

## NBS report short-circuits energy machine

For nearly seven years, Joseph W. Newman has been at the center of a bitter, well-publicized dispute with the Patent and Trademark Office (PTO). Newman claims that his "revolutionary" energy machine generates more energy than it takes in from an "external" energy source such as a battery (SN: 6/1/85,p.342). The patent office says his device doesn't work and has refused to issue a patent. Newman, in turn, alleges that the patent office has acted unlawfully in denying him a "pioneer patent."

Last week, Newman's cause appeared to suffer a setback with the release of a report from the National Bureau of Standards (NBS) in Gaithersburg, Md. The patent office had asked NBS to test a working model of Newman's machine in preparation for a trial now scheduled to begin in December.

According to the NBS report, which was submitted to Judge Thomas P. Jackson of the U.S. District Court for the District of Columbia, Newman's device does not deliver more energy than it uses. "At all conditions tested," the report says, "the input power exceeded the output power."

"I do not accept these results at all," says Newman, a self-educated inventor in Lucedale, Miss. "I predicted this decision. It's just another example of the injustice I'm fighting against."

Newman's machine consists of a battery pack, a commutator connected to a rotating permanent magnet and a coil of wire. The batteries, connected in series, provide a small electric current at 1,000 or more volts. The commutator reverses the current direction twice during each magnet rotation. It also connects and disconnects the battery from the coil 24 times during each revolution so that the incoming current arrives as pulses. The coil itself is made up of a large number of turns of fine copper wire.

"It's not very complicated," says Roger Hastings, senior staff scientist at the Sperry Corp. in St. Paul, Minn. Hastings, initially a skeptic, has himself tested several of Newman's machines and is convinced that the devices could be used as extremely efficient motors.

"The difference here is that the strength of the magnet is very large," says Hastings, "and the size of the coil is very large." When current flows into the coil, a strong magnetic field is produced around it. When the current is suddenly turned off, this magnetic field collapses.

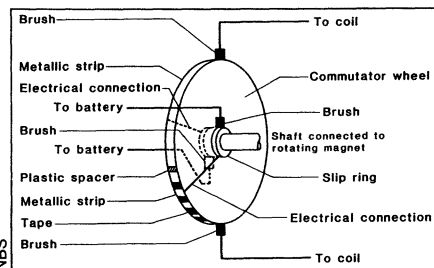
"When you collapse the field," says Hastings, "you get a tremendous voltage and current surge that goes through the system." The current spike acts like a "karate chop" to turn the rotor.

In order to test Newman's machine, NBS scientists Robert E. Hebner, Gerard

N. Stenbakken and David L. Hillhouse had to use sophisticated equipment not generally found in most research laboratories. These instruments, unlike many conventional current and voltage meters, were designed to handle the sharp spikes that punctuate the input and output electrical signals.

"We considered this a tricky, complex measurement problem," says an NBS representative. The measurements took three months to complete.

The NBS researchers found that the machine's efficiency, defined as output power divided by input power and expressed as a percentage, varied widely—from 27 to 67 percent. The value seemed to depend on the freshness of the cellulose acetate tape strips that divided the commutator's metal rim into electrically conducting and insulating segments. Nevertheless, none of the measurements exceeded or even approached the 100 percent efficiency that Newman claims for his machine.



*The energy machine's commutator consists of a plastic wheel with a rim covered by a metallic strip. Plastic spacers split the strip into two sections, while tape further subdivides one of the sections.*

Newman's lawyer, John P. Flannery II of Leesburg, Va., argues that NBS cannot be considered an "impartial testing laboratory." He points to Jacob Rabinow, a consultant to the Office of Energy-Related Inventions at NBS. In 1984 as a PTO expert witness, Rabinow, without having seen or tested Newman's machine, submitted a sworn declaration stating that Newman's device couldn't work. Flannery contends that NBS is unlikely to contradict one of its own experts.

Furthermore, says Flannery, because the tests took so long, neither Newman nor his representative could afford to be present for the testing. The NBS report, he adds, contains too little detailed information about when, with what equipment and under what conditions individual tests were run. Before the patent trial can begin, the NBS test equipment itself must be inspected and tested, he says.

The NBS tests may also have failed to account properly for the mechanical energy that is generated, says magnet design engineer Sam Taliaferro of the Magnetic Engineering Co. in Atlanta. About

three months ago, Taliaferro built his own version of the Newman machine. "Our initial testing has shown that the device is, at the very least, very, very efficient," he says. But it is much more effective as a motor for turning, say, the blades of a fan than it is for generating electrical energy, he adds.

Newman himself has demonstrated a prototype fan, which, according to measurements made by Hastings and others, requires much less power than commercial fans with identical blades rotating at the same rate. Furthermore, says Newman, "I'll have a device put in an automobile within six months."

So far, Newman's battle has cost about \$400,000. Much of that money has come from a small group of investors and supporters. He may yet face a bill of more than \$75,000 to pay for the NBS tests. At the moment, NBS expects the patent office to reimburse its expenses. Flannery speculates that the PTO may try to recover those funds by getting a court order requiring Newman to pay for the tests.

Newman and Flannery have lobbied Congress for support. Seven bills ordering the PTO to issue a patent to Newman have been introduced in the House. Rep. Robert L. Livingston (R-La.) is one member who believes the patent office has treated Newman unfairly.

"Rep. Livingston would like to see the machine get a patent so that it can be marketed," his aide says. "If the machine works, it's going to have a tremendous impact on society. If it doesn't work, Joseph Newman will go back to inventing other machines. It's as simple as that." But the NBS report makes further action on the bills unlikely.

This sets the stage for a possible investigation of the patent office and an effort to reform its procedures. The PTO has "assumed the role of judge concerning these individual inventions," says Kevin Whitehead, a staff member with Rep. Dan Burton (R-Ind.). "We're wondering, given their work load, whether they should be doing that at all."

"The patent office is under siege because of the fact that it just doesn't work," says Flannery. "Their records are a mess. They've lost documents. They've been accused of incompetence."

Meanwhile, Newman refuses to give up. He has the support of the Mississippi legislature. He has managed to obtain patents in Spain and South Africa. At least one U.S. utility is interested in testing his machine.

"I don't think that [Newman] is in any way a fraud," says Hastings. "He has opened up this thing to inspection and stated how it works." Anyone can read Newman's privately published book or come down to Lucedale to see and test the machine. But the legal battle is likely to end up in the Supreme Court.

— I. Peterson