

An oil tanker turns sailboat to save fuel

Second of three articles

By Penny Wright
special writer

The "darling" of the Japan Pavilion at the Knoxville World Fair this summer is an oil tanker and Shin Aitoku Maru. In size, this ship is a child compared to the giants that ply the sea lanes delivering oil supplies.

But operationally it is a full-grown adult, able to do the job of a conventional tanker while consuming 50 percent less fuel.

The Shin Aitoku Maru is the world's first sail-assisted oil carrier. It represents a daring combination of age-old sailing techniques and space-age hardware.

The result delights its owners, who find it more fuel efficient and also more seaworthy.

THE SHIP is equipped with two sets of rectangular sails which are programmed to open and take over the main engine functions whenever wind conditions are right.

A scaled replica of the Shine Aitoku Maru demonstrates how the sail mast automatically turn in response to changing wind directions. Indications are that with even more sophisticated electronics, Japanese development of unmanned, "robot" ships is possible.

The Shin Aitoku Maru is just one example of the energy innovations of display at the exposition. By definition, world fairs are showcases for international achievements and technical "firsts." This fair has plenty of both.

THE CANADIANS are also looking to the wind to help reduce oil consumption.

An acknowledged leader in the development of vertical-axis windmills used for generating electricity, Canada is displaying a model of its first venture into the megawatt power range called "Aeolus."

This egg beater look-alike, equal to the heights of the Statue of Liberty, is predicted to supply the non-heating needs of 600 households. Currently a smaller, 230-kilowatt version is generating electricity in the Magdalen Islands.

Australia is showing plans of a prototype solar power station that will provide electricity to re-

The ship is equipped with two sets of rectangular sails which are programmed to open and take over the main engine functions whenever wind conditions are right.

note areas. The system will use 14 parabolic collectors to super-heat water, which in turn will produce steam to drive generators.

The disk-shaped collectors are automatically controlled to track the sun by means of a microprocessor computer. One of the mirror-lined collectors is on display, and visitors can get an up-close look at these elegant devices.

"FIRST-SPOTTERS" should note the Gossamer Penguin — the world's first sun-fueled aircraft. It hangs from the ceiling of the United States Pavilion.

Powered by 3,920 solar cells, the ungainly, 68-pound craft was developed by Paul MacCready and served as the model for his Solar Challenger. The Challenger crossed the English Channel July 7, 1981.

Innovation is not restricted to the so-called "new" energy sources. Many countries have

achieved firsts by improving existing fuel technologies.

An eye-catcher at the Great Britain Pavilion is the world's first tension leg oil drilling platform (TLP). The rig is being built by Conoco Limited for drilling in the deeper parts of the North Sea.

Unlike the present fixed-platform rigs with the rigid supports extending to the ocean floor, the TLP floats like a cork atop the waves, yet is held in place with mooring lines of hollow steel tubes anchored to the seabed.

The structure's own buoyancy keeps the mooring lines taut. While conventional platforms are impractical in more than 1,000 feet of water, the new TLP will work in depths up to 3000 feet.

TURNING AGAIN to Australia, visitors will see the country actively pursuing the development of a synthetic rock material known as synroc, for use in the disposal of nuclear wastes.

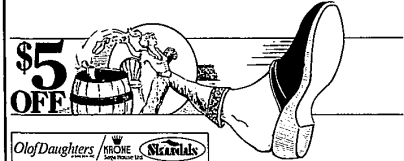
The process, which has aroused world-wide attention, involves mixing nuclear waste with selected chemicals like titanium dioxide, and then heating to high temperatures. The resulting mix or "rock" is compressed into steel containers and buried in deep drill holes.

Australia with vast uranium reserves and no domestic market, is understandably eager to have synroc succeed.

Which of the firsts will have the most impact on the world energy scene? That is hard to say. History shows that many promising technologies "fizzle." Care to place a bet?

Penny Wright is a freelance writer, student of energy and resident of Plymouth.

Be An Overland Trader



(Old Clogs For New)



Krone Skandals & Olof Daughters clogs. We'll give you \$5 off the price of a new pair when you throw your old pair in our barrel.

Here at Overland Trading Company we carry originals. Beware of imitations.

OVERLAND TRADING CO.

PURVEYORS OF FIRST-CLASS FOOTWEAR FOR MEN AND WOMEN

TWELVE OAKS MALL

NORTHLAND SHOPPING CNTR.

349-7878

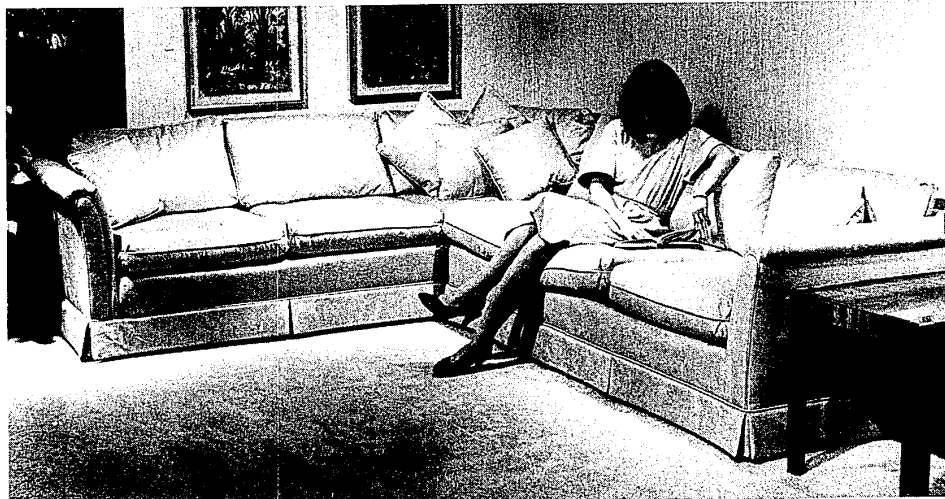
569-5466

GORMAN'S TAKES OFF THIS SUMMER.

(From 10 to 50% off during our Summer Sale!)

And Gorman's Summer Sale features this elegant two-piece sectional by Drexel. Its contemporary styling is perfect for just about any room setting, and the acrylic, ribbed-velvet fabric is treated with a Teflon stain-resistant element—so it's super long lasting. This fabric is available in a choice of eight dazzling colors, and there's a variety of other fine Drexel fabrics you can choose from.

These Drexel pieces, as shown, also have matching armless and corner sections at comparable savings! They're just part of our 103 Drexel Heritage room settings on sale now. Hurry in and save during Gorman's fabulous Summer Sale. **Sale ends September 5.**



Save \$533 on this elegant 2-piece sectional!
Both pieces are now just \$1995!

GORMAN'S

SOUTHFIELD
Telegraph at 12 Mile
Phone: 353-9880

TROY
W. Big Beaver at Crooks
Phone: 649-2070

FAIRLANE
260 Town Center Drive, Dearborn
Across from Fairlane Mall
Phone: 336-0340

GRAND RAPIDS
28th & Breton Rd.
Phone: 243-5466

All stores open Daily 10 to 6; Monday, Thursday & Friday till 9 • Troy and Fairlane open Sunday Noon to 5:30

STAY ALIVE LONGER
FOODS for HEALTH

- ★ REDUCING DIETS
- ★ LOW-SALT DIETS
- ★ DIABETIC DIETS
- ★ DIETS TO FEEL BETTER

VITAL FOODS

W. BLOOMFIELD MADISON HTS HARPER WOODS
6738 Orchard Lake 13-Mile & John R Eastland Center
South of Maple North of AAP 8-Mile & Kelly Hts.
DEARBORN REDFORD DETROIT LYONIA
6911 Suburban Grand River 1454 Broadway Woodland Ctr.
No. of Michigan W. of Lakes near John R Plymouth-Middlefield

10-WEEK PROGRAM

You Can Become A
MEDICAL ASSISTANT

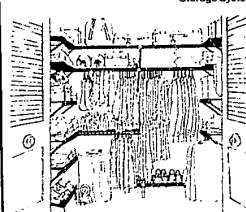
Classes begin Sept. 13-Nov. 27
Heac/Hedrick Community Education Center
1875 West Nine Mile Road
Southfield, MI 48075
Instructor Maxine Holland, CMA
(Certified Medical Assistant)
Guest Speakers: Doctors and Other Professionals
Morning 8 a.m.-12 noon, Monday through Thursday
Afternoon 12:30-4:30 p.m. Monday through Thursday
THE MAXINE HOLLAND

Program covers medical office procedures, techniques in assisting the doctor, and laboratory work. Study includes theory and practical work, giving basic preparation for certification and employment in a doctor's office. Program \$688.00 (includes books & laboratory fees).

Winter Program - January 10
Maxine Holland, CMA
152 Kirk Ln. Troy, MI 48064
or call evenings 528-2574

Double your closet space
with

SPACE BUILDER **elfa**
VENTILATED SHELVING **CMS** and Basket Drawer Storage Systems



FREE • In Home Analysis
• Planning and Design

NOW!

We will cut to size the shelving you need at no additional cost. If you can hang a picture you can double your closet space this weekend.

interior motivesphone number
739-3331

We make small closets big.