An Endless Siege of Implausible Inventions

In the modern world of commerce, the U.S. patent and trademark office is a street-corner cop with the power to arrest the development of any product that promises the impossible. Its book of statutes contains the basic laws of physics, the axioms of mathematics, the fundamental principles of mechanical engineering. With particular enthusiasm, its employees serve as guardians of the public in a never-ending battle against mechanical devices allegedly capable of perpetual motion.

This, at least, is how they see themselves. Inventors such as Joseph Newman are more apt to view them as "a bunch of narrow-minded people who have conducted themselves outside of federal law and patent law to the detriment of the advancement of science and the human race." For more than 5 years, Newman, 48, has been frustrated in his efforts to obtain a patent for an "Energy Generation System Having Higher Energy Output than Input." In 1982, the patent office told him that because such a device is simply infeasible, his application was denied after something less than a comprehensive, time-consuming review (*Science*, 10 February, p. 571).

Recently, however, with the help of some unexpected scientific endorsements, Newman persuaded the U.S. District Court in Washington, D.C., to order that his application be granted a full review by a new examiner—in short, a second chance. Newman believes that the decision is a slap in the face of the patent office and a partial vindication of his claims. Actually, the dispute reveals how easy it can be for inventors to jerk the patent office around. The ruling, made by Judge Thomas Jackson on 31 October, places the office in the difficult position of determining whether Newman's "energy generation system"—a powerful electrical motor—is adequately described in his application, and whether it is similar or identical to motors with existing patents. Neither topic was given serious consideration on the first go-around, for reasons that the patent office believes obvious.

The decision resulted from an unusual hearing in which a phalanx of attorneys in Newman's employ repeatedly cited patent case law, while Jere Sears, deputy solicitor in the patent office, repeatedly invoked the second law of thermodynamics. In its essence, that law states that the energy produced by a mechanical device such as Newman's will always be less than the energy needed to operate it. In addition to basing the case on "all of recorded science," as Sears put it, he relied heavily on an affidavit from Jacob Rabinow, a former chief research engineer at the National Bureau of Standards and well-known debunker of perpetual motion machines. Rabinow has several objections to the patent application, but his primary claim is that the motor's output of energy has been measured incorrectly. Although he has not seen the device or tested it himself, he is willing to bet "any money" that it operates at well under 100 percent efficiency.

As strong as the government's argument was, it was sharply undercut by two affidavits. One was written by Mort Zimmerman, the president of Commercial Technology, Inc., in Dallas. Zimmerman said that his 400-person firm "has independently . . . constructed, operated, and tested several crude prototype devices based on the Newman invention, and has confirmed for itself that these prototype devices which embody the Newman invention operate and produce power as claimed by Newman" at more than 111 percent efficiency. Zimmerman was enthusiastic enough to purchase an option for the right to manufacture and sell Newman's motor in north Texas. (Recently, he told *Science* that the motor "needs further development for practical utilization, and we're not yet completely convinced that we can get there.")

The second affidavit was prepared by Lawrence E. Wharton, a physicist in the Laboratory for Atmospheric Sciences at the Goddard Space Flight Center in Maryland. Initially, Wharton, who volunteered his services to the patent office as a skeptic of Newman's claims, vigorously attacked Zimmerman's statement. Shortly before the court hearing, however, he recanted some of his arguments, and declared that the motor's efficiency "is in substantial excess of 100 percent" and perhaps as high as 600 percent, if Newman's measurements are correct. The change of heart came, he said, after Newman argued with him in a long telephone conversation.

Both of these statements apparently made a strong impression on William Schuyler, an attorney and one-time commissioner of U.S. patents who was appointed by the judge as a "special master" to help resolve some of the technical disputes. In his report, Schuyler agreed that the operation of Newman's motor "seems to clearly conflict with recognized scientific principles relating to thermodynamics and conservation of energy." But he insisted there was "overwhelming" evidence that the motor's output energy exceeded the external input energy, adding that "there is no contradictory factual evidence." He went so far as to state that Newman was entitled to a patent as long as it did not conflict with any existing patents.

All of this came as a great shock to Sears. It was he, not Newman, who nominated Schuyler. "We felt reasonably safe with a person of this background," he explains. In a final pleading to the judge, Sears asked, "Why are we still paying power bills if Newman has actually achieved the result he claims? The Court should exercise some common sense and refrain from joining those who apparently believe in the tooth fairy. . . . Manifestly, this court has no power to abrogate a natural law."

In his ruling, Judge Jackson accepted the major points of Schuyler's report, but said he was unwilling to conclude as yet that Newman had produced a "truly pioneering invention." That decision awaits another hearing, now set for January. Sears denies that this decision has any implications for the general patent review process. But one effect may be to bar the office from dealing summarily with such unusual claims in the future—a development that could sharply increase the examination delays experienced by inventors with more plausible claims.

To Newman, the dispute has become a crusade. Having spent thousands of dollars already in lawyers' fees, consulting fees, and court costs, he will soon pay to publish a book describing both the invention and the patent fight. He says that "the world is fortunate that I'm not afraid of a ruckus. I intend to fight this until hell freezes over."

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