

Rope flywheel tested at A&M

A power unit in development at Texas A&M University could successfully store electricity against powerless periods.

Solar- and wind-generated electricity goes into the mechanism, about one-half the size of a pickup truck.

It contains a flexible flywheel, spun up as wind and sun provide power. The flywheel could also be charged with powerline current. When thunderstorms, ice or other agents cause power outages, the device's motor-generator polarity is reversed and the flywheel returns almost all the power.

The special flywheel turns at high speed in a near-total vacuum on low-friction bearings.

Conceived at the University of Florida by Dr. Richard Schneider, it is being developed at Texas A&M by Dr. John M. Vance and several mechanical engineering students.

Long known, the flywheel principle applies the inertia of a rotating mass to help an engine run smoothly. In the stored energy flywheel, inertia turns a generator.

There's also a basic structural difference, Vance noted.

The self-balancing system employs a flywheel made of macramé-tied rope. It is sus-

pended from the rotor by nylon cord.

"Rope is a high strength material, easily made into flywheels and much less dangerous than steel," said Vance, who taught 10 years at Florida. He joined Texas A&M's mechanical engineering faculty last August. Formerly of Houston, he has three degrees from the University of Texas at Austin.

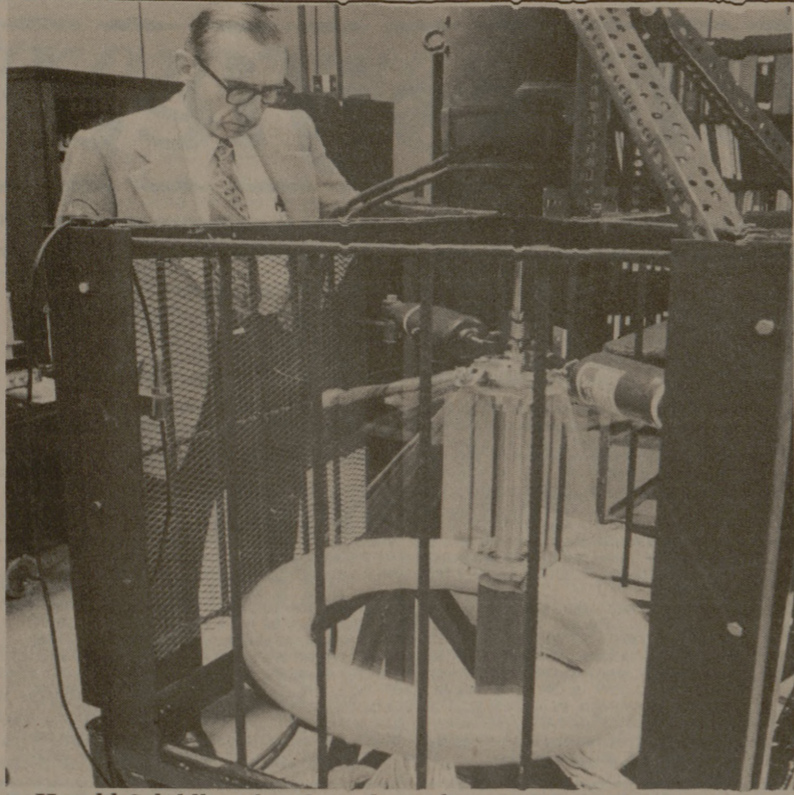
A metal flywheel spinning at high rpm could cause extensive damage if it disintegrated, he said.

The safer rope flywheel could be contained in sheet metal, a metal flywheel would require massive, more expensive material. The rop system's limiting design factor would be the strength necessary to hold a desired vacuum.

When power is applied to Vance's experimental model, the 26-inch-diameter rope doughnut begins to spin. At 500 rpm it oscillates, and therein lies the problem.

The stored energy flywheel must spin with no side-to-side motion.

"If we can solve the dynamic instability at 1,000 rpm, we prove the system's success," Vance said. Highspeed motion pictures have been made to analyze the



Harold Schildknecht of Sandia Laboratories checks over the flexible flywheel, a mechanism being developed at Texas A&M which may be useful for storing power.

problem. Working with Vance under a Sandia Laboratories contract are David Goggin, graduate student of Houston who handles data analysis, and seniors Paul Terry of Irving and Wallace Ables of Calvert.

They think they have the answer.

By gimbal-mounting the motor-generator, they think oscillations induced by friction in the rope flywheel can be nullified, causing it to spin in a flat plane.

72-ton beam blocks traffic after falling off trailer-truck

A spilled 145,000-pound concrete beam halted traffic at the intersection of Hwy. 30 and F.M. 158 for several hours Tuesday.

The tractor-trailer rig transporting the 140-foot beam failed to negotiate a tight turn at the intersection at about 10:15 a.m., and a

loose shoulder caused the load to shift and fall.

No one was injured in the incident. The beam was destroyed, and damages are expected to total approximately \$75,000.

The rig was the first of seven trucks hauling the beams in a caravan to a bridge site in Huntsville.

The drivers of Sikes Trucking Co., San Antonio, were ticketed for hauling loads of excessive length and weight in rainy weather.

The firm was given a special permit to carry the beams, but it was valid only under good weather conditions.

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Mexican birth control to be funded by U.S.

United Press International
NEW YORK - A major new program to promote birth control through social marketing of contraceptives will be set up in Mexico by Population Services International (PSI).

The project by the New York based non-profit organization is funded by the U.S. Agency for International Development.

PSI executive director Robert L. Ciszewski says the first two years of the new program, which began in November, will cost \$3.5 million.

It is designed to help millions of poor families for whom contracep-

tion has been unavailable or too expensive. The program is expected to provide reliable birth control to at least 500,000 families within the two-year period.

The principle of social marketing of contraceptives has been used successfully by PSI in Bangladesh and other countries. It employs business methods and commercial distribution channels to promote and deliver products for public benefit instead of financial gain.

The USAID grant for the Mexican program will make possible the sale of contraceptives — condoms, pills, and other products — at prices even the poor can afford.

By the way, Caesar is king

United Press International
BLOOMINGTON, Ind. — Because they had no newspapers, radio or television, ancient Roman emperors used coins to transmit their propaganda to the masses, an Indiana University researcher says.

The gold coins carried a message for the aristocracy and bronze coins had a different message for the soldiers and tradesmen," said Rufus Fears, who has written four books on the subject.

"The American concept of democratic rule is that the power comes from the people," he said. "Many Roman emperors stated quite bluntly that their power came from the gods. So this would not be forgotten, they had the message stamped on their coins."

The emperors issued coins in the way commemorative stamps are issued in this country.

"One coin had a figure of Jupiter

— king of the gods — with a thunderbolt in hand and a small image of the emperor. The wording is, 'Jupiter, my protector.' This implied that the emperor was protected by the king of men.

During the earlier Republic, the coins reflected a different philosophy — one which depicted the ideals and beliefs of the people, Fears said.

"Despite widespread distribution of the coins, the message did not always catch on," Fears said. "Caesar, the first Roman to appear on coins, was assassinated a few months after the coins appeared."

Caesar's coin carried the message, "J. Caesar is your king and rules because Venus has given him victory, fertility and abundance."

"Freely interpreted," Fears said, "this was the promise of a chicken in every pot."

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