

## INVENTION

# Patents of the Week

A method for transporting finely crushed coal mixed with water over long distances by pipeline in which water is removed at an in-between terminal was awarded a patent.

► TRANSPORTING coal by pipeline over long distances by an improved method earned U. S. patent 3,073,652 for Eric H. Reichl, director of research for Consolidated Coal Co. of Pittsburgh, Pa.

A commercial pipeline now moves finely crushed coal mixed with water to form a slurry from Cadiz, Ohio, to the outskirts of Cleveland, a distance of 108 miles. Using the newly patented method, much of the water in the coal-water mixture would be removed at an in-between terminal.

The more concentrated slurry can then be stored in conventional tanks for long periods of time, Mr. Reichl stated, before it is piped to a power plant. Patent rights were assigned to Consolidated Coal, the first industry in the United States to build a coal-carrying pipeline.

The main advantage of shipping coal by pipeline is the reduction of transportation costs, a considerable part of the delivered fuel cost.

## Messerschmitt Awarded Patent

The designer of the famed Messerschmitt fighters that downed so many Allied airplanes during World War II was granted a U. S. patent for his method of mounting a power unit on the thin wings of aircraft.

Willy Messerschmitt of Munich, Germany, earned patent 3,073,552 for inventing a flexible rectangle that distributes the engine weight over most of the wing area. He assigned rights to Messerschmitt Ag., Augsburg, Germany.

A large proportion of all German fighter aircraft during World War II were of Messerschmitt design, including the first jet plane to be flown in combat, the Me-262.

## Nuclear Reactor Improvement

After being kept secret for more than 17 years for security reasons, an improved method of operating a nuclear reactor by bubbling gas through the reacting liquid to remove fission products won patent 3,074,868 for Dr. Anthony Turkevich, now at the University of Chicago.

He assigned rights to the Government through the Atomic Energy Commission.

The process may be applied to any liquid suspension, including a slurry of natural uranium oxide or carbide in heavy water, or slurries of other uranium compounds.

## Miniature Engine

A miniature engine that cools to temperatures more than 300 degrees below zero Fahrenheit earned patent 3,074,244 for Drs. Stephen F. Malaker of Mountainside, N. J., and John G. Daunt of Ohio State Uni-

versity. They assigned rights to Malaker Laboratories, Inc., Clinton, N. J.

The engine is a two-cylinder one to provide refrigeration for electronic and space use. It operates on a modified Stirling cycle that involves both compression and expansion of the gas.

The miniature engine weighs only a few pounds and is self-contained, requiring only electricity to operate.

## Other Patents

Other significant patents include:

A gaseous discharge device for which Kenneth J. Germeshausen of Newton Center, Mass., won patent 3,075,114.

An ion source that provides neutralization of space charge. John W. Flowers of Gainesville, Fla., John S. Luce of Danville, Calif., and William L. Stirling of Oak Ridge, Tenn., assigned rights to patent 3,075,115 to the Government through the Atomic Energy Commission.

A method and apparatus for making salt water drinkable by an efficient freezing process, for which Carlyle M. Ashley of Fayetteville, N. Y., was awarded patent 3,073,131. Rights were assigned to Carrier Corporation, Syracuse, N. Y.

A slot antenna for a supersonic missile that is mounted flush with the surface. Claude W. Horton of Austin, Tex., assigned rights to patent 3,074,063 to the Government.

A multi-purpose space capsule that provides the necessary life support, for which Otto Schueller of Dayton, Ohio, earned patent 3,073,040, rights also being assigned to the Government.

• Science News Letter, 83:93 February 9, 1963

## Do You Know?

The *human* apparently lacks a compensatory mechanism found in some animals that reduces the cholesterol produced normally within the body when large amounts are introduced into the diet.

Dairy cows need *exercise* twice a day even in the winter.

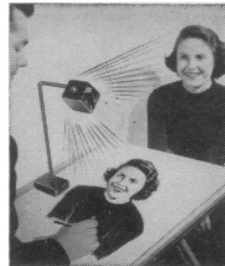
*Chicken* is better than beef in protein value, higher in B vitamins and less fat-tening.

Viruses of both eastern and western *encephalitis*, a disease resulting in inflammation of the brain, are transferred by mosquitoes from birds to man.

White *spruce* produces a heavy crop of seeds every two to six years.

• Science News Letter, 83:93 February 9, 1963

## DRAW Any Person in 1 minute



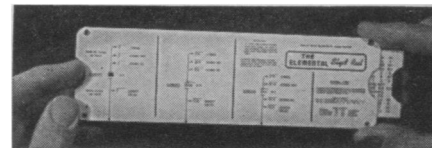
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## How Fast Can You Read?

A noted publisher in Chicago reports there is a simple technique of rapid reading which should enable you to double your reading speed by this simple, proven method and yet retain much more. Most people do not realize how much they could increase their pleasure, success and income through reading faster, easier, more accurately.

According to this publisher, anyone, regardless of his present reading habits and reading speed, can use this simple technique to improve his reading ability and develop it to a remarkable degree. Whether reading stories, textbooks, technical matter, it becomes possible to read sentences at a glance and entire pages in seconds by following this method.

To acquaint the readers of this publication with the easy-to-follow rules for developing rapid reading skill, the company has printed full details of their interesting self-training method in a new book, "Adventures in Reading Improvement," which will be mailed free to anyone who requests it. No obligation. Simply send your request to: Reading Improvement Program, 835 Diversey Parkway, Dept. 2642, Chicago 14, Illinois. A postcard will do.