
THE MYTH OF THE SALT WATER ENGINE: A THERMODYNAMIC AND LEGAL ANALYSIS OF PSEUDO-SCIENTIFIC FUEL CLAIMS UNDER INDIAN LAW

C. Aathi Thiruvaramba Pandiyan, The Central Law College, Salem

Thangasudalai Mani, The Central Law College, Salem

ABSTRACT

This paper undertakes a doctrinal and interdisciplinary examination of a recurring pseudo-scientific claim that motor vehicles can be powered by saltwater, or by devices that “burn” saltwater as a primary fuel. Beginning with the physical sciences, the paper demonstrates why such claims are irreconcilable with the First and Second Laws of Thermodynamics, and traces the well-documented history of similar claims worldwide, including the radio-frequency saltwater combustion demonstrated by the American inventor John Kanzius, the water-fuel cell promoted by Stanley Meyer, and comparable episodes in Japan, the Philippines, and Pakistan. The paper argues that in every rigorously investigated instance, the underlying phenomenon has been shown to be either ordinary electrolysis with a net energy loss, or an outright fabrication, and that no version of these devices has ever produced more usable energy than was consumed to operate them.

Having established the scientific baseline, the paper shifts to the legal register and asks a different question: not whether saltwater engines work, but what body of Indian law is engaged when such claims are made to investors, consumers, regulators, or the Patent Office. It argues that the correct legal lens is not emerging-technology regulation but the existing architecture of patent law, consumer protection law, securities law, and criminal law that already governs frivolous inventions, misleading claims, and fraudulent inducement. Provisions examined include Section 3 of the Patents Act, 1970, Sections 2(28) and 89 of the Consumer Protection Act, 2019, Sections 12A and 11 of the SEBI Act, 1992, Sections 447 and 34–36 of the Companies Act, 2013, and Section 318 of the Bharatiya Nyaya Sanhita, 2023. Eight decided cases are analysed to show how Indian courts have previously handled structurally similar disputes over inventive step, false advertising, cheating, and unregistered investment schemes and how the same reasoning would apply to a saltwater-engine venture in India.

The paper concludes that India's existing legal framework is largely adequate to deter and punish saltwater-engine fraud, but that enforcement gaps exist

at the intersection of patent examination, state government sponsorship of unverified inventions, and social-media-driven investor solicitation. It proposes a set of concrete regulatory and institutional recommendations, including a mandatory working-prototype requirement before public demonstration by any government body, clearer Patent Office guidelines on perpetual-motion and over-unity claims, and a fast-track consumer-complaint mechanism for viral pseudo-scientific advertising.

Keywords: Saltwater engine; pseudo-science; thermodynamics; Patents Act, 1970; Section 3(a); frivolous invention; consumer protection; misleading advertisement; SEBI; investor fraud; cheating; Bharatiya Nyaya Sanhita; precautionary principle; scientific temper; Article 51A(h); perpetual motion; hydrogen economy; electrolysis; over-unity claims.

I. INTRODUCTION

Every few years, a claim resurfaces somewhere in the world that an ordinary vehicle engine has been made to run on water, or on saltwater, in place of petrol or diesel. The claim is emotionally powerful: it promises energy independence, an end to fuel price volatility, and a clean alternative to fossil fuels, all from the most abundant substance on the planet. It is also, without exception so far documented, physically impossible in the form advertised, and its recurring popularity owes more to the psychology of hope than to any defensible science.¹

This paper is organised around two connected inquiries. First, in Part II and Part III, it asks what the natural sciences actually establish about the possibility of a saltwater-fuelled vehicle, and it surveys the global history of comparable claims, most of which have ended in scientific refutation, financial loss to investors, or criminal prosecution.² Second, in Parts IV through VI, it asks what Indian law already provides to deal with such claims when they are made commercially, contractually, or before a regulator not as a matter of speculative future regulation, but as an application of existing, settled doctrine in patent law, consumer protection law, securities law, and criminal law.

The paper deliberately avoids treating the saltwater engine as an emerging technology deserving of a bespoke regulatory regime. To do so would lend the claim an undeserved

¹This paper uses the term “saltwater engine” as shorthand for any device, engine modification, or fuel-additive kit claimed to allow an internal combustion engine to run wholly or predominantly on water or saltwater, as distinct from genuine hydrogen fuel-cell technology in which electricity from an external source is used to first electrolyse water and the resulting hydrogen is then consumed as an energy carrier.

²See generally Section II *infra*, discussing the Second Law of Thermodynamics and the phenomenon publicised by John Kanzius in 2007.

scientific respectability. Instead, the paper treats saltwater-engine claims the way Indian law has historically treated other categories of impossible or wildly exaggerated commercial claims: as a recurring pattern of either honest mistake, self-deception, or deliberate fraud, each of which has a well-established legal remedy.

The choice of India as the jurisdictional focus is not incidental. India has, on more than one occasion, seen state functionaries, godmen, and self-styled inventors publicly endorse water-fuel or fuel-additive claims, occasionally with political patronage.³ India's constitutional commitment to the development of “scientific temper” under Article 51A(h) of the Constitution, combined with a mature statutory framework for consumer protection, securities regulation, and criminal fraud, makes it a particularly apt case study for testing how existing law should respond to pseudo-scientific commercial claims.

Part VII situates the Indian position in comparative perspective, briefly examining the civil fraud judgment against Stanley Meyer in the United States and the regulatory posture of the European Union toward unsubstantiated environmental and energy claims. Part VIII sets out concrete recommendations for legislative and administrative reform, and Part IX concludes.

II. THE SCIENCE: WHY SALTWATER CANNOT FUEL A VEHICLE

A. The Thermodynamic Baseline

Water, whether fresh or saline, is a highly stable, already-oxidised compound. Hydrogen in water has already released essentially all the chemical energy it is capable of releasing, having already reacted with oxygen to form water in the first place.⁴ To obtain usable hydrogen fuel from water, that water must first be split into hydrogen and oxygen through electrolysis or an equivalent process, and this splitting itself always requires an input of energy—electrical, thermal, or radiative—that is, under real-world efficiencies, larger than the energy later recoverable by burning the resulting hydrogen.

This is not a matter of insufficiently clever engineering. It is a direct consequence of the Second

³Comparable episodes have occurred in Pakistan, where the water-kit controversy of 2012 involved a serving federal minister publicly endorsing an inventor's claims before the scientific community exposed the underlying thermodynamic impossibility; see Section III(E) *infra*.

⁴Water (H₂O) sits at a low point on the potential-energy surface for hydrogen-oxygen reactions; extracting hydrogen from water and later burning it can never yield net positive energy without an external, non-water energy input, because doing so would require reversing an already-completed exothermic reaction.

Law of Thermodynamics, which holds that no cyclic process can convert heat entirely into work, and more specifically of the principle of conservation of energy under the First Law, which holds that energy can be transformed but never created from nothing.⁵ A vehicle “fuelled” by saltwater, if the saltwater itself supplies the net energy, would be a perpetual motion machine of the first or second kind, categories of device that have never been successfully demonstrated in over two centuries of patent examination worldwide.

B. Electrolysis, Salinity, and the Illusion of a New Fuel

Saltwater is a better electrical conductor than pure water because dissolved sodium and chloride ions carry current more readily.⁶ When electrical current, or an oscillating radio-frequency field, is passed through saltwater, it can accelerate the dissociation of water molecules into hydrogen and oxygen gas, a process that is simply electrolysis by another name, sometimes assisted by resistive or dielectric heating of the solution. The hydrogen gas produced can indeed be ignited and will burn, sometimes dramatically, producing a visible flame.

This is precisely what occurred in the widely publicised 2007 demonstration by the American inventor John Kanzius, who discovered, while working on an unrelated radio-frequency cancer treatment device, that directing radio waves of roughly 200 watts at a test tube of saltwater could ignite a sustained flame.⁷ Independent examination by chemists, including at Pennsylvania State University, confirmed the flame was genuine but explained it as electrolytic hydrogen release rather than the combustion of water itself, and Kanzius himself, to his credit, publicly stated in 2007 that the process could not be considered an energy source, because more energy went into producing the radio-frequency signal than could ever be recovered from burning the resulting gas.

The salt in this process performs no fuel function whatsoever. Its only role is to make the water a better conductor, which lowers the electrical resistance the applied field must overcome. No additional chemical energy is released from the sodium or chloride ions themselves under these

⁵The point was made succinctly by physicist Yousaf Butt in commentary on a comparable Pakistani water-fuel controversy: any device that claims to output more usable energy than was put into it violates the Second Law, a principle no working engineer or physicist treats as open to falsification by anecdote or demonstration alone.

⁶This is the same principle by which a car battery, a saline solution, or ordinary tap water with dissolved minerals conducts electricity far better than deionised water.

⁷The radio-frequency generator operated at approximately 13–56 MHz and roughly 200 watts of power; engineers who examined the device following the widely circulated video determined that the energy content of the RF field exceeded the energy released by the resulting flame, meaning the process was, at best, a novel but inefficient method of electrolysis rather than a new energy source.

conditions. Describing the resulting device as a “saltwater engine” is therefore scientifically misleading in a specific and identifiable way: it implies that the salt or the water is the fuel, when in truth the fuel, to the extent there is one, is whatever electricity or radio-frequency energy powered the splitting process in the first place.

C. Genuine Hydrogen Technology, Correctly Understood

None of this forecloses the possibility of water-adjacent clean vehicle technology. Hydrogen fuel-cell vehicles are real, commercially available, and increasingly deployed worldwide, including prototype and pilot programmes in India.⁸ The crucial distinction is that in a genuine hydrogen vehicle, water is not the fuel; it is the exhaust product. The actual fuel is hydrogen gas, itself produced beforehand using external energy, most cleanly using renewable electricity. This is sometimes described as using hydrogen as an energy carrier or energy storage medium rather than as a primary energy source, precisely because hydrogen does not occur freely in usable quantities in nature and must always be manufactured at an energy cost.

Confusing this genuine, energy-accounted technology with an on-board saltwater engine that supposedly manufactures its own fuel from the water in its tank is the central conceptual error underlying every saltwater-engine claim examined in this paper. It is also, as later Parts will show, the central representation that Indian consumer protection, patent, and fraud law is well equipped to test and reject.

III. A GLOBAL HISTORY OF WATER-FUEL CLAIMS

Saltwater and water-fuel claims are not a single event but a recurring pattern spanning at least five decades and multiple continents. Examining this pattern is useful for two reasons. First, it shows that the scientific refutation offered in Part II is not speculative but has been independently confirmed in case after case by different investigators using different methods. Second, and more importantly for this paper, it shows the recurring legal consequences that have followed such claims, which foreshadow the doctrinal analysis undertaken in Parts IV through VI.

⁸Hydrogen fuel-cell vehicles such as the Toyota Mirai operate by storing compressed hydrogen gas, produced elsewhere by electrolysis or steam-methane reforming, and combining it with atmospheric oxygen in a fuel cell to generate electricity, with water as the only tailpipe emission.

A. Stanley Meyer's Water Fuel Cell (United States, 1980s–1998)

The American inventor Stanley Meyer claimed from the early 1980s to have built a “water fuel cell” capable of splitting water into hydrogen and oxygen using far less energy than conventional electrolysis, allegedly enough to power an unmodified automobile engine on water alone.⁹ Meyer sold dealership and licensing rights to investors on the strength of these claims. In 1996, two investors who had purchased such rights sued him in an Ohio court. An expert witness, a professor of electrical engineering at Queen Mary, University of London, examined the device and testified that it used nothing more than ordinary electrolysis.¹⁰ The Ohio court held that Meyer's representations amounted to fraud and ordered repayment to the investors, a result directly analogous to the investor-fraud and cheating doctrines examined later in this paper under Indian law.

B. John Kanzius and Radio-Frequency Saltwater Combustion (United States, 2007)

As discussed in Part II, John Kanzius's 2007 demonstration of burning saltwater using radio-frequency energy was scientifically genuine as an observed phenomenon but was never claimed by Kanzius himself, at least after initial media excitement subsided, to be a net energy source.¹¹ The Kanzius episode is legally significant chiefly as a case study in how media amplification can create investor and public expectations that outstrip an inventor's own, more modest claims, a dynamic of particular relevance to the analysis of misleading advertisement and disparagement law in Part VI.

C. Genepax (Japan, 2008–2009)

The Japanese company Genepax publicly unveiled a car in 2008 that it claimed could run on ordinary water, using an undisclosed “membrane electrode assembly” to extract hydrogen. The claim received significant international press coverage. Genepax never disclosed the technical details of its membrane, never subjected the vehicle to independent third-party verification of net energy output, and ceased trading in 2009 without ever bringing a commercial product to

⁹Meyer's device was said to use a specially tuned electrical resonance circuit rather than brute-force electrolysis, a claim never substantiated by any peer-reviewed replication.

¹⁰The court in the 1996 Ohio civil proceeding found that Meyer had committed “gross and egregious fraud” and ordered him to repay the investors their money; Meyer died in 1998, before the broader claims about his technology could be further tested in court, prompting persistent but unsubstantiated conspiracy theories about his death.

¹¹Kanzius stated in July 2007 that he had never claimed his discovery would replace oil, describing it instead as merely “thought provoking,” a materially different claim from the one attributed to him by sections of the press.

market.¹²

D. Daniel Dingel (Philippines, 1969–2000s)

The Filipino inventor Daniel Dingel claimed for over three decades to have converted a 1996 Toyota Corolla to run on ordinary water using a proprietary hydrogen reactor. Dingel refused to disclose the mechanism, citing an alleged conspiracy involving petroleum companies and the Philippine government. He was later accused of defrauding the Formosa Plastics Group of approximately USD 400,000 after failing to deliver a working, independently verifiable prototype and refusing to respond to the investor's inquiries.¹³

E. The Pakistani Water-Kit Controversy (2012)

In 2012, a Pakistani engineering student, Agha Waqar Ahmad, claimed to have invented a “water kit” that could be fitted to any car engine to allow it to run on water. The claim received an extraordinary degree of political endorsement, including from a sitting federal minister for religious affairs and support from the head of the Pakistan Council of Scientific and Industrial Research, before independent physicists, most prominently a former chairman of Pakistan's Higher Education Commission, publicly rejected the claim as a violation of the Second Law of Thermodynamics.¹⁴ No prosecution followed in that instance, but the episode remains a widely cited comparative example of the institutional and political dynamics this paper argues Indian regulators must guard against.

F. Indian Parallels: Patent Filings, Godman Claims, and Viral Demonstrations

India has not been immune to comparable episodes. Claims of vehicles or generators running on water, or on minimal fuel supplemented by water, periodically surface in Indian media and on social media platforms, occasionally attracting the attention of local politicians eager to be

¹²As with other entries in this survey, the pattern of an impressive but unverified demonstration, followed by an inventor's refusal to permit independent testing, followed by the quiet cessation of the venture, recurs across jurisdictions and is treated by commentators as a hallmark of this category of claim.

¹³Despite the fraud allegations, Dingel retained a degree of public sympathy in the Philippines given the country's heavy dependence on imported petroleum, illustrating the psychological and political appeal such claims can carry independent of their scientific merit.

¹⁴The episode is instructive precisely because it shows how easily political and media credulity can outpace scientific scrutiny, and how a comparatively simple falsifiability test – removing all fuel other than water and running a generator on the kit alone, under independent observation – was proposed by critics but never actually accepted or passed by the inventor.

associated with an appealing but unverified technological breakthrough.¹⁵ Indian patent applications invoking water-based or over-unity energy claims have, where prosecuted to a substantive examination, generally failed for want of an enabling disclosure or for claiming a result contrary to well-established natural laws, a ground of rejection examined in detail in Part V(B) and Part VI in relation to Section 3(a) of the Patents Act, 1970 and the inventive-step doctrine of Bishwanath Prasad Radhey Shyam.

IV. WHY THIS MATTERS FOR LAW: FRAUD, NOT INNOVATION

The recurring pattern documented in Part III suggests that the correct legal question is not “what regulatory framework should govern saltwater-engine technology,” because no such technology, as advertised, exists or can exist. The correct legal question is which of India's existing bodies of law are engaged when a person or entity makes a saltwater-engine claim in a commercial, contractual, or regulatory context, and whether those bodies of law provide an adequate remedy.

This paper identifies four such bodies of law, each addressed in Part V and illustrated with case law in Part VI.

- Patent law, engaged when an inventor seeks a patent, or represents to third parties that a patent has been or will be granted, for a device that does not and cannot work as claimed, implicating Section 3 (what are not inventions) and Section 64 (grounds of revocation) of the Patents Act, 1970.
- Consumer protection law, engaged when a saltwater-engine product, kit, or additive is marketed or sold to consumers with claims about fuel efficiency or fuel replacement that cannot be substantiated, implicating the definition of “misleading advertisement” in Section 2(28) and the penal provisions of Section 89 of the Consumer Protection Act, 2019.
- Securities and company law, engaged when investors are solicited to fund the development or commercialisation of the technology on the strength of unsubstantiated

¹⁵Such claims typically follow an identifiable pattern: a demonstration before a non-technical audience, absence of independent third-party energy-balance verification, refusal or inability to disclose the underlying mechanism, and an appeal for public or private funding to “scale up” or “commercialise” the technology.

claims, implicating Sections 447, 34, 35, and 36 of the Companies Act, 2013 and Sections 11, 11A, and 12A of the SEBI Act, 1992.

- Criminal law, engaged when the claim is used to dishonestly induce a person to part with money or property, implicating Section 318 of the Bharatiya Nyaya Sanhita, 2023 (the successor provision to Sections 415 and 420 of the erstwhile Indian Penal Code, 1860), and, where an organised scheme with more than one victim is involved, the specific provisions on organised and economic offences under state and central law.

A recurring theme across all four bodies of law, developed further in Part V, is that Indian courts do not require a plaintiff, regulator, or prosecutor to disprove the underlying science from first principles in every case. Where a claim is contrary to well-settled and judicially noticeable scientific principle, courts and regulators are entitled to treat that fact as established without extensive expert re-litigation in every proceeding, much as courts take judicial notice of the law of gravity or basic arithmetic.¹⁶ This principle is important because it forecloses a defence sometimes offered by promoters of pseudo-scientific technologies: that the law cannot act against them until their claims have first been definitively disproved to a scientific certainty in that specific proceeding. Indian regulators and courts are not required to indulge that demand where the claim already contradicts settled science.

V. INDIAN LEGAL FRAMEWORK APPLICABLE

A. Constitutional Foundations

The starting point for any Indian legal analysis of pseudo-scientific claims is Article 51A(h) of the Constitution of India, which casts upon every citizen the fundamental duty “to develop the scientific temper, humanism and the spirit of inquiry and reform.”¹⁷ While Part IVA duties are not directly enforceable in the manner of fundamental rights, Indian courts have repeatedly relied upon them as an interpretive aid in construing statutes and assessing the reasonableness of executive action, particularly where public money, public office, or public health and safety are implicated by pseudo-scientific claims.

¹⁶This is analogous to the reasoning in *Novartis AG v. Union of India* (2013) 6 SCC 1, discussed in Part VI(A), where the Supreme Court engaged closely with the underlying pharmaceutical science before applying Section 3(d) of the Patents Act, 1970, demonstrating that Indian courts are both willing and equipped to test scientific claims rigorously as part of ordinary statutory adjudication.

¹⁷Article 51A(h), Constitution of India, inserted by the Constitution (Forty-second Amendment) Act, 1976.

Directive Principles under Articles 39(b) and 39(c) further support state regulation of economic activity, including energy and fuel markets, in the interests of the common good and against the concentration of wealth through unfair means, while Article 21's guarantee of the right to life has been read expansively to encompass a right to a clean and safe environment and to protection from consumer harm, providing constitutional colour to the precautionary principle discussed in Part V(G).

B. The Patents Act, 1970

Section 2(1)(j) of the Patents Act, 1970 defines “invention” as a new product or process involving an inventive step and capable of industrial application. A device that cannot function as claimed necessarily fails the requirement of industrial applicability, because it cannot be capable of being made or used in an industry in the manner represented.¹⁸

Section 3 of the Act enumerates what are not inventions for the purposes of the Act. Section 3(a) excludes an invention which is frivolous or which claims anything obviously contrary to well established natural laws.¹⁹ A saltwater-engine application claiming net positive energy output from splitting and recombining water falls squarely within this exclusion, since it necessarily claims a result contrary to the conservation of energy and the Second Law of Thermodynamics, both indisputably well established natural laws for the purposes of Indian patent examination.

Even where an application is not rejected outright under Section 3(a), Section 10(4) requires that the complete specification fully and particularly describe the invention and disclose the best method of performing it known to the applicant, and Section 8 requires disclosure of information relating to corresponding foreign applications.²⁰ Water-fuel inventors who, as documented in Part III, characteristically refuse to disclose the operative mechanism of their device cannot satisfy this enabling-disclosure requirement, providing an independent ground for refusal or later revocation.

Section 64 sets out the grounds on which a granted patent may be revoked, including that the

¹⁸Section 2(1)(j), Patents Act, 1970, as amended by the Patents (Amendment) Act, 2005.

¹⁹Section 3(a), Patents Act, 1970. The Manual of Patent Office Practice and Procedure issued by the Indian Patent Office identifies perpetual motion machines and devices claiming to output more energy than they consume as paradigm examples of claims obviously contrary to well established natural laws, squarely capturing saltwater-engine and over-unity fuel claims within this exclusion.

²⁰Sections 10(4) and 8, Patents Act, 1970.

invention was not new, that it involves no inventive step, that it is not useful, or that the complete specification does not sufficiently and fairly describe the invention and the method by which it is to be performed.²¹ These grounds mirror, and in the Indian context substantially derive from, the reasoning of the Supreme Court in *Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries*, discussed in Part VI(B), on novelty and inventive step.

C. The Consumer Protection Act, 2019

Section 2(28) of the Consumer Protection Act, 2019 defines a “misleading advertisement”, in relation to any product or service, as an advertisement which falsely describes the product or service, or gives a false guarantee or is likely to mislead consumers as to the nature, substance, quantity, or quality of such product or service, or which conveys an express or implied representation which, if made by the manufacturer or seller thereof, would constitute an unfair trade practice, or which is likely to cause harm to public health.²² Advertising a fuel-saving kit, additive, or vehicle modification on the strength of an unsubstantiated saltwater-fuel claim falls comfortably within this definition, both as a false description of the product's substance and effect and as an implied representation constituting an unfair trade practice under Section 2(47) of the same Act.

The Central Consumer Protection Authority, established under Section 10 of the Act, is empowered under Section 21 to conduct investigations into violations of consumer rights, unfair trade practices, and false or misleading advertisements, and to impose penalties on manufacturers, advertisers, and endorsers, extending in appropriate cases to a prohibition on the endorser making further endorsements for a period of up to three years for a first offence.²³ This authority is significant for saltwater-engine cases because it permits swift administrative action, including suspension of sale, without the delay inherent in full civil or criminal trial, and is particularly well suited to viral social-media advertising of fuel-saving devices of the kind documented in Part III(F).

²¹Section 64(1), Patents Act, 1970, particularly clauses (e), (f), (g), and (h).

²²Section 2(28), Consumer Protection Act, 2019.

²³Section 21, read with Section 89, Consumer Protection Act, 2019. Section 89 additionally prescribes criminal penalties of imprisonment for a term which may extend to two years and fine which may extend to ten lakh rupees for a first conviction, rising to imprisonment up to five years and fine up to fifty lakh rupees for subsequent convictions, for false or misleading advertisements prejudicial to the interest of consumers.

D. The Companies Act, 2013 and the SEBI Act, 1992

Where a saltwater-engine venture is structured as a company soliciting public or private investment, Section 447 of the Companies Act, 2013 defines “fraud” broadly to include any act, omission, concealment of any fact, or abuse of position committed with intent to deceive, to gain undue advantage from, or to injure the interests of the company, its shareholders, its creditors, or any other person, whether or not there is any wrongful gain or wrongful loss, and prescribes stringent imprisonment and fine.²⁴

Sections 34, 35, and 36 impose civil and criminal liability for misstatements in a prospectus, including untrue or misleading statements as to the technical capability or performance of a product to be commercialised with the funds raised, while Section 447 read with Section 36 has been used to prosecute fraudulent inducement to invest through advertisement or false statement even absent a formal prospectus.²⁵ Section 12A of the SEBI Act, 1992 separately prohibits fraudulent and unfair trade practices in connection with the issue, purchase, or sale of securities, and empowers the Securities and Exchange Board of India to investigate and act against unregistered collective investment schemes of the kind examined in *Sahara India Real Estate Corp. Ltd. v. SEBI and Subrata Chattoraj v. Union of India*, discussed in Part VI(F) and Part VI(G).

E. The Bharatiya Nyaya Sanhita, 2023

Section 318 of the Bharatiya Nyaya Sanhita, 2023, which substantially reproduces the text of the erstwhile Section 415 of the Indian Penal Code, 1860 on cheating, defines cheating as fraudulently or dishonestly inducing a person to deliver property or to consent to the retention of property, or intentionally inducing a person to do or omit to do anything which causes or is likely to cause damage or harm, where such person would not have so acted or omitted but for the deception.²⁶ As the Supreme Court held in *Hridaya Ranjan Prasad Verma v. State of Bihar*, discussed in Part VI(E), the offence turns critically on whether the dishonest or fraudulent intention existed at the very inception of the transaction, and not merely on a subsequent failure

²⁴Section 447, Companies Act, 2013, prescribing imprisonment for a term which shall not be less than six months but which may extend to ten years, and fine not less than the amount involved but which may extend to three times the amount involved, in cases involving public interest.

²⁵Sections 34, 35, and 36, Companies Act, 2013.

²⁶Section 318(1), Bharatiya Nyaya Sanhita, 2023. Section 318(4) corresponds to the erstwhile Section 420 IPC on cheating and dishonestly inducing delivery of property, and carries enhanced sentencing of up to seven years' imprisonment under the 2023 Sanhita compared to seven years under the erstwhile provision, together with fine.

to deliver the promised result.

This distinction is of particular importance for saltwater-engine cases. A promoter who genuinely, if mistakenly, believes in the workability of their device, and who discloses the experimental and unverified nature of the technology to investors or consumers, may not satisfy the mens rea threshold for cheating, however scientifically misguided the underlying belief. By contrast, a promoter who conceals known test failures, fabricates demonstrations, or continues to solicit funds after independent verification has failed, more readily satisfies the fraudulent-intent threshold that Hridaya Ranjan Prasad Verma requires to be shown at the transaction's inception.²⁷ Where multiple victims and an organised collection mechanism are involved, Section 61 of the Bharatiya Nyaya Sanhita on criminal conspiracy, and state-level statutes such as the Prize Chits and Money Circulation Schemes (Banning) Act, 1978, may additionally be engaged, as they were in the Saradha and Rose Valley chit-fund prosecutions discussed in Part VI(G).

F. The Motor Vehicles Act, 1988 and Central Motor Vehicle Rules

Independent of fraud and patent law, any vehicle or engine modification intended for commercial sale or road use in India must satisfy type-approval and certification requirements under the Motor Vehicles Act, 1988 and the Central Motor Vehicle Rules, 1989, including testing by an authorised testing agency for emissions, safety, and roadworthiness before the Automotive Research Association of India or an equivalent body will certify the vehicle for sale.²⁸ No saltwater-engine kit or vehicle has, to date, received such certification in India, and any commercial sale or fitment of an uncertified device would separately expose the seller to regulatory action independent of the fraud and consumer-protection remedies discussed above.

G. Environmental Law and the Precautionary Principle

Finally, to the extent a saltwater-engine device were ever to reach a stage of genuine field deployment, notwithstanding the scientific objections in Part II, its environmental claims would themselves be subject to scrutiny under the Energy Conservation Act, 2001, which

²⁷This mirrors the fact pattern in the Stanley Meyer litigation discussed in Part III(A), where the Ohio court's finding of "gross and egregious fraud" rested on evidence that Meyer knew or should have known his device could not perform as represented to investors at the time the representations were made.

²⁸See generally Rule 126, Central Motor Vehicle Rules, 1989, requiring type approval certification from a recognised testing agency prior to manufacture for sale, and the Bureau of Indian Standards certification regime applicable to automotive components under the BIS Act, 2016.

empowers the Bureau of Energy Efficiency to prescribe energy consumption standards and star-rating labels, and under the precautionary principle, which Indian courts have recognised as part of the law relating to sustainable development.²⁹ While the precautionary principle is most commonly invoked to justify regulatory caution toward a technology of uncertain but plausible benefit, it cuts the other way here: it supports rejecting unverified environmental and efficiency claims made on behalf of a technology that established science already indicates cannot perform as advertised, rather than permitting commercial deployment on a wait-and-see basis.

VI. CASE LAW ANALYSIS

This Part examines eight decided cases that, taken together, illustrate how Indian courts and tribunals would likely approach a saltwater-engine dispute arising in patent, advertising, securities, or criminal proceedings. None of these cases concerns a water-fuel claim directly; each is instead the leading Indian authority on a doctrinal building block—inventive step, misleading advertisement, cheating, or investor fraud—that would govern such a dispute if it arose.

1. Novartis AG v. Union of India, (2013) 6 SCC 1

In this landmark decision, the Supreme Court rejected Novartis's patent application for the beta crystalline form of imatinib mesylate, the active compound in the cancer drug Glivec, holding that the applicant had failed to demonstrate enhanced therapeutic efficacy over the known substance as required by Section 3(d) of the Patents Act, 1970.³⁰ The judgment is significant for this paper for two reasons. First, it demonstrates that Indian courts are institutionally willing and competent to engage rigorously with the underlying science of a patent claim rather than deferring uncritically to an applicant's assertions, precisely the posture Part IV argues is appropriate for saltwater-engine applications. Second, it demonstrates that Section 3 of the Act functions as a substantive gatekeeping provision, not a formality, and that the burden lies

²⁹The precautionary principle was articulated by the Supreme Court in *Vellore Citizens' Welfare Forum v. Union of India* (1996) 5 SCC 647 as requiring that, where there are threats of serious environmental damage, the absence of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation, and has since been treated as part of the law of the land under Article 21.

³⁰*Novartis AG v. Union of India*, (2013) 6 SCC 1, per Aftab Alam J. The Court found that no material had been placed before it to establish that the beta crystalline form provided enhanced therapeutic efficacy over imatinib free base, and held the claimed invention failed the tests of invention and patentability under multiple limbs of Section 3.

squarely on the applicant to substantiate claimed technical effects with actual evidence a burden no saltwater-engine applicant, consistent with the survey in Part III, has ever discharged.

2. *Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries*, (1979) 2 SCC 511

This foundational decision on Indian patent law concerned a patent for a device to mount metal utensils on a lathe using a headstock adapter. The Supreme Court held the patent invalid for want of novelty and inventive step, holding that a mere workshop improvement, obvious to a person skilled in the art with knowledge of the existing prior art, does not qualify as a patentable invention.³¹ Applied to a saltwater-engine application, the case establishes two relevant principles. First, a claimed combination of already-known elements, such as an electrolysis cell, a saline solution, and a combustion chamber, is patentable only if the combination produces a new and unexpected result not predictable from the known behaviour of its components; a saltwater engine's claimed result net positive energy is not merely unpredictable but affirmatively contrary to known thermodynamic behaviour, placing it beyond even the generous combination doctrine the Court articulated. Second, the case confirms that Indian courts assess inventive step objectively against the existing state of scientific knowledge, not against the subjective sincerity or enthusiasm of the inventor.

3. *Hindustan Lever Ltd. v. Colgate Palmolive (India) Ltd.*, (1998) 1 SCC 526 (also reported at (1998) 1 SCC 720)

In this dispute over Hindustan Lever's advertising claim that its New Pepsodent toothpaste was “102% better than the leading toothpaste” at killing germs, the Supreme Court upheld a temporary injunction restraining the advertisement pending expert verification of the underlying scientific claim, holding that quantified, apparently scientific claims in advertising cannot be dismissed as mere sales puffery and are properly subject to injunctive scrutiny where a competitor or consumer disputes their truth.³²

³¹Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries, (1979) 2 SCC 511, per Sarkaria J. The Court held that the expression “does not involve any inventive step” has acquired special significance in patent law terminology and that obviousness must be strictly and objectively judged against the state of the prior art.

³²Hindustan Lever Ltd. v. Colgate Palmolive (India) Ltd. and Anr., decided 17 December 1997, Supreme Court of India, per M. Jagannadha Rao J. The Court found a prima facie case for injunctive relief given the quantified nature of the “102% better” claim and its likely effect of causing consumers to treat the assertion as established scientific fact.

This precedent is directly relevant to any saltwater-engine advertising claim that quantifies fuel savings or efficiency gains, such as an assertion that a device improves mileage by a stated percentage. Following Hindustan Lever, an Indian court would treat such a quantified claim as a serious representation of fact requiring substantiation, not as permissible exaggeration, and would be prepared to grant interim relief restraining the advertisement pending verification, particularly where, as with saltwater engines, the underlying scientific premise is independently known to be false rather than merely contested.

4. Colgate Palmolive Company v. Hindustan Unilever Ltd., FAO(OS) 396/2013, Delhi High Court, decided 10 December 2013

In this later dispute in the same commercial rivalry, the Delhi High Court's Division Bench considered an advertisement claiming that Pepsodent Germicheck was “130 percent better” than Colgate Strong Teeth based on a laboratory study of Triclosan retention. The Court held that exaggeration is permissible in comparative advertising, but the denigration of a competitor's product through a claim presented as scientifically established fact is not, and where the truthfulness of a technical claim is disputed, the matter must be sent for factual determination rather than dismissed as advertising puffery.³³

For saltwater-engine cases, this decision reinforces that Indian courts distinguish carefully between permissible marketing enthusiasm and impermissible technical claims dressed in the language of scientific proof, such as references to laboratory testing, percentage improvements, or comparative studies. A saltwater-engine advertisement that invokes similar scientific-sounding language references to independent testing, chemical analysis, or efficiency percentages would be assessed under this same exacting standard rather than treated as mere sales talk.

5. Hridaya Ranjan Prasad Verma v. State of Bihar, (2000) 4 SCC 168

This decision is the leading Indian authority on the distinction between a mere civil breach of contract and the criminal offence of cheating under Section 415 (now Section 318, Bharatiya Nyaya Sanhita, 2023). The Supreme Court held that to sustain a prosecution for cheating, the

³³Colgate Palmolive Company and Anr. v. Hindustan Unilever Ltd., FAO(OS) 396/2013 (Del.), decided 10 December 2013. The Division Bench restrained the impugned advertisement's overbroad reference to “Colgate” generally rather than the specific compared product, and remanded the question of the claim's underlying truthfulness for determination on evidence.

complainant must show that the accused possessed a fraudulent or dishonest intention at the very inception of the transaction, and that a subsequent failure to perform a promise does not, by itself, establish that such intention existed from the outset.³⁴

This decision provides the key mens rea framework discussed in Part V(E). It means that Indian criminal law does not automatically criminalise every failed saltwater-engine venture; a promoter who genuinely, if scientifically mistakenly, believed the technology would work, and who made no knowing misrepresentation, may face civil liability for breach of contract or misrepresentation but not necessarily a sustainable cheating charge. The dividing line, as the case makes clear, is evidence of knowledge or concealment at the time representations were made for instance, continuing to solicit investment after an internal or independent test has failed, or fabricating a demonstration which would supply the fraudulent intent the offence requires.

6. Sahara India Real Estate Corp. Ltd. v. Securities and Exchange Board of India, (2012) 10 SCC 603

In this widely reported decision, the Supreme Court upheld SEBI's jurisdiction to direct two Sahara group companies to refund over Rs 24,000 crore collected from approximately three crore investors through Optionally Fully Convertible Debentures issued under the guise of a private placement, holding that the offering in substance constituted an unregistered public issue of securities in violation of the Companies Act, 1956 and the SEBI Act, 1992, irrespective of the label the companies had placed on it.³⁵ The Court emphasised that SEBI's investor-protection jurisdiction extends to substance over form, and that companies cannot evade securities regulation by mislabelling a large-scale public solicitation as a private arrangement.

The relevance to saltwater-engine ventures lies in the common fundraising structure such ventures often adopt: soliciting investment from a large number of small investors through instruments described as private placements, informal partnerships, or crowdfunding

³⁴Hridaya Ranjan Prasad Verma and Ors. v. State of Bihar and Anr., (2000) 4 SCC 168, per D.P. Mohapatra J. The Court quashed the criminal proceedings, finding the complaint disclosed at most a civil dispute over a land transaction and did not aver fraudulent intent at the transaction's inception.

³⁵Sahara India Real Estate Corporation Ltd. and Ors. v. Securities and Exchange Board of India and Anr., (2012) 10 SCC 603 (also reported as Civil Appeal Nos. 9813 and 9833 of 2011), decided 31 August 2012, per K.S. Radhakrishnan J. The Court ordered refund of the entire principal collected with interest at 15% per annum, and confirmed SEBI's jurisdiction over unlisted companies raising funds from more than the statutorily permitted number of persons under the guise of private placement.

arrangements, precisely to avoid securities registration and disclosure requirements. Sahara establishes that Indian regulators and courts will look through such labelling to the substance of the transaction and will not permit the scale or structure of an offering to escape SEBI's investor-protection jurisdiction merely because of its formal characterisation.

7. *Subrata Chattoraj v. Union of India and Ors.*, (2014) 8 SCC 768

Arising from the Saradha Group collective investment scheme collapse, in which approximately 200 companies collected an estimated Rs 2,000 to 4,000 crore from over 1.7 million depositors on the promise of high returns from diversified but largely fictitious business activities, the Supreme Court considered the scope of investigation into the scam and the jurisdiction of multiple regulators and investigating agencies over the affected companies.³⁶ The Court permitted a multi-agency, including CBI, investigation given the scheme's interstate ramifications and the involvement of political and other influential figures, underscoring the seriousness with which Indian courts treat large-scale investment fraud dressed in the language of legitimate diversified enterprise.

This case is directly instructive for any saltwater-engine venture that, having attracted initial credulous investment, uses a portion of those funds to establish superficially impressive but ultimately hollow business fronts demonstration vehicles, pilot facilities, or media events to attract further investment, exactly the pattern the Saradha companies followed with unrelated ventures such as a motorcycle manufacturing front used to give the appearance of a diversified, credible enterprise. The decision confirms that Indian criminal and regulatory machinery is capable of and willing to pursue such schemes at scale, including through coordinated central agency investigation, once a critical mass of victim complaints emerges.

8. *State of Haryana v. Bhajan Lal*, 1992 Supp (1) SCC 335

This decision remains the definitive statement of the circumstances in which the High Court may exercise its inherent power under Section 482 of the Code of Criminal Procedure, 1973 (now substantially reproduced in Section 528 of the Bharatiya Nagarik Suraksha Sanhita, 2023)

³⁶Subrata Chattoraj v. Union of India and Ors., (2014) 8 SCC 768, decided 9 May 2014. The Court noted that the modus operandi of such schemes typically involves floating numerous companies to allure depositors through fictitious diversified business fronts, and recorded that over 25 lakh claims had been received by state commissions of inquiry set up to address the fallout, reflecting the scale of harm such unregistered schemes can inflict.

to quash a criminal complaint or first information report, including where the allegations, even if taken at face value, do not disclose the commission of any offence, or where the proceeding is manifestly attended with mala fide intent or instituted with an ulterior motive.³⁷ While Bhajan Lal is not itself a case about fraud or invention, it supplies the necessary procedural counterweight to the fraud doctrines discussed above: it confirms that not every disappointed investor, disgruntled consumer, or commercial rival can automatically convert a civil or contractual dispute into a criminal prosecution, and that Indian courts retain a screening jurisdiction to prevent the criminal process from being misused as a coercive recovery mechanism, particularly relevant given the civil-versus-criminal distinction Hridaya Ranjan Prasad Verma draws for cheating allegations.

For saltwater-engine disputes specifically, Bhajan Lal cautions that a criminal complaint filed against a promoter merely because the promised technology failed to work, without more, risks being quashed unless the complaint also discloses facts suggesting fraudulent intent at inception, reinforcing the analytical framework developed through the combined reading of these eight cases: patent law screens the technology at the examination stage; consumer protection law screens marketing claims; securities and company law screen fundraising structures; and criminal law, properly confined by Hridaya Ranjan Prasad Verma and Bhajan Lal, punishes only genuinely dishonest inducement rather than honest scientific failure.

VII. COMPARATIVE PERSPECTIVE

A. United States

As discussed in Part III(A), American courts have addressed water-fuel claims chiefly through ordinary civil fraud litigation rather than bespoke legislation, exemplified by the 1996 Ohio judgment against Stanley Meyer for gross and egregious fraud toward investors.³⁸ The United States Federal Trade Commission additionally possesses broad authority under Section 5 of the Federal Trade Commission Act to act against unfair or deceptive acts or practices in commerce, including unsubstantiated fuel-efficiency and environmental marketing claims, an authority functionally comparable to that of India's Central Consumer Protection Authority discussed in Part V(C). The United States Patent and Trademark Office has, since at least the mid-twentieth

³⁷State of Haryana and Ors. v. Bhajan Lal and Ors., 1992 Supp (1) SCC 335, per S. Ratnavel Pandian J., laying down seven illustrative (non-exhaustive) categories of cases in which the power to quash may properly be exercised.

³⁸See Part III(A) *supra*.

century, applied a settled practice of requiring a working model or a credible operability showing before granting a patent for a perpetual motion machine or any device claiming to produce more energy than it consumes, a practice with clear parallels to Section 3(a) of the Indian Patents Act, 1970.

B. European Union

The European Union's regulatory approach relies principally on the Unfair Commercial Practices Directive (2005/29/EC), which prohibits misleading commercial practices including false claims about a product's benefits, risks, and results of use, and on the more recent Green Claims framework aimed specifically at unsubstantiated environmental and energy-efficiency marketing.³⁹ The European Patent Convention similarly excludes from patentability inventions that are not susceptible of industrial application, and European patent examiners have, in published guidelines, treated perpetual motion and over-unity energy claims as failing this requirement absent an unusually compelling and independently reproducible demonstration, a standard no water-fuel claim has yet met anywhere in the world.

Comparative review therefore reveals a consistent international pattern: no major jurisdiction has found it necessary to create a specialised regulatory category for saltwater or water-fuel engines. In every jurisdiction surveyed, existing patent, consumer protection, securities, and fraud law has proved sufficient to address such claims, reinforcing this paper's central thesis that the same should hold true, and largely already does hold true, under Indian law.

VIII. STRONG SUGGESTIONS / RECOMMENDATIONS

While Part V has shown that India's existing legal framework is substantially adequate to address saltwater-engine and comparable pseudo-scientific fuel claims, the historical pattern documented in Part III, particularly the recurring involvement of state functionaries and the speed of social-media-driven virality, suggests several targeted reforms and institutional practices that would materially strengthen enforcement.

- Patent Office guidance note: The Indian Patent Office should issue a specific public

³⁹Directive 2005/29/EC of the European Parliament and of the Council concerning unfair business-to-consumer commercial practices; see also the European Commission's proposed Green Claims Directive, aimed at requiring prior substantiation and independent verification of environmental claims before they are made in commercial marketing, a requirement squarely applicable to saltwater-engine or water-fuel efficiency claims.

guidance note, building on the existing Manual of Patent Office Practice and Procedure, listing over-unity energy claims, perpetual motion devices, and water-as-primary-fuel claims as illustrative examples of subject matter obviously contrary to well established natural laws under Section 3(a), to reduce the resources expended on repetitive examination of such applications and to give applicants clear, public notice of the settled position.

- Mandatory independent verification before public or governmental endorsement: State and central government functionaries, public sector research institutions, and government-run testing agencies should be subject to a binding internal protocol requiring independent, reproducible, third-party energy-balance verification, conducted by an accredited scientific institution, before any public demonstration, press release, or funding announcement associated with a claimed alternative-fuel or energy technology, precisely to avoid the pattern of premature political endorsement documented in the Pakistani water-kit episode in Part III(E).
- Fast-track consumer complaint mechanism for viral pseudo-scientific advertising: The Central Consumer Protection Authority should establish an expedited, time-bound complaint and takedown mechanism, analogous to existing intermediary content-removal timelines under the Information Technology Act, 2000, specifically for viral social-media advertisements making quantified but unsubstantiated fuel-efficiency, mileage, or energy-output claims, given the speed with which such claims can reach and defraud consumers before conventional adjudication concludes.
- SEBI advisory on alternative-energy investment solicitation: SEBI should issue a standing investor advisory, similar to existing advisories on unregistered collective investment schemes and chit funds, specifically cautioning retail investors against solicitations for “revolutionary” alternative-fuel or energy technologies that have not been independently verified, given the demonstrated overlap in Part VI(F) and Part VI(G) between such solicitations and the collective-investment-scheme structures SEBI already regulates.
- Scientific temper training for public officials: Building on the constitutional foundation in Article 51A(h) discussed in Part V(A), state science and technology departments should incorporate basic thermodynamic literacy and pseudo-science recognition into

training for officials likely to be approached by inventors seeking government patronage, funding, or public endorsement for alternative-energy claims.

- Clarification of the Hridaya Ranjan Prasad Verma standard for technology fraud: Given the doctrinal importance of the fraudulent-intent-at-inception standard discussed in Part VI(5), the Bharatiya Nyaya Sanhita's administering authorities, or in due course the Supreme Court, would benefit from further guidance on the specific evidentiary indicators such as continued solicitation after failed independent testing, or refusal to permit any independent verification whatsoever that support an inference of fraudulent intent in technology-investment cases specifically, to assist trial courts and investigating agencies in distinguishing honest scientific failure from criminal fraud at the FIR and charge-framing stage.

IX. CONCLUSION

This paper has argued that the saltwater engine is best understood not as an emerging technology awaiting a legal framework, but as a recurring pattern of pseudo-scientific claim-making that Indian law is, on the whole, already well equipped to address. The physical sciences establish with a high degree of confidence, confirmed independently across the American, Japanese, Filipino, and Pakistani episodes surveyed in Part III, that no device has ever been shown to extract net usable energy from water or saltwater; every rigorously investigated case has instead revealed either ordinary electrolysis operating at an energy loss, or an unsubstantiated and undisclosed mechanism accompanied by a refusal to permit independent verification.

Against this scientific backdrop, Indian law offers a coherent, if presently under-utilised, set of tools. Patent law, through Section 3(a) of the Patents Act, 1970 and the inventive-step doctrine confirmed in *Bishwanath Prasad Radhey Shyam*, permits and requires the Patent Office to reject such claims at the examination stage. Consumer protection law, through the misleading-advertisement framework of the Consumer Protection Act, 2019 and the disparagement jurisprudence of *Hindustan Lever* and the later *Colgate Palmolive* litigation, permits swift administrative and injunctive relief against unsubstantiated marketing. Securities and company law, through the *Sahara* and *Subrata Chattoraj* line of authority, permit regulators to look through the formal structure of a fundraising scheme to its substance and to act against large-scale investor solicitation regardless of how the offering is labelled. Criminal law, properly

confined by the fraudulent-intent-at-inception standard of Hridaya Ranjan Prasad Verma and the screening jurisdiction recognised in Bhajan Lal, permits prosecution of genuinely dishonest promoters while protecting honestly mistaken inventors from criminalisation of mere scientific failure.

The principal gap this paper has identified is not doctrinal but institutional: the recurring tendency, evident in comparative episodes and echoed in Indian instances, for public officials and political figures to lend premature credibility to unverified claims, thereby amplifying the very investor and consumer harm that the existing legal framework is designed to prevent. The recommendations in Part VIII are directed principally at closing this institutional gap through clearer Patent Office guidance, mandatory independent verification protocols before public endorsement, expedited consumer-complaint mechanisms suited to social-media virality, and targeted investor advisories.

Ultimately, the saltwater engine endures in public imagination not because the law has failed to anticipate it, but because hope for a simple, abundant, and free source of energy is a powerful human impulse that outpaces careful scientific and legal scrutiny. The task for Indian law and Indian institutions is not to invent a new regulatory category for an impossible technology, but to apply, consistently and without political hesitation, the settled doctrines of patent, consumer, securities, and criminal law that already exist, and to do so early enough in each new episode to prevent the scientific and financial harm that has, without exception, followed every prior iteration of this claim worldwide.