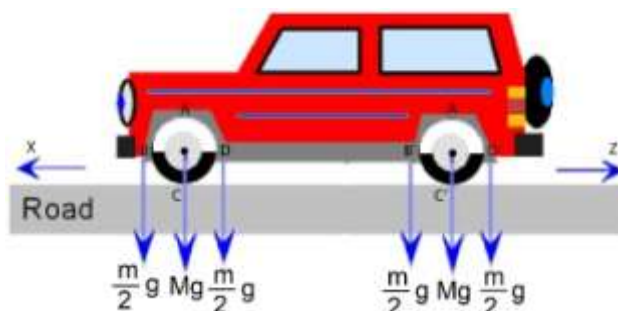


Figure A

At this instance, we assume the mass of the wheel with all its accessories excluding the negatively charged highly dense low viscous fluid to be 'M' and that of the fluid 'm'. As drawn in the same figure [A], about the instantaneous axis of rotation, point C and C', the torque is cancelled out due to sum of moments, one being clockwise and anticlockwise of similar value, the other due to 'M' having no perpendicular distance from the instantaneous axis of rotation. The semi-circular positively charged ring is set up in too close a proximity, without any contact, to the inner surface of the plastic fibre tube, carrying the negatively charged highly dense low viscous fluid. The semi-circular positively charged ring is set-up with one end of its boundary coinciding with the imaginary straight line joining instantaneous axis of rotation, points C and C' as depicted in figure [B], with its other end at a point diametrically opposite to the imaginary straight line joining points A and A' respectively, as the case should be. Here we establish the mass transfer technology. With reference to figure [B], the negatively charged highly dense low viscous fluid rise to one side of the plastic fibre tube, owing to huge columbic

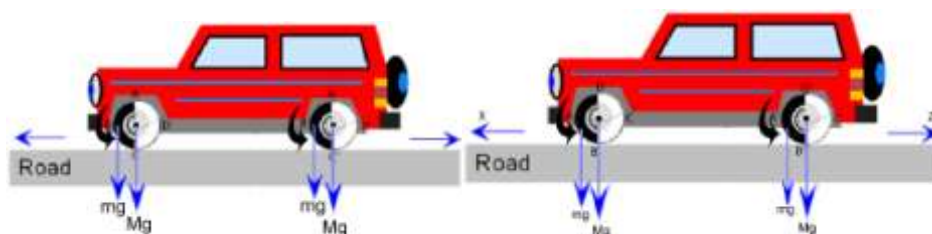


Figure B and C

forces of attraction between the negatively charged highly dense low viscous fluid and the positive charges from the plastic fibre or glass carved out positively charged semi-circular ring in close proximity to the plastic fibre tube. This initiates the development of columbic forces of attraction to dominate over the gravitational pull in the in-built of the mechanical wheel. By far, electrostatic potential energy in the mechanical wheel gets well established. This is all necessary requisite to transport car in direction X as mentioned in figure [B]. To enable motion in direction Z, that's backwards with the earlier sense, as depicted in the aforesaid figure [B], the semi-circular positively charged ring must be fitted in a similar fashion towards the other half, that's circumscribing points C, D and A of the frontal mechanical wheel of the car and C', D' and A' of the rear mechanical wheel of the car, of the hollow annular plastic fibre tube as done in the previous case to mechanically move the car in direction X of the given figure [B]. To set-up this positively charged semi-circular ring, the V-shaped insulating rod of appropriate length is fitted from the adjacent car body in a fashion as drawn in figure [B]. The projection of the insulating V-shaped rod had not found its use in this apparatus had basic geometry gave us the luxury to define a point in terms of a natural world phenomenon. It, however, defines a point in terms of a circle, centered at a point, possessing an infinite radius, tending towards zero on the number line. As yet today, infinity remains as a concept beyond the boundaries of the physical world, where we can actually imagine, we are henceforth debarred from such a choice of considering the centre of the hollow annular plastic fibre tube to be a point that performs pure translation as the car proceeds. Thus, we rightly choose the

body of the car to be performing true translation, without any rotational motion accompanying it in any form. The locus of such a point to where the V-shaped insulating rod is affixed remains to be a fixed straight line joining the semi-circular positively charged ring. Proceeding to the physical laws that remains well established, that an unbalanced torque paves the way for a rotating body about the instantaneous axis of rotation, which for a wheel do yield an accompanying translation, similar does the case we proceed to. In absence of an electrostatic force, the fluid would accumulate on both sides of the steel tube at equal heights, governed by forces of gravity. True in all cases, the exception has sneaked out here. The excess mass that accumulates on the aforesaid half tends to provide the excess force and generates the requisite torque from the instantaneous axis of rotation. This yields the motion of the wheel, truly mechanically, towards the requisite direction of navigation. Interestingly, as the wheel propels the car forward mechanically, the negatively charged highly dense low viscous fluid tends to accumulate equally on two sides of the plastic fibre tube. Keeping itself arranged the way we want towards the adjoining half of the positively charged semi-circular tube, is the electrostatic forces of attraction. Referring to figure [C], we can well understand how the negatively charged highly

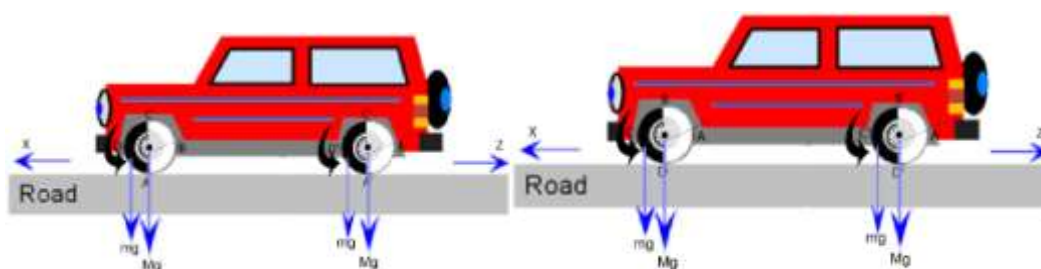


Figure D and E

dense low viscous fluid keeps itself arranged on the side as mentioned in the beginning, though the fluid's non viscous medium allows for free rotation of the car wheels. As the car translates towards direction X, the figures [D] and [E] further prove the claims truly in clear concepts of understanding. The rubber tyre, as mentioned in the apparatus, may be affixed on the outer boundary of the steel tube. This, which possesses an insulating property, prevents any charge leakage from the negatively charged highly dense low viscous fluid. Without the requisites of an engine itself, or the need of expenditure of fossil fuels or any form of non-renewable sources of energy, or fuels in any form to gets spent, this car on four mechanical wheels promises to outlast the existing technologies of the automobile industry. The principle of energy conversion from one resulting due to columbic forces of attraction, the electrostatic potential energy gets into useful rotational and translational kinetic energy to garner speed and momentum for this mechanical car, powered by its indefinite source of renewable energy from its own mechanical wheel. Once an indefinite source of renewable energy finds its use in this car wheels, the automobile exhaust and limited fossil fuels can be spared forever. Using even more able negatively charged highly dense low viscous fluid, the car can transport heavy goods and depart in a fair will to keep its promise in a revolutionized world.

III. Discussion

We do hereby exclaim in certainty that though the wheel, or in greater aspect, the car is fully automated and rely itself on the self-propelled wheel by technologies invoked to produce effective mass transfer, it is only on a conceptual ground without much experimentation. The selection of a negatively charged highly dense low viscous fluid requires being experimentally determined, at its best, considering the abysmal disastrous conditions on road. This, at the earliest, if could be implemented on daily lives possess the immense potential to reform the world we live in.

IV. Conclusion

To end on the affirmative tone, the mechanical wheel, with its entire requisite in-built, can promote the least expense of fossil fuels and emissions of automobile exhaust and turn the automobile industry on its head, impacting a huge section of people of the world irrespective of the continental barriers.

References

- [1]. "Department of Energy, Annual Energy Review 2003," DOE/EIA-0384, 2004, Energy Information Administration (EIA), Washington, D.C.
- [2]. https://en.wikipedia.org/wiki/Water-fuelled_car
- [3]. Garrett Water Carburetor - 08/09/1935
- [4]. US 2006676 Electrolytic carburetor – Charles H. Garrett (*patent*)
- [5]. <https://en.wikipedia.org/wiki/Carburetor>

- [6]. https://en.wikipedia.org/wiki/Stanley_Meyer%27s_water_fuel_cell
- [7]. "It runs on water, Part 2"
- [8]. <http://www.waterfuelcell.org/WFCprojects/Video/NewsReport.wmv>
- [9]. Business Wire Hydrogen Technology Applications and UTEK Corporation Announce Strategic Alliance Agreement (April 2002)
- [10]. EVWORLD FEATURE: Electric Cars and the Goldilocks Planet: Global Warming | Carbon Dioxide | Cold Fusion
- [11]. Knight-Ridder/Tribune Business News: Clearwater man puts technology to work Tampa Tribune (Tampa, Florida) (November 2005)
- [12]. Hydrogen Technology Applications, Inc. - Products and Markets
- [13]. Genesis World Energy Press release, December 5, 2002
- [14]. Genesis World Energy press release, April 21, 2003
- [15]. "New Fuel Cell System 'Generates Electricity with Only Water, Air'". Nikkei Business Publications, Inc. June 13, 2008. Retrieved June 13, 2008.
- [16]. No More Embarrassment for Thomson Reuters – Genepax Water Car is Dead « San Francisco Citizen
- [17]. Ghelfi, Carli (June 18, 2008). "Water-fueled car: too good to be true?". Cleantech.com. Retrieved June 22, 2008.
- [18]. "Japanese company creates eco-friendly car that uses water as fuel!". India Times. June 17, 2008. Retrieved June 18, 2008.
- [19]. Genepax Water Car: Too Good to be True? Yeah : TreeHugger
- [20]. "Japanese Company Says Laws of Physics Don't Apply – to Cars". Slashdot. June 14, 2008. Retrieved June 14, 2008.
- [21]. Rapiet, Robert (June 18, 2008). "How to Run a Car on Water: The Truth About Genepax's Hydrogen Car". The Intelligence Daily. Retrieved June 22, 2008.
- [22]. The news sources cited below report that the trip was from Christ King College, Pannipitiya, Thushara, to Anuradhapura and back.
- [23]. Business Intelligence Middle East: The water-powered car race heats up still further
- [24]. Dailynews Sri Lanka: In search of creativity
- [25]. Lopez, Allison (December 20, 2008). "Inventor, 82, gets 20 years for 'estafa'". *Philippine Daily Inquirer*. Retrieved January 12, 2009.
- [26]. "Sri Lanka – Water car story didn't hold water". *Daily Mirror*. UK. October 16, 2008. Retrieved January 12, 2009.
- [27]. New Water Running Car Kit Launched by Dr Ghulam Sarwar Launch, The News Pakistan
- [28]. <https://www.youtube.com/watch?v=H1AspJkGoek>
- [29]. <http://paktribune.com/business/news/Govt-assures-support-for-water-for-fuel-project-10125.html>
- [30]. 'Water car': Engineer sues doctor for 'trying to undermine' his invention – The Express Tribune
- [31]. https://en.wikipedia.org/wiki/Compressed_air_car
- [32]. https://en.wikipedia.org/wiki/Pneumatic_motor
- [33]. https://en.wikipedia.org/wiki/Electric_car
- [34]. Pawlowski, A. (August 8, 2008). "106 mpg 'air car' creates buzz, questions". *CNN*. Retrieved 2009-04-25.
- [35]. James D. Van de Ven, Michael W. Olson and Perry Y. Li, "Development of a Hydro-Mechanical Hydraulic Hybrid Drive Train with Independent Wheel Torque Control for an Urban Passenger Vehicle".
- [36]. Krivts, I. L., and Krejnin, G. V., *Pneumatic Actuating Systems for Automatic Equipment : Structure and Design*, CRC/Taylor & Francis, Boca Raton 2006.
- [37]. Fronczak, F. J., and Beachley, N. H. "An Integrated Hydraulic Drive Train System for Automobiles," *Fluid Power*, R. Heron, ed., Elsevier Applied Science, London, 1988, pp. 199-215.
- [38]. Rushikesh Trushar Soni, "Hybrid Electric Vehicle", *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)* e-ISSN: 2278-1684, p-ISSN: 2320-334X, Volume 12, Issue 2 Ver. VI (Mar - Apr. 2015), PP 11-14
- [39]. N.Fujii, K.Ogawa, T. Matsumoto, "The Revolving Magnet Wheels with Permanent Magnets", *Electrical Engineering in Japan*, Vol.116, No.1, pp 106-118, 1996.
- [40]. K.Ogawa, Y.Horinchi, N.Fujii, "Calculation of Electromagnetic Forces for Magnetic Wheels", *IEEE trans. on Magnetics*, Vol.33, No.2, pp 2069-2072, 1997.
- [41]. N.Fujii, K.Ogawa, M.Chida, "Relation between Magnetic Poles and Characteristics of Revolving Permanent Magnet Type Magnetic Wheel", *trans. IEE of Japan*, Vol.117-D, No.6, pp 768-775, 1997
- [42]. N.Fujii, M.Chida, K.Ogawa, "The Three Dimensional Force of Magnetic Wheel with Revolving Permanent Magnets", *IEEE trans. on Magnetics*, Vol.33, No.5, pp 4221-4223, 1997.
- [43]. N. Fujii, S. Nonaka, G. Hayashi, "Design of Magnet Wheel With Self Driven Equipment", Dept. of Electrical and Electronic Systems Eng., Kyushu University, Fukuoka, 812-8581, Japan.
- [44]. H. Lim and A. Takanishi, "Biped walking robots created at Waseda university: WL and Wabian family," *Philos.Trans.Roy.Soc.A,Math.,Phys. Eng. Sci.*, vol. 365, pp. 49–64, 2007.
- [45]. H. Lim and A. Takanishi, "Biped walking robots created at Waseda university: WL and Wabian family," *Philos.Trans.Roy.Soc.A,Math.,Phys. Eng. Sci.*, vol. 365, pp. 49–64, 2007.
- [46]. Bengt Erland Ikon, "Wheels for a course stable selfpropelling vehicle movable in any desired direction on the ground or some other base", published 8 April 1975.
- [47]. Abdalkarim M. Mohtasib, Mohsen H. Shawar, "Self-balancing Two-wheel Electric Vehicle (STEVE)", *Proceedings of the 9th International Symposium on Mechatronics and its Applications (ISMA13)*, Amman, Jordan, April 9-11, 2013.

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