

Energy Story Followups

Whatever happened to those guys who were making their own hydrogen fuel? Or the guy with the high-mileage carburetor? How about that alcohol-powered tractor?

We get questions like these all the time so we recently decided to track down inventors of energy-saving ideas that we featured as long as 20 years ago. Many of the inventors we tried to contact could not be found but we did locate a few. Here are their stories.

Mick Lane, Contributing Editor (mick@farmshow.com)

Homemade Hydrogen Still Fuels His Cutting Torch

FARM SHOW first featured Lawrence Spicer's hydrogen gas ideas back in 1981. The Lineville, Iowa, farmer says the hydrogen gas generator he was using back then is still in operation.

His system is powered by a 1,000 watt, 32-volt Jacobs wind generator. Electricity from the generator charges electrodes, which are submerged in water. As the current passes through the water, it separates the hydrogen from the oxygen in the water molecules. Spicer collects the two gases into separate tanks and uses them primarily as welding fuel.

He's also used hydrogen to fuel internal combustion engines in vehicles and farm machines, and in place of propane as stove fuel and for refrigeration. He says anything that uses a gaseous fuel can be converted to burn hydrogen.

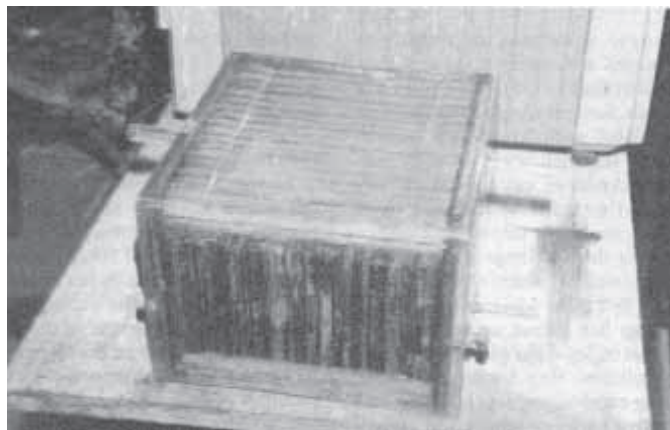
In addition to farming and raising cattle, Spicer also sells hydrogen cells similar to the

one he uses. "Each cell will put out 1/2 cu. ft. of hydrogen and 1/4 cu. ft. of oxygen per hour, using just 2 volts and 40 amps of electricity," he says. An air compressor can be hooked into the system to pressurize the gases.

Besides electricity and the cell, producing hydrogen requires water (or another liquid containing hydrogen) and potassium hydroxide (lye) as a catalyst. He recommends using rainwater or distilled water, since the minerals dissolved in groundwater will eventually coat the electrodes and stop the cell from working properly.

Spicer's single hydrogen cells sell for \$175. A unit with six cells and pressure control is \$1,500, while the same type unit with 24 cells is \$2,500.

Contact: FARM SHOW Followup, Lawrence Spicer, R.R. 2, Lineville, Iowa 50147 (ph 641 876-5665).



Metal plates in Spicer's hydrogen-maker are flooded with water, then charged electrically to split liquid into hydrogen and oxygen. He's used the system for more than 20 years.

Inventor Sold Rights To High-Mileage Carburetor

Shortly after the story on his 80 mpg carburetor appeared in FARM SHOW in 1981, Richard Paul, Milton, Wisconsin, sold all rights to it to a German company.

"They say they've continued to work on it and are planning to introduce it on a vehicle sometime in the next year or two," Paul says.

The carburetor he developed was really a fuel processor. "My design actually separates hydrogen gas from gasoline, resulting in at least a 75 percent improvement in miles per gallon and, because the hydrogen was re-mixing with oxygen, there was only water vapor in the exhaust - and no pollution at all," he says.

"It does nearly the same thing that we see

with hydrogen fuel cells today," he adds. "The big difference is that my carburetor was processing hydrogen to be used immediately, rather than storing it for use later."

Paul retired in 1991 from a career as an engineer at the General Motors assembly plant in Janesville, Wisconsin. He was precluded from working on any new carburetor for a period of 20 years by the terms of the contract with the German company.

Since that non-compete time period has just expired, he's considering picking up where he left off on carburetor research. "It looks like hydrogen fuel cells may be the direction we're heading. I believe it's the only way

our country will ever become fuel independent from the petroleum exporting countries. Everything we now use as fuel can be converted to hydrogen and burned pollution free," he says. "I still have all my tools and equipment and I've been thinking lately about some ways to improve on my earlier ideas."

Contact: FARM SHOW Followup, Richard Paul, 7736 Newville Rd., Milton, Wis. 53563 (ph 608 868-7535).

Richard Paul developed this "souped up" carburetor in the early 1980's and later sold it to a foreign company.



"Iceberg" Cooling Idea Worked — As Long As The Ice Lasted

Cooling or refrigerating with a giant pile of ice instead of a mechanical refrigeration system works well, says Dick Kutter, Kutter Cheese, Corfu, New York.

A 1984 FARM SHOW article entitled "Build Yourself an Iceberg" detailed how Kutter, under the direction of Theodore Taylor, an industry consultant, had made a large mountain of about 900 tons of ice to cool the plant's cheese storage and to also air condition offices in the summer.

The ice pile stood in a pond about 5 ft. deep and 60 ft. across. During winter, water was sprayed from five nozzles. "We'd keep freezing until the ice was built up 2 to 3 ft. above the top of the reservoir," Kutter tells. "Once we had the ice mound built up, we covered it and insulated it so it would melt slowly in the spring."

While the idea worked well and saved a lot of money, Kutter says they abandoned the system after about 10 years. "The problem was, no matter how well we insulated the ice pond, we always ran out of ice in July and had to go back to mechanical refrigeration. While it didn't cost much to build the ice pond, covering it was quite a task and we still had to have both systems. In the end, we felt that it was more economical for us to maintain

Kutter Cheese made giant piles of ice in winter to provide summer air conditioning. They used the system successfully for 10 years.



just one refrigeration system. Since we had to have mechanical refrigeration for half the year, anyway, we decided to go back to that

year round," he says, noting that the idea might still work for other situations.

Contact: FARM SHOW Followup, Dick

Kutter, Kutter Cheese, 857 Main Road, Corfu, N.Y. 14036 (ph 716 599-3693).