

Ed Gray hailed his invention before stockholders, 1976.

EMS --Electronic Power That Could Change The World's Economic Power Picture

Though harrassed by the authorities, under-financed and ignored by science, business and industry, Edwin V. Gray, a self educated Los Angeles inventor has developed a revolutionary electromagnetic motor that promises to greatly improve conditions for the world.

A vast new technology is opening because Gray invented a motor that delivers super-efficient horsepower at lower cost with less wear and tear than any other device known. His EMS motor takes us a giant step closer to the magnificent, whirring power plants visualized by science fiction writers.

Implications for the auto industry alone are staggering: Gray appears to have the answer to Detroit's dilemma involving practical electric vehicles.

Ed Gray's name may well go down in history alongside the likes of Edison, Marconi, Goddard and Bell --

that is, if the establishment will get off his back.

A social quality known as "resistance to change" and another called the "economic status quo" have made Gray's struggle to develop and market his motor a tale of bitter frustration. Most people would have quit in despair long ago.

However, tireless experimentation and remarkable determination have paid off in a technological triumph that brings the heretofore untapped source of static electricity into the workhouse of man. Any expert can tell you "static electricity will not do work." Gray is slowly and doggedly proving the experts are wrong.

His battle is not over, but perhaps the tide is finally turning in his favor. His corporation, EvGray Enterprises, is seeking the necessary financing to further develop the motor. His efforts

were thwarted by serious legal problems which recently were resolved when he agreed to enter a guilty plea to a minor Securities and Exchange violation.

Thus nearly two years of legal entanglements came to a close. The legal costs alone have been near ruinous.

He's won some important battles, but he could yet lose the war.

Gray's start in life wasn't promising. He was one of six children of a poor Washington, D.C. family and grew up in the streets.

Few suspected he had the stuff of a genius. Like many kids, he was fascinated by engines and motors, but his thinking about them went far beyond normal curiosity. He wanted to know more than just what made them run.

Gray dropped out of school at 14 and began tinkering with ideas. He was so lacking in formal education that he

did not realize for some time that his thinking was both original and far-advanced.

Three things about electricity fascinated him: (1) a capacitor can store an electric charge and release it on demand, (2) pulses of electricity can be sent out and brought back, (3) lightning bolts seem to be more powerful when closer to the earth where the atmosphere is heaviest.

These were facts known to every physicist. But to most such scientists, they were unrelated facts. Ed Gray's genius was in correlating this knowledge into a new technology.

"I remember getting a shock when I grabbed a charged capacitor off a work bench," he recalled. "That simple fact never left my mind. Then I watched when the government people were testing the first radar across the Potomac River -- it stuck in my mind when one of the men explained it as 'pulse out, pulse back.'

"And I've always been a nut about thunderstorms. I watched lightning by the hours. I noticed how much stronger it appeared to be when closer to the earth and just naturally concluded that more air had something to do with it."

These three principles, plus a super-secret means of generating and mixing static electricity, make up Gray's EMS motor.

Gray grew to adulthood, married, divorced and married again. For 22 years, the idea of a special new kind of motor turned over and over in his mind. Meanwhile, he had moved to Southern California where he maintained a workshop and sought the advice of knowledgeable men. Bit by bit, his ideas began to take shape.

By 1973, Gray was ready to demonstrate his motor to the world. Wisely, he had incorporated himself to prevent the EMS motor from being gobbled up by some industry giant who might then suppress it.

As early as 1957, Gray was pounding the pavement seeking financial backers. Over the years he picked up 788 stockholders, all friends or friends of friends. This fact was to stand Gray in good stead later when the Los Angeles County District Attorney hit him with questionable charges of fraud.

From 1957 to 1972, Gray raised about \$2 million to make the EMS motor a reality. That same year he incorporated and built the first working model.

Still, more money was a big need. He approached top electronics and

automotive firms such as General Dynamics, Rockwell International, Ford, General Motors and the like. Usually he was turned away. "When they did listen to me and got a little interested, it turned out they wanted 90 per cent. Then it was I who did the turning away," he said.

Gray had interested some top experts, though, men who offered the benefits of their knowledge to his fledgling firm. They included Richard B. Hackenberger, an electronics engineer who had served Sony and Sylvania, as well as Fritz Lens, a master machinist



Edwin V. Gray

who understood what Gray was trying to accomplish.

In spring, 1973, Gray and his associates unveiled the EMS motor to the world.

In the workshop, a six-volt car battery rested on a table. Lead wires ran from the battery to a series of capacitors which are the key to Gray's discovery. The complete system was wired to two electromagnets, each weighing a pound and a quarter.

The first demonstration proved that Gray was using a totally different form of electrical current -- a powerful but "cold" form of the energy.

As the test started, Gray said: "Now if you tried to charge those two magnets with juice from the battery and make them do what I'm going

to make them do, you would drain the battery in 30 minutes and the magnets would get extremely hot."

Fritz Lens activated the battery. A voltmeter indicated 3,000 volts. Gray threw a switch and there was a loud popping noise. The top magnet flew off with powerful force. Richard Hackenberger caught it in his bare hand.

What had happened was that Gray had used a totally different form of electrical current -- a "cold" form of energy. The fact that Hackenberger caught the magnet and was not burned was evidence enough of that.

It was a moment in history perhaps as important as the day in 1877 when Thomas A. Edison threw a switch which lit up a glass bulb that continued to glow all that day and part of the next.

The demonstration was witnessed by two unbiased experts and the author of this article, who later printed the story of what he had seen in a national publication.

"The amazing thing is that only a small per cent of the energy was used. Most of it went back into the battery," Hackenberger said.

Actually, two "improbables" had been demonstrated that day. The second was characterized by lack of heat generated in the magnet, excessive heat being one of the big drawbacks in utilizing electronics advancements.

The successful test seemed to be Ed Gray's big break. In reality, his real troubles were just beginning.

The publicity about the test brought Gray to the attention of a firm in Denver which agreed to back him with several million in new capital over a period of a few years.

At the time, Gray planned to test-market the EMS motor in a radically new auto body called the "Fascination," developed by Paul Lewis of Sidney, Nebraska.

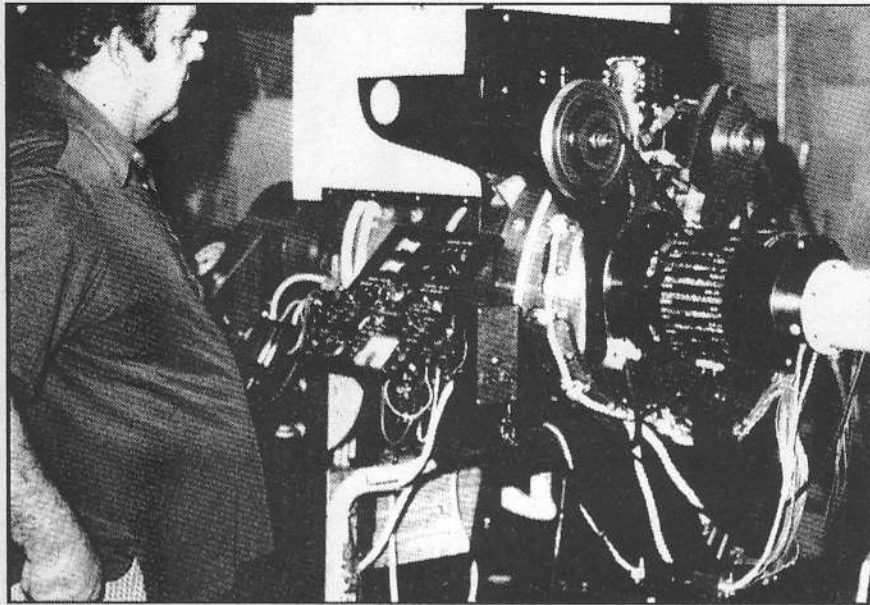
The first prototypes were due on January 1, 1974. But by then mysterious things had started to happen -- misfortunes Gray suspects were created by persons working to undermine his motor's development. The Fascination trial was dropped.

In July, 1974, raiders from the Los Angeles County District Attorney's office descended on Gray's plant in Van Nuys. They confiscated plans, records and the latest working prototype of the motor.

Investigators for the D.A. threatened to file a variety of charges against ▶

Gray, ranging from fraud to grand theft. Yet months passed and no charges were brought. The investigators defied all attempts by the inventor's lawyers to get the confiscated materials returned.

Meanwhile, the D.A.'s men sought out Gray's investors and tried to convince them to prefer charges against him. All refused.



Ed Gray watches his original prototype EMA motor run during a test. The EMA was eventually evolved into today's EMS model that faces continued suppression -- perhaps extinction.

Finally, eight months after the raid, the D.A.'s office brought a series of charges against Gray, including grand theft, by claiming he had raised money from investors by means of a hoax. But all the serious charges were dropped when it was proved they were unfounded.

Remaining were two minor counts of violating SEC regulations. In late March, 1976, Gray pleaded guilty to these misdemeanors, paid a fine and was freed.

The long-drawn legal hassle had other serious consequences. The major financing promised by the Denver firm was cut off after only a fraction of the money had dribbled in. Fortunately, there was enough to enable Gray to build a second prototype engine.

Today Gray is very careful in the claims he makes for his motor. Even to discuss that which has already been proved to the satisfaction of skeptical scientists could bring the law down on his head again.

"There has been a lot more to the suppression of my ideas than meets the eye," he said. It is a wonder we have survived."

But survived he has -- and if some

big vested interest was indeed behind all his woes, it just may be too late for such a force to stop an idea whose time may have come.

Powerful allies are now rallying to his cause. For example, Gray was nominated for "Inventor of the Year" by the Los Angeles Patent Attorney's Association last February.

Two highly respected scientists, Dr.

brighter future, Gray says he wants to get the EMS motor into production and prove he has discovered more than even his backers understand.

Gray is advised by his lawyers to make no claims. However, this reporter who has followed Gray's work closely for four years has seen and heard enough to feel safe in saying that the inventor may be unlocking the key to a natural phenomenon referred to as "ball lightning."

With the combined use of capacitor discharge and spikes of energy made up of mixed static and direct current, Gray conceivably could get more out of a battery than a battery has stored in it, simply because he also is tapping the huge reservoir of static electricity in the atmosphere as his motor runs.

Scientists balk at this theory, but someday Ed Gray may back them down another notch. He has already proved right about the capacitor discharge motor idea. With that, his motor already is revolutionary -- it runs cool. That in itself could solve a myriad of heat-resistance problems for industry. Cool running parts do not experience the intense friction and wear out as quickly as overheated parts do.

If Ed Gray's motor makes its final breakthrough and goes into general production, it may make the one-time dropout into a giant in history. It also could be a massive boon to mankind in the following ways:

- It conceivably could power every auto, airplane, truck, train and ship without using a drop of gasoline, kerosene or diesel fuel.
- It could cool or heat every American home at a fraction of the present day cost.
- It could power the engines of all heavy industry -- likewise cheaply.

And it could accomplish all this without spitting a single speck of pollution into the earth's atmosphere.

One question remains: How did Edwin Gray, an unschooled tinkerer, bring together certain facts of technology and nature into a device beyond the capabilities of brilliant, richly subsidized scientists?

Dr. Norm Chalfin has perhaps provided the answer. He says Gray's lack of formal education actually benefited him in his development of the EMS motor.

"Someone trained in electronics simply would have looked at the concept and said it cannot work," Dr. Chalfin said. "Gray did not know this, and he made it work."

"As a result, he has provided the world with a totally new and exciting technology."

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Norm Chalfin and Dr. Gene Wester of California Institute of Technology have publicly endorsed Gray's motor.

Dr. Chalfin was present when Gray demonstrated the latest working model in front of a stockholders' meeting.

"There is no motor like this in the world," Dr. Chalfin told the group. "Ordinary electric motors use continuous current and constantly drain power. In this system, energy is used only during a small fraction of a millisecond. Energy not used is returned to an accessory battery for reuse."

"It is cool running," Dr. Chalfin added, putting his hand on the motor. "There is no loss of energy in the system."

Dr. Chalfin has placed his own considerable prestige on the line by writing the text for Gray's patent applications, the uneducated inventor finding the technical writing task beyond him.

At the same meeting, Dr. Gerald Price, Gray's patent counsel, told the stockholders: "For discovering and proving a new form of electric power, Mr. Gray has been nominated for the annual award presented by the patent lawyers of Southern California."

Looking forward to prospects of a