

AERONAUTICS

Suggest Landing Planes In Greased Trough Runways

➤ A SCHEME for an airplane landing field that looks as if it had been inspired by watching a greased pig on an ice-hockey rink is the subject of newly-issued U. S. patent 2,433,238. The inventor, Humberto V. Ramirez, of Los Angeles, proposes to equip planes with streamlined resilient torpedo-shaped bodies instead of landing wheels, and to have the planes come down on runways consisting of long, shallow troughs containing a lubricant. Longitudinal flutings or ribs are to be provided, to give the plane the benefit of automatic steering as it slides to a stop.

This bold and unorthodox suggestion is an attempt to solve the rather tough problem presented by the rapidly increasing size of transport planes and the great weights they now carry. In order to double the landing surface of plane wheels, Mr. Ramirez points out, it is necessary to quadruple their size.

Lubricant costs need not be an insuperable obstacle to the adoption of the new landing system. Ordinary muddy water will work quite satisfactorily.

Science News Letter, January 3, 1948

ENGINEERING

Inside-Out Motors Built For Wind Tunnel Tests

➤ TWO new electric motors, revealed by General Electric, are unique. The first, a tiny spinner for use in testing missiles in wind tunnels, is dubbed an "inside out" motor. The second has speed regulation by a twist of a dial on the motor itself.

The inside-out motors have their rotating part on the outside and their stationary part on the inside. Ordinarily, the rotor is on the inside, enclosed by the stator which is the stationary part of an induction motor on which the field windings are placed to create an electric field. In this new motor, the rotor encloses the stator, revolving on a stationary shaft.

The motor is six inches long and less than two in diameter. It is rated at one-tenth horsepower, and has an extreme speed of 80,000 revolutions per minute. When mounted inside a missile, the exterior frame of the motor is fastened to the projectile's case, spinning it at high speeds so that its behavior in the air at supersonic velocities can be ob-

served and measured.

The second motor will be produced in ratings of from three to 200 horsepower. Its feature is a stepless-speed adjustment, over a three-to-one ratio, by simply turning a dial. The entire unit, with the exception of the starting control, is in a housing only slightly larger than constant-speed motors of comparable ratings.

Science News Letter, January 3, 1948

PHYSIOLOGY

Chronic Alcoholics Escape Atherosclerosis, Cancer

➤ CHRONIC alcoholics escape one kind of artery hardening and cancer, it appears from figures reported by Dr. Sigmond L. Wilens of Bellevue Hospital and New York University College of Medicine in the *Journal of the American Medical Association* (Dec. 27).

One reason the chronic alcoholics get the special artery hardening less often than non-alcoholics is the relatively young age at which the alcoholics die.

Age at death, however, does not entirely explain the "remarkable resistance" to cancer shown by the alcoholics, Dr. Wilens states.

The blood vessel disease he studied is atherosclerosis, a kind of artery hardening in which the walls of the arteries undergo fatty degeneration. The word atheroma comes from the Greek for porridge or mush.

Fatty material has been found in the cysts in the artery wall in this condition. Scientists have therefore thought diets high in fats and perhaps proteins, also, led to the condition.

But the chronic alcoholic, if he drinks a pint of whisky a day, which is likely, probably gets most of his calories from the whisky. A pint would furnish 1,750 calories. So, even if he doesn't lose weight, he gets little fat or protein.

The finding that atherosclerosis attacks chronic alcoholics less often than non-alcoholics means, Dr. Wilens points out, that the fatty materials in the cysts in the artery walls do not necessarily come as such from the food eaten. They may, instead, be elaborated in the body from other substances.

Besides the relatively young age at death, the low incidence of high blood pressure and lesser tendency for damage in heart and brain, Dr. Wilens says, probably account for the apparent low incidence of atherosclerosis in chronic alcoholics.

Science News Letter, January 3, 1948

IN SCIENCE

BOTANY

Find Male-Sterile Carrot Unable To Form Pollen

➤ CARROTS that are male-sterile, that is, unable to produce pollen although their flowers have female parts capable of forming seed when cross-pollinated, are reported in the journal *Science* (Dec. 12) by J. E. Welch and E. L. Grimball, Jr., of the U. S. Department of Agriculture experiment station, Charleston, S. C.

Discovery of a plant with only the female or seed-forming parts functional is always important to breeders, for it eliminates the tedious task of plucking off the stamens by hand that is necessary with normal-flowered plants before production of new hybrid strains can be attempted.

Male-sterile plants previously reported have included tomato, flax, onion, sorghum, barley and sugar-beet.

Science News Letter, January 3, 1948

ELECTRONICS

Television Transmission To Moon and Back Planned

➤ AN ambitious French scientist is now planning to send television images to the moon and back. He is inspired by the success of American radar experts in reaching the moon with their powerful transmitters and is reported to be now negotiating for the use of the same instruments.

The scientist is M. Edouard Belin who has already achieved much in long-distance television transmission. His plans were revealed by the French Embassy information service. The desire to use an American transmitter is because none powerful enough exists in France.

M. Belin expects to use what he designates as a "square" method. The image would first be transmitted from Paris to America, then by a powerful American instrument to the moon. The moon would receive the image and send it back, perhaps to a station in northern India, from which it would be relayed to Paris. The image would have travelled some 480,000 miles.

Science News Letter, January 3, 1948

E FIELDS

MEDICINE

Two Marines Get Leprosy Through Being Tattooed

► THE cases of two U. S. Marines who got leprosy through being tattooed are cited by the *Journal of the American Medical Association* (Dec. 27) as providing "strong evidence" that leprosy can be spread by inoculation.

The Marines were tattooed at Melbourne, Australia, by the same man on the same day. Both developed leprosy in the tattoos three years later, Drs. R. J. Porritt and R. E. Olsen report. The diagnoses of leprosy were made by the U. S. Public Health Service at its Marine Hospital at Carville, La., the national leprosarium.

Both the Marines and the tattooer were "inebriated," the medical report states, and a number of needles were broken during the tattooing. One of the Marines had a number of tattoos on his left arm but leprosy developed only in the tattoo made in Melbourne on the day his friend was tattooed.

The possibility of leprosy being spread by a needle is borne out by other cases reported in the past, the medical journal points out. One such case was that of a man who was assisting at an operation on a leper and got his finger pricked. Leprosy developed after several years. Another case was one in which leprosy developed in a man repeatedly injected with blood from a leper. Leprous skin sores developed in less than two months after the first inoculation.

Cases in which leprosy has not occurred following attempts to produce it by inoculation have also been reported, and have made this method of the spread of leprosy a matter for debate in the past.

Science News Letter, January 3, 1948

PHYSICS

Gigator Is New Name Proposed for Atom Smasher

► IF you begin to hear about a gigator, don't reach for your animal book. The gigator is no relation to the alligator.

The gigator, thus far, is just a proposal—for a powerful new atom-smasher. It was suggested recently by a Swiss physi-

cist, Rolf Wideroe, in a communication to the American journal, the *Physical Review* (Nov. 15).

The name gigator, comes from the term gigavolt, a billion volts. Mr. Wideroe, of Brown, Boveri and Company, Baden, Switzerland, explains that the newly-suggested atom-smasher would be a circular accelerator for heavy particles. At certain voltages, he believes the gigator would be better than the synchrocyclotrons which several American atomic science centers either have in operation or under construction.

Science News Letter, January 3, 1948

AGRICULTURE

Raw Potatoes Replace Corn In Fattening Steers

► POTATOES can be used instead of grain for fattening cattle, experiments on the stock farm of Eugene K. Denton at Flanders, N. J., have demonstrated. Twenty yearling steers gained an average of 25 pounds each in a 25-day feeding period on a ration of 50 pounds of potatoes each per day. This replaced a daily feeding of 16 pounds of corn per day, and resulted in a total saving of four tons of corn for the whole feeding period.

Science News Letter, January 3, 1948

GENERAL SCIENCE

Science Talent Search Winners Hold Reunions

► YOUNG scientists from as far away as Korea gathered in Chicago, New York City and San Francisco on Dec. 26 for the regular Christmas reunions of winners in the Annual Science Talent Searches.

Frederic Petersen expected to arrive by Army transport in time to attend the one in San Francisco. T/5 Petersen, whose home is in Minden, Nebr., has spent several months with an isolated group of 96 Koreans whom he has trained as a fire fighting team. His talk of science has been limited to interpreters and sign language.

Approximately 60 of the 240 winners chosen in the last six Searches planned to attend one of the three unions.

The young scientists, all under 24 years of age, are attending 29 colleges and universities where they are specializing in sciences ranging from atomic physics to zoology. Twelve states and the District of Columbia were represented.

Science News Letter, January 3, 1948

GENERAL SCIENCE—AAAS

Young Scientists Tell How They Got Started

► THE youngest scientists attending the midwinter meeting of the American Association for the Advancement of Science in Chicago—in age from 17 to 24, in academic standing from high-school student to doctoral candidate—held their own special Junior Scientists' Assembly, to tell each other and assembled members of the AAAS and National Science Teachers Association how boys and girls first set their feet on the long trail of research.

Fifteen young scientists took part in the discussion, which was conducted under the chairmanship of Paul Teschan, Shorewood, Wis., first boy winner of the Westinghouse Grand Science Scholarship of \$2,400 in the initial Science Talent Search conducted by Science Service in 1942. Mr. Teschan is now in the graduate medical school of the University of Minnesota. Eight of the other participants were also winners in the annual Science Talent Search, four are winners of the American Association for the Advancement of Science honorary junior membership awards, and three have been given honorary junior memberships in their respective State Academies of Science.

One of the two young women participating, Miss Evelyn Pease, Evansville, Ind., told of the difficult reactions she carries through as part of the work in organic syntheses in which she was launched as part of the war effort. Some of her work was on a series of new sulfa drugs.

Carl Stapel, Appleton, Wis., told of his scientific evolution from a boy fascinated with a motor-operated erector set to his present interest in some of the more advanced work in radio, especially narrow-beam frequency modulation. Projects now before him include frequency-modulating a beam of light, developing a light-operated radar set and putting a sound-operated radar set into use.

The phenomenon of thermophosphorescence has attracted Alfred T. Peaslee, Jr. This is the peculiar property of some substances, for example common salt, of shining with visible light when bombarded with X-rays. He split the light up into its spectrum, and measured the intensity of each wavelength band. He has plans for extending his research with other materials, using specially designed spectrographs.

Science News Letter, January 3, 1948