

INVENTION

Patents of the Week

A microphone and loudspeaker that can be hidden under the shirt collar, a method of controlling the growth rate of animals and a boiling nuclear reactor were patented.

► A TINY MICROPHONE and loudspeaker combination, so small it can be hidden under a shirt collar, was invented by Kenneth M. Baxt of New York. The portable, voice-amplifying equipment received patent No. 3,029,307.

Mr. Baxt noted that people are constantly faced with the problem of trying to communicate with each other in places where the noise level is high, but that it is virtually impossible to carry on a conversation under these conditions.

His invention includes a throat microphone that receives vibrations at the surface of the skin near the throat and produces electrical currents from them. The microphone is linked through transistor amplifiers to a small loud-speaker.

All parts of the equipment are so small they can be readily concealed by the user, Mr. Baxt claimed.

Growth Rate Controlled

A method of controlling the growth rate of animals and a chemical for doing so won patent No. 3,029,184 for Willard J. Visek of Chicago, Ill., who assigned rights to the Government through the U.S. Atomic Energy Commission.

Antibiotics and other antibacterial agents are known to increase the growth of animals and birds when used in trace quantities in feed. The consensus was that this effect was due to the agents' action on bacteria in the digestive system, so that less food was required to produce a unit of weight gain.

However, Mr. Visek thought the beneficial effect of antibacterial agents might be due to their action on the ammonia-producing bacterial-enzyme systems of the animals. He found that the introduction or production of anti-urease gives the same effect as antibiotics.

Mr. Visek's method is not claimed to be useful in controlling the growth of humans, and is intended only for lower animals. The anti-urease is preferably produced naturally within the animal by injecting urease to which the animal then makes antibodies.

Since urease in large doses is lethal, initial doses must be kept low. By injecting ever larger amounts, doses up to one-third the amount normally lethal can be given, thereby increasing the animal's feeding efficiency and growth rate.

Boiling Nuclear Reactors

A patent basic to the development of atomic energy for power purposes—the boiling reactor—was granted to Samuel Untermyer of Atherton, Calif., who assigned

rights to patent No. 3,029,197 to the Government also through AEC.

In a boiling reactor at least a portion of the coolant is converted to a vapor within the reactor. The heat energy in the coolant is then used either directly or indirectly through a heat exchanger to provide power, for instance, to drive a steam turbine.

Mr. Untermyer's invention is concerned with the self-regulating type of reactor. This is one in which an increase in power causes an immediate decrease in reactor activity that, in turn, reduces the reactor's power. The reactor thus is said to "fail safe."

Other Patents of Interest

Bird watchers and others using a spotting telescope should note that a variable power instrument was awarded patent No. 3,028,791. James A. Clark of Brighton, N. Y., and Michael Krajowsky of Rochester, N. Y., assigned rights to Bausch & Lomb Inc., also of Rochester. They devised an improved form of variable power, or zoom, type telescope with movable lenses so that the magnification can be varied as desired.

A suit that gently massages the body of its wearer during exercise won patent No. 3,028,857 for Mildred E. Parker of San Bernardino, Calif. The exercise-massage suit includes a face mask, gloves and socks. The inside of the suit is studded with closely spaced soft massaging tips made of rubber or other materials.

New methods for selecting strains of viruses that attack nerves and for using these techniques in preparing live virus vaccines earned patent No. 3,029,190 for Robert Paul Hanson of Madison, Wis., and Frank F. Piraino of Ashland, Ohio. The methods they developed call for separation of the less deadly viruses based on their decreased ability to attach themselves to the surface of nerve cells, believed the first step when a virus attacks an animal host.

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MEDICINE

Diet Most Important In Artery Hardening

► THE TYPICAL Japanese diet is less likely to cause hardening of the arteries than American high-fat foods, Dr. Ancel B. Keys of the University of Minnesota, Minneapolis, reported at the seventh Hahne-mann Medical College and Hospital symposium on coronary heart disease in Philadelphia.

However, Americanized Japanese are similar to other Americans in California in

respect to atherosclerosis, or hardening of the arteries, some data indicate.

Detailed dietary information on middle-aged men in Yugoslavia, Finland, Greece, Japan and Minnesota indicate that the average serum cholesterol level is primarily dependent on the dietary fats, Dr. Keys said. He added that the diet appears to be the most important item so far identified in regard to the ethnic factor in atherosclerosis and its complications.

Exercise, smoking, obesity and blood pressure may have some effects but it has not been shown that these are major items in explaining ethnic differences.

In another talk, on genetics and atherosclerosis, Dr. Edmond A. Murphy of the Johns Hopkins School of Medicine, Baltimore, Md., said that "there is a tendency to fatalism where genetics is concerned." If we are convinced that atherosclerosis originates in the genes, "where we cannot get at them," attempts to prevent hardening of the arteries may be abandoned.

If we take the stand that we are master of our fate, he concluded, "perhaps we may achieve some success in combating this worst of all curses from Pandora's box."

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BABYLONIAN CLAY TABLETS—
Keys to ancient civilizations?

TECHNOLOGY

Computer Helps Date Babylonian Clay Tablets

► BABYLONIAN CLAY TABLETS are now being dated with the help of an electronic computer compiling astronomical tables.

The tables, worked out by Dr. Bryant Tuckerman, research mathematician with International Business Machines Corporation, have the positions of Mars, Saturn, Jupiter and the sun at ten-day intervals for the period between 601 B.C. and A.D. 1. For the faster moving moon, Mercury and Venus, positions were computed for five-day intervals. All positions were computed for 7 p.m. in Babylon.

The dates of astronomical information are expected to give clues to dates of other information on the tablets and may provide scholars with new insight into the civilization preceding the Christian era.

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