

INVENTION

Patents of the Week

► AN ATOMIC REACTOR for powering aircraft of the nuclear age has been invented.

Arthur P. Fraas of Knoxville, Tenn., and Carroll B. Mills of Los Alamos, N. Mex., received patent No. 3,009,866 for the precedent-shattering invention. Rights of the patent were assigned to the U. S. Atomic Energy Commission.

"A new concept in the nuclear physics of a neutronic reactor was required in order to solve the dilemma imposed by the stringent requirements of an aircraft reactor," the inventors stated. A light, easily-controlled, high temperature, low-pressure reactor needed for aircraft use was nonexistent prior to the invention, the patent emphasized.

The neutronic reactor can produce about 60,000,000 watts of power with only a 21-inch core. The fissionable material in the reactor is a liquid fuel, such as fused fluoride salts, that is circulated through ducts. The energy released by fission in the active portion of the reactor may be removed by any convenient manner, the patent stated.

The reactor is unique because it does not need a moderator in its fueled portion.

Educational devices ranging from anatomical models for instruction in medicine and art to self-teaching and testing methods were among inventions recently patented.

A model demonstrator for teaching artificial respiration won patent No. 3,009,266 for Morris Harry Brook of Saskatoon, Saskatchewan, Canada.

Direct artificial respiration techniques such as "mouth-to-mouth" resuscitation, are recognized as highly effective in administering artificial respiration. However, in teaching this technique, difficulties arise from aesthetic considerations as well as sanitary good health practices.

This invention provides a model of a human head and neck for demonstrating the form and relationships of the several organs and parts that constitute the upper respiratory tract.

A novel and useful broiler for shish kebab that features eight vertical skewers rotated either manually or mechanically around a central heating unit won patent No. 3,009,410 for Willard J. Murphy of Ely, Minn.

The gearing assembly that provides the rotation also supports the skewers securely, preventing accidental disengagement. The unit may be heated with charcoal, gas or electricity.

A collapsible tray or table shelf that fits over the shoulders of the user was awarded patent No. 3,009,613. Wayne B. Noland of Avon Lake, Iowa, assigned rights to Woodford Manufacturing Company of Des Moines.

The shelf permits the user to move from place to place while eating and drinking and can be used for outdoor picnicking as well as for indoor TV snacks.

A radar reflective tow target designed

for practice in tracking and intercepting a low aerial military target won patent No. 3,010,104 for Forbes R. Powell, Playa Del Rey, Calif. Rights were assigned to Del Mar Engineering Laboratories of Los Angeles.

The invention simulates the type of radar reflectivity that characterizes aircraft such as a large bomber. Achieving this reflectivity has been a major problem, as has been storage space, which the invention provides, for such tow target equipment as radio components, a power supply, and means for firing signal flares at the trailing end of the tow target.

An educational device for self-teaching and testing won patent No. 3,009,263 for Albert Blain of Philadelphia, Pa., who assigned rights to General Atronics Corporation, Bala-Cynwyd, Pa.

Questions and multiple choice answers are supplied on separate sheets that fit into the novel apparatus. A question with the multiple choice answers is continually shown to the user until he selects the correct answer. The invention provides a test booklet with the device to control the order of the questions by an indexing control on one edge of the booklet.

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STATISTICS

Cigarette Link to Cancer Doubted by Statistician

► STATISTICAL investigations showing that the death rate from lung cancer among cigarette smokers is greater than among non-smokers were discounted by Dr. Joseph Berkson of the Mayo Clinic, Rochester, Minn.

Dr. Berkson, who has previously stated that he did not believe smoking causes cancer of the lung, told the International Statistical Institute meeting in Paris that statisticians are in danger of losing such reputation as they have with scientists and with the public because of "basic inaccuracies and biases."

Objective examinations of the results of these investigations disclosed, Dr. Berkson said, that the death rate among smokers was greater, not only from lung cancer, but from all other classes of disease.

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MEDICINE

Apple a Day Maxim Confirmed by Research

► THE MAXIM, "An apple a day keeps the doctor away," has been confirmed by more than 1,300 volunteer students at Michigan State University, East Lansing.

In a three-year study, MSU health records showed significantly fewer calls to the University's Health Center by the apple-eating students than from others.

Fully one-third fewer calls were made for upper-respiratory infection treatment than would be expected from the student body as a whole. Tension-caused illness and general sickness were also less.

The investigators said the ascorbic acid (vitamin C) in the apples might have accounted for the benefit, and that perhaps some naturally occurring tranquilizer in the apple might have accounted for lessening the tension-pressure.

Results of the study are published in MSU's Agricultural Experiment Station Quarterly Bulletin (Nov.). Drs. Richard R. Dedolph, Harold B. Tukey and Joseph A. Stevens of the department of horticulture, and Dr. Robert N. Monfort, a former staff physician with the MSU health service, cooperated in the study.

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NYLON RAFT—Weighing slightly more than 2,000 pounds, this nylon and aluminum raft can support a load 10 times its weight. It was designed for the British Army and is now undergoing tests in the Far East. A series of rafts can be joined together to form a pontoon bridge.