

Versão em português

THE KEELY MOTOR COMPANY



John Worrell Keely

John Worrell Keely (1837-1898) of Philadelphia was a carpenter and mechanic who announced in 1872 that he had discovered a new principle for power production. The vibrations of a simple tuning fork had given him the idea, and the means to tap etheric energy.

Keely persuaded a dozen engineers and capitalists to invest in the idea, forming the Keely Motor Company in New York in 1872.

Soon he had capital

of one million dollars, primarily from wealthy New York and Philadelphia businessmen. He used the money to buy materials necessary for building a motor based on his theories.

At this time most physicists believed that all of space was filled with an elusive fluid called the "luminiferous ether".

Experiments were conducted to measure the properties of this ether, giving negative or confusing results. By the early decades of the 20th century the ether idea faded away. Physicists finally realized that the reason they couldn't detect the ether or measure its properties was simply that it wasn't there. But more importantly, the old reasons they had given for thinking it was there turned out to be resolved by the theory of relativity. Today the luminiferous ether is seldom even mentioned in textbooks.

Soon he had constructed an etheric generator, which he demonstrated to amazed audiences in 1874 in Philadelphia. Keely blew into a nozzle for half a minute, then poured five gallons of tap water into the same nozzle. After some fine adjustments the pressure gage indicated pressures of 10,000 pounds per square inch. This, said Keely, was evidence that the water had been disintegrated and a mysterious vapor had been liberated in the generator, capable of powering machinery.

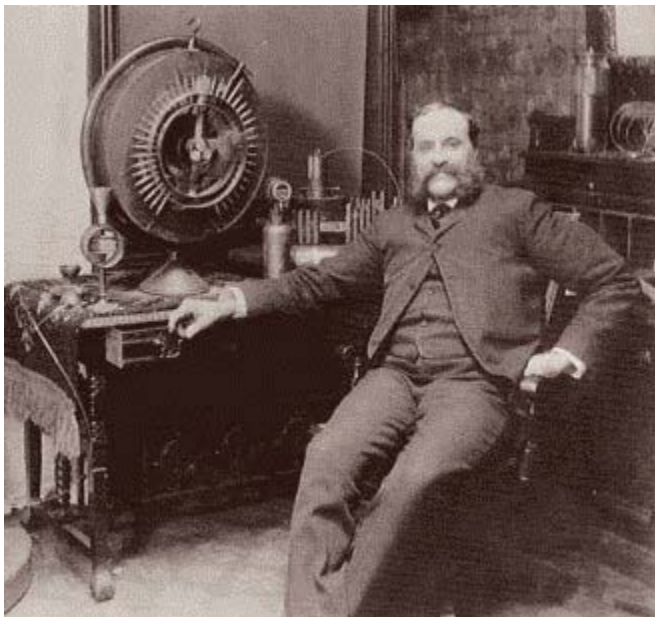
One spectator at a Keely demonstration described the power of the machine. "Great ropes were torn apart, iron bars broken in two or twisted out of shape, bullets discharged through twelve inch planks, by a force which could not be determined."

Keely predicted his discovery would make other forms of power obsolete. A quart of water would be enough to send a train from Philadelphia to San Francisco and back. A gallon would propel a steamship from N. Y. to Liverpool and back. "A bucket of water has enough of this vapor to produce a power sufficient to move the world out of its course."

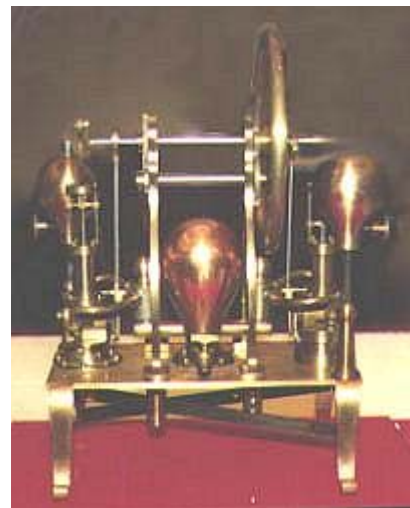


Keely and the board of directors of the Keely Motor Company.

Keely lived in high style, as befitted the head of any large company. To his credit, he plowed most of the invested money into research equipment. He did most of the experimentation himself, constructing his own apparatus. He was not willing to entrust his secret to those who could not or would not understand—especially physicists and engineers. Skeptics noted that the equipment could never be made to work as it was supposed to unless Keely was present.



**John Worrell Keely photographed
in his laboratory in 1889.
The Bettmann Archive.**

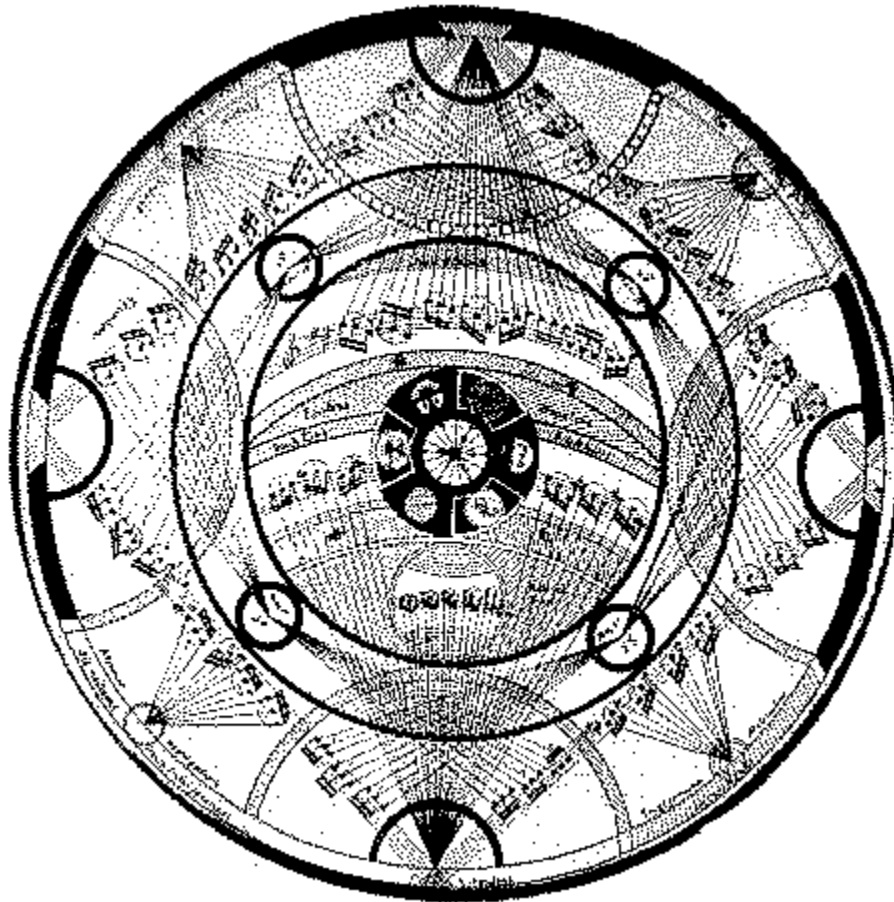


**Keely's hydro-vacuo
engine.**

The work went slowly. To keep up the spirits of stockholders Keely staged public demonstrations. These were masterpieces of showmanship. He demonstrated a

marvelous machine, a "vibratory engine" or "hydro-pneumatic pulsating vacuo-engine." It was a work of the machinist's art, made of gleaming brass and copper. The engine was attached to another machine called a "liberator," a complicated array of brass wires, tubes and tuning forks.

Keely explained that he was tapping a "latent force" of nature—the vibratory energy of the ether. [We can blame that idea on the physicists.] Keely often used a harmonica, violin, flute, zither or pitch pipe to activate his machines. Some said that it was worth the price of being duped to hear the eloquent language Keely used to explain his theory. [Keely was said to have considerable musical knowledge and talent.]



A central idea of Keely's theory of nature was the notion that musical tones could resonate with atoms, or with the ether itself. He even drew this musical chart to help people understand the finer points of this theory. [There are those today who use this as evidence that Keely was far ahead of his time, anticipating the theory of quantum mechanics.]

Biographers have described Keely as a "mechanical experimenter", "inventor and imposter", "professor of perfidy", "swindler", and "scandalous scamp". Keely's lack of formal

With our present knowledge no definition can be given of the latent

scientific education didn't bother his supporters, and didn't deter Keely himself from grandly proclaiming his theories as "scientific".

Keely expounded his ideas using an elaborate theory of the "etheric force", spiced with eloquently profound terms such as: "sympathetic equilibrium, quadrupole negative harmonics, etheric disintegration". His backers were duly impressed. He looked with condescending pity on those who appeared not to understand.

force, which, possessing all the conditions of attraction and repulsion associated with it, is free of magnetism. If it is a condition of electricity, robbed of all electrical phenomena, or a magnetic force, repellant to the phenomena associated with magnetic development, the only philosophical conclusion I can arrive at is that this indefinable element is the soul of matter. [J. W. Keely.]

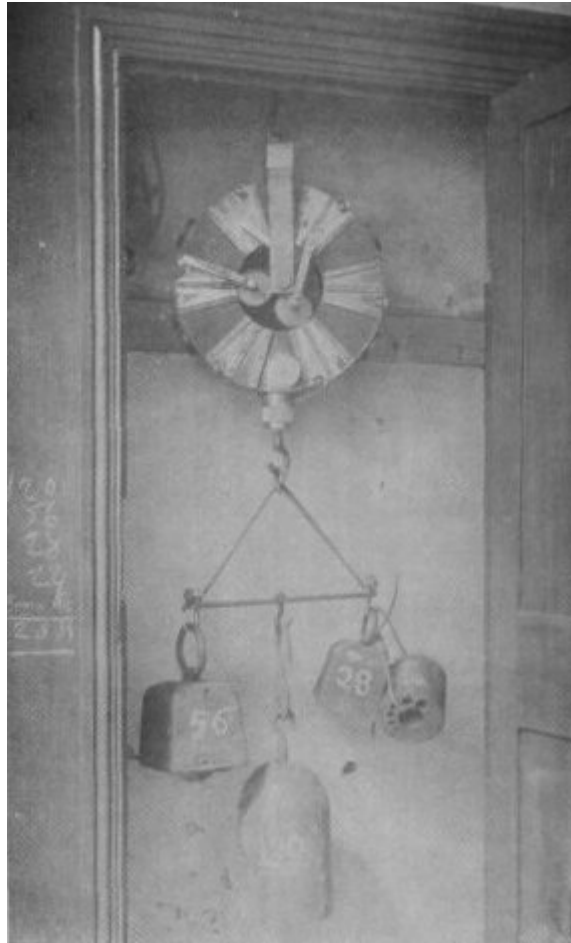


Some disillusioned stockholders withdrew their support as Keely's experiments suffered repeated delays. Keely declared he'd already proven his theory could be implemented for useful purposes, and he made vast claims for the economic benefits of etheric energy over coal and other energy sources. But he resisted investor's demands that he produce some marketable product. Stockholders were not happy with Keely's insistence that more experimentation was needed to "perfect" the machines. Fortunately, when nearing bankruptcy, Keely acquired a wealthy backer, Mrs. Clara S. J. Bloomfield-Moore, the widow of a Philadelphia paper manufacturer.



Glass flask containing weights that Keely claimed

could be moved up or down by striking the zither strings.



Test of the sympathetic force of vitalized disks.

The Keely Motor Stuck Again.

Keely's first week of solitary confinement with his motor for the purpose of "focalizing and adjusting the vibrators," has resulted, not in the single revolution which is to demonstrate his final triumph, but in another postponement. We learn from one of our contemporaries that the stockholders met in Philadelphia on the 26th, and waited with great excitement for a report from Keely. He sent word that the "focalizing" was making rapid progress, that he was too busy to leave it even for a moment, and that they could fix a

She advanced him over \$100,000 for expenses and promised him a salary of \$2,500 per month. She became active in promoting Keely in journals and books and in seeking scientists who might validate his claims. She suggested that he share his secret with Edison or Tesla to hasten its development, but Keely refused. He did agree that scientists at least be allowed to observe the demonstrations.

E. Alexander Scott, an electrical engineer, witnessed such a demonstration. When Keely showed him the etheric power causing a weight to rise and fall in a closed flask of water, Scott was unimpressed. Keely used the sound from a zither to activate the globe liberator which then transmitted the etheric force through a wire to the water container. Scott suspected the weight was

date for exhibition on or before April 10. Then the stockholders separated, cheerful and hopeful as usual. [**Scientific American**, April 5, 1884, p. 213.]

hollow, so that the slightest change of water pressure could cause it to rise or fall, just as a Cartesian diver. The wire, he guessed, was a hollow tube transmitting air pressure to the water chamber. To counter this suggestion, Keely cut a ways into the wire with a file to prove it solid. But Moore surreptitiously picked up a scrap piece of

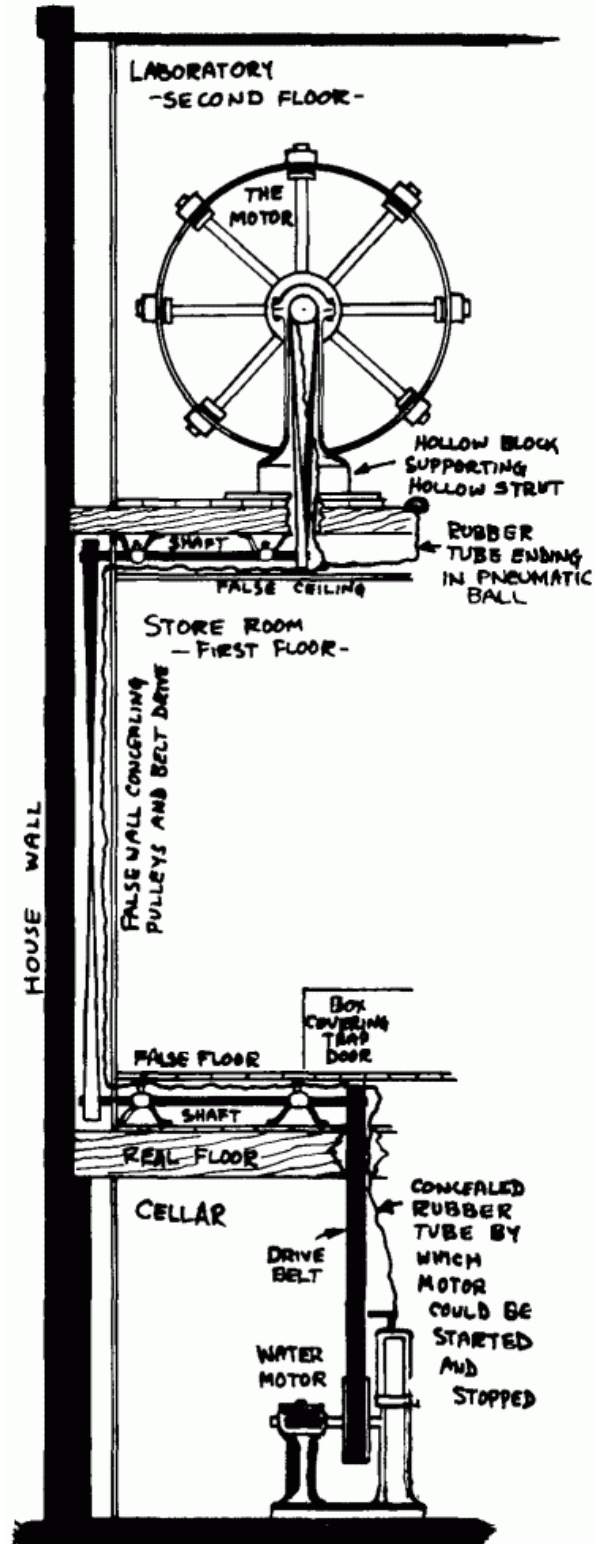
similar wire in the workshop and later found that it did have a very fine, hollow center.

Other demonstrations showed the etheric force to be great enough to lift huge weights. It could also fire his "vaporic gun", demonstrated at Sandy Hook, Long Island.

Keely Nearing the End

It was announced from Philadelphia on the 17th of March that the Keely motor was practically completed. All the workmen had been discharged, and Mr. Keely was immediately to begin "focalizing and adjusting the vibrators"—a delicate operation but easy for him—and as soon as he obtained "one perfect revolution, though even so slow," the great invention would be complete. The news called forth several funny paragraphs in the newspapers and quite a flutter among the stock holders and directors, who have been for several years investing money to back up this nineteenth century discoverer of "perpetual motion" It is difficult, indeed, to consider seriously this alleged invention, or justly characterize the inventor, who, in this age, not only assumes to get something out of nothing, but would hide all his methods and processes and affect more than the mystery of the alchemists of the early ages. Yet it is a serious matter to those who

have been sinking their money therein. Now, however, we seem at last to have reached the "beginning of the end," and the attention of the investors can, at an early day, be "focalized" on their profit and loss accounts. [*Scientific American*, March 25, 1884, p. 196.]



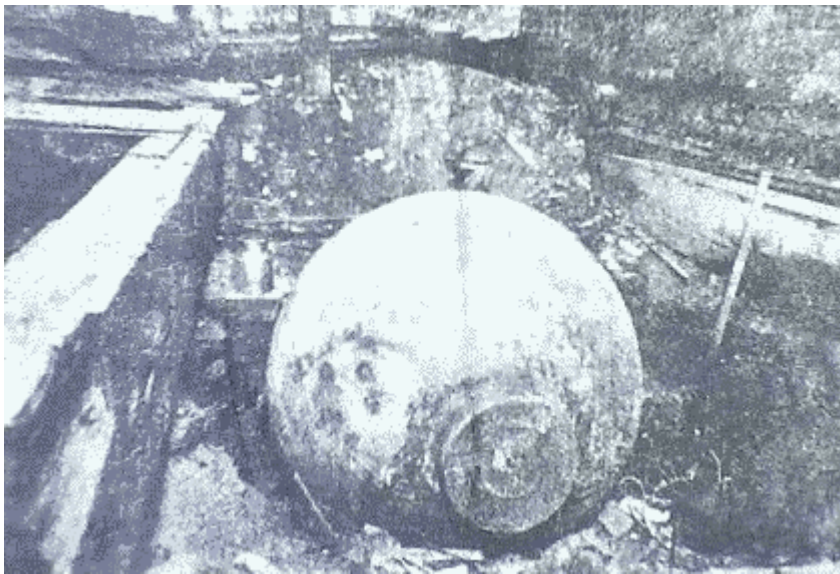
The secrets of Keely's laboratory,
published in *The New York Journal*.

The **Scientific American** magazine followed Keely's career with some amazement and amusement. They were not impressed, reporting that all the demonstrations they had witnessed could easily have been produced with hidden sources of compressed air.

Although when new inventions appear it may be necessary to coin appropriate terms, we should not think it essential to resort to heterogeneous cominglement of absurdities. [**Scientific American**, October 11, 1884.]

Keely continued this research for fourteen years, occasionally staging demonstrations to placate impatient stockholders. Mrs. Moore was concerned by Alexander Scott's negative report, and by dismissive and unkind articles in newspapers and magazines. So she sought a second opinion from physicist Prof. W. Lascelles-Scott, from England. He spent a month in Philadelphia carrying out his investigation, finally reporting to the Franklin Institute that "Keely has demonstrated to me, in a way which is absolutely unquestionable, the existence of a force hitherto unknown."

Since physicist Lascelles-Scott and engineer Alexander Scott obviously disagreed, they were brought together to witness more Keely demonstrations. Mrs. Moore suggested that the definitive test would be to cut that wire that Scott alleged was really an air line. This time Keely flatly refused to comply. Lascelles-Scott retreated to England, and Mrs. Moore, her faith shaken, reduced Keely's salary to \$250 per month.



Three ton sphere found in basement of Keely's laboratory building.

After Keely died on Nov. 18, 1898, suspicious skeptics and newspaper reporters did a careful examination of his laboratory. Some of Keely's machinery had already been removed by "believers" who hoped they could make it work. A Boston electrician, T. Burton Kinraide, removed the engine to his home at Jamaica Plains. Some of the apparatus ended up in England. No one could make it function as it had in Keely's laboratory. The secret was not in the machines; the secret was in the laboratory

building itself. Engineer Alexander Scott and Mrs. Moore's son, Clarence, examined the building, accompanied by press and photographers. False ceilings and floors were ripped up to reveal mechanical belts and linkages to a silent water motor in the basement (two floors below the laboratory). A system of pneumatic switches under the floor boards could be used to turn machinery on and off. A three-ton sphere was found in the basement, apparently a reservoir for compressed air. The walls, ceilings and even apparently solid beams were found to have hidden pipework. The evidence of fraud on a grand scale was obvious and undeniable.

Whatever laws he may have broken in his long career, Keely had left the first and second laws of thermodynamics inviolate. — Stanley W. Angrist, "Perpetual Motion Machines" in **Scientific American**, Jan 1968.

What's really remarkable is that Mrs. Moore had persuaded a number of apparently respectable scientists to observe Keely's demonstrations, and some of them affirmed that they were impressed, and even convinced that Keely had made revolutionary scientific discoveries. Why were some so easily duped by Keely's obvious (though very elaborate) deceptions, which were correctly

guessed by more perceptive and skeptical observers? Of course, it must be stated that Keely never allowed anyone to examine his machines, independently test them, or even look inside of them. Even today, scam artists promoting energy machines can find at least a few degree-holding engineers or physicists willing to declare publicly that they found no fraud or deception in the machines and who are convinced that new scientific principles are at work. So much for "expert witnesses".

Keely had kept his company going for 26 years without ever putting a product on the market, paying a dividend or revealing his secrets. That's his one undisputed accomplishment. He never divulged his secrets with anyone, so far as we know. One close friend reported that he had once asked Keely "John, what do you want for an epitaph?" His answer: "Keely, the greatest humbug of the nineteenth century."



Keely in his office. (Label added.)

The term "humbug" is associated with the American showman Phineas Taylor Barnum (1810-91), who wrote a book "Humbugs of the World" and was renowned for hoodwinking the public with fake and hyped "wonders". Barnum and Keely never met, but they might have been kindred spirits.

Keely's theories have been cavalierly updated by such folks to harmonize with their new-age philosophy, and

with their shaky understanding of popularized science. They have translated "ether" to "zero point energy" or "free energy" that they claim fills all of space and may be tapped by anyone clever enough to rediscover Keely's secrets.

Some years ago I had the opportunity to see and examine a model of Keely's hydro-vacuo engine, part of the collection of the Franklin Institute in Philadelphia. At that time it was on loan to a private individual (in exchange for a generous gift to the museum). Unfortunately backgrounds at this person's home weren't ideal for photography, and this photo was the best I obtained (though the original photo was in 3d.)



Franklin Institute model of the

Keely hydro-vacuo engine.
Photo by DES.

Endnote.

...there can be little doubt about the fraud. Too many investigators saw the evidence and made sober statements about it. None of the members of Keely Motor Company had anything to gain from making a public exposure—quite the contrary. Clarence Bloomfield-Moore was a distinguished archaeologist and explorer, who had spent twenty years exploring Indian mounds throughout America. His excavations in Keely's laboratory, accompanied by reporters from the Philadelphia press and a staff member of the *Scientific American* were charted by photographs which leave no room for doubt...

Keely was clearly a charlatan much of the time, but there have been great spiritualist mediums who produced genuine phenomena as well as cold-blooded fraud... Keely may have been something more than a trickster on a grand scale. Could he really have spent most of his life on a series of obsessive frauds?

[Leslie Shepard, 1972. The comment about "genuine phenomena" of spiritualist mediums is most revealing of Shepard's "willingness to believe".]

Though the press classed Keely's claims with "perpetual motion", Keely himself never claimed that any of his inventions violated physical laws. He very cleverly couched his claims to be consonant with speculative science of his day. He exercised eloquent embellishment of these ideas, and coined marvelous scientific-sounding words, but without ever carefully defining them. He was so good at this that his followers today can point to obscure things Keely said and ingeniously interpret them as anticipating modern atomic theory.

Present-day "seekers" likewise avoid the term "perpetual motion". To account for the energy they hope to produce, they invent mysterious forms of energy "all around us" that have never been discovered, have no effect on most matter, and have no solid foundation in well-established and well-tested science.

The man with a new idea is a crank, until the idea succeeds. —Mark Twain.

They hold "science as we know it" in contempt, and see today's science as a straitjacket restraining those who seek to discover "new scientific principles." These folks devote far more effort to rationalizing their methods,

The fact that a new idea is ridiculed doesn't increase its likelihood of being eventually found to have

justifying their unproven claims, and inventing new paradigms than they spend producing testable results.

merit. Most new ideas, even in science, fail, and are quietly swept under the rug of history. —
D. E. S.

It is not pathological to admit that science is never complete, and that new discoveries will be made and will at least modify some of our present understanding. However, it is just a bit perverse to justify one's scientific thinking by basing it on the vague and incomprehensible invented pseudoscientific theories and experimental deceptions of a 19th century charlatan such as Keely. Keely may have been a clever con artist, or he may have been a diligent but misguided seeker of scientific truth who only fabricated deceptions to gain support. He may have been both. Whatever may be the case, I confidently predict that if new sources of energy are ever discovered, they will have not the slightest connection with anything Keely ever did or imagined. Present-day followers and admirers of Keely are wasting their time, and will simply get nowhere as they try to implement his ideas to produce an energy generator.

—Donald E. Simanek

Related Materials.

You can own a genuine stock certificate of the Keely Motor Company. Click on the image to view a more detailed version. For prices, and a short biography of Keely, go to scripophily.net, which kindly contributed this picture to our museum.



A web site, Historical Documents on John. W. Keely, has an rich miscellany of newspaper articles, pamphlets by Keely and Moore, pamphlets about Keely and some pictures. These were apparently collected by a believer, but include many skeptical sources,

The story of Redheffer's perpetual motion hoax is at Alexander Boese's Museum of Hoaxes.

Daniel W. Herring's classic book **Foibles and Fallacies of Science, An account of Celebrated Scientific Vagaries** (Van Nostrand, 1924) has a chapter on Perpetual Motion, which includes The Keely Motor Hoax.

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Return to [The Museum of Unworkable Devices Main Gallery](#).

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