RADIO

Invention Limits Flicker In Color Television

➤ A NEW method of changing the balance of different portions of a color television system so as to reduce flicker, invented by Dr. Peter C. Goldmark, director of engineering, research and development of the Columbia Broadcasting System, was granted a patent by the government.

Flicker may result, Dr. Goldmark explained, when signals of different light intensity are sent successively through different optical paths. His invention, which is assigned to C. B. S., is designed to reduce this flicker.

The invention makes use of an electron multiplier for multiplying a composite video signal. It also sequentially alters the voltage applied to one or more of the stages of the multiplier, and this alteration is in synchronization with the alternations of the different component portions of the composite video signals.

The invention contemplates doing the job in the transmitting tube. While this is preferred, the patent application explains, it could be done in a separate tube and then the apparatus could be used either at the transmitter or the receiver. Dr. Goldmark, of New Canaan, Conn., received patent 2,543,772.

Science News Letter, March 17, 1951

CHEMISTRY

New Evaporator Gets Fresh Water from Sea

➤ APPROXIMATELY 30 gallons of distilled water are produced from sea water with one pound of fuel in new distillation equipment of the compressor type revealed at the U. S. Army Engineer Research and Development Laboratories. It is for use by military men in areas where no fresh water is available.

This equipment is a version of apparatus developed during World War II that produced an equal amount of distilled water with an equal amount of fuel. But the old apparatus was not satisfactory because scale from the salt water formed in the tubes of the evaporator, necessitating frequent shutdowns for cleaning.

The improved equipment, developed as a result of basic research at the University of California sponsored by the Engineer Corps, provides a surface outside the evaporator which collects much of the scale-causing salts before they get inside the evaporator.

In the device what is called a contact stabilizer is used. It consists of a metal shell containing sand, limestone or other material through which brine from the evaporator is circulated by upward flow at a rate many times that of the sea water entering the evaporator.

The larger the surface of contact material provided, the greater the control against scale formation. Scale forming within the evaporator has been reduced to five percent of that formed without the control.

A garrison type thermocompressor distillation unit, electrically operated and incorporating the scale prevention principle, is now being service-tested in Bermuda. It weighs 40 tons but is constructed in sections which permit easy moving. It is designed to operate six months without stopping for scale removal.

Science News Letter, March 17, 1951

INVENTION

Moves in Chess Can Now Be Recorded

➤ PERMANENT records of the individual moves in a chess game can be made with a chessboard on which two Czechoslovakians received American patent 2,543,339.

It is claimed as an improvement over other so-called automatic-recording chessboards because records are made without effort on the part of the players and without diverting their attention from their playing. Also the records can be reviewed without the necessity of playing the game over again.

This board has a tiny slit in each square through which, at each move, a mark can be made with a pencil on a movable recording sheet of paper below. The record sheet is moved forward relative to the board itself so that only a single mark can be made for each square.

The inventors are Josef Karel Simunek and Josef Jan Simunek. Their address is Ricany, near Prague, Czechoslovakia.

Science News Letter, March 17, 1951

ZOOLOGY

"Feather" on Tail Shrew's Mosquito Net

➤ A TINY MALAYAN tree shrew that carries its own mosquito netting around with it on its tail has been added to the mammal collection of the Smithsonian Institution.

The netting is an extension on its three-inch long naked tail and looks exactly like a feather. When the creature sleeps it twists its tail around so that the feather covers its face. This, scientists believe, may serve to protect it against mosquito bites.

The tail extension is not really a feather, scientists say, but it looks exactly like one. Because of this it was named the pen-tailed tree shrew. The animal is the size of a small rat and little is known of its habits. One kept in captivity slept all day and came out at night.

Science News Letter, March 17, 1951

IN SCIENC

PHARMACY

Cortisone Output To Be Tripled

➤ PRODUCTION of cortisone, for arthritis and other ailments, will be tripled or quadrupled by the middle of next year, officials of Merck and Co., manufacturers, predict.

The increased output is expected to come from a new plant now being built near Danville, Pa., and from expanded production and further improvement in yields from the process at the plant at Rahway, N. J.

A black market in cortisone is rumored. But the present shortage, Merck and Co. officials declare, is caused "by a problem more fundamental than black marketing.

"This problem is one of supply. Merck is producing enough Cortone (name for the Merck brand of cortisone) to take care of the needs of tens of thousands of patients, but the demand for cortisone involves hundreds of thousands of people.

"This demand cannot be satisfied by present methods of manufacture. The present starting material in the manufacturing process is cattle bile, an organic substance limited in supply.

"Before cortisone can be made in sufficient quantities, a new, more plentiful starting material will have to be found, or a complete synthesis discovered by the chemists and research workers."

Science News Letter, March 17, 1951

HORTICULTURE

Once-Vast Swamp Now Yielding Food Crops

➤ HYBRID CORN and other crops were harvested for the first time last fall from a centuries-old, vast French swamp—the beginning step in a long-term project to make this once-useless land productive.

The entire 5,500-acre swamp has now been drained, and a strip of 370 acres has yielded a harvest of corn, potatoes, beets and grain. Known as the Marais Vernier, the desolate swamp is south of the mouth of the Seine in Normandy.

For over 1,000 years, attempts have been made to clear this swamp, but none of them met with the success of the present try. About $335,000 from Marshall plan counterpart funds helped to make the project possible. Within ten years, it is expected that the entire marsh will have been transformed into farm land, giving France much needed food.

Science News Letter, March 17, 1951

E FIELDS

PSYCHOLOGY

Making Sub Livable Helps Reduce Weight

➤ REDESIGNING a submarine to make it more livable is the job Lt. Comdr. Dean Farnsworth of the U. S. Naval Submarine Base has been tackling. Indirectly it has led in many instances to a reduction in weight.

Lighting fixtures have been redesigned to decrease eye strain, and glare has been reduced through use of new materials, Comdr. Farnsworth told members of the Inter-Society Color Council meeting in Washington, D. C.

Submarine interiors used to be painted white or gray; now they may be subdued shades of green or red. Tans, browns, reds and greens were introduced because men as a rule prefer walls of these colors.

Passageways also have been remodeled. Plywood, luxurious to look at and light in weight, has proved an easy-to-clean material for use in passageways frequented by men greasy from working with machinery.

Laminated plastic is the latest in table coverings for subs. The plastic is bonded on aluminum backed with aluminum honeycomb and weighs only a third as much as the traditional linoleum. Thus lighter subs as well as those of increased livability are on the way.

A new paint base developed to cut down glare was exhibited under fluorescent light by Comdr. Farnsworth, who pointed out that it also is easy to clean.

Science News Letter, March 17, 1951

SAFETY

Farmers, Gardeners Should Plan Safety Program

➤ RIGHT NOW, before their busy season starts, is the time for farmers and home gardeners to plan a safety program for themselves and families. Take a look around the place and see if you can spot potential accident and fire hazards and then eliminate them. Here are some simple precautions to follow:

Have place for things and keep them there.

Avoid storing loose materials overhead in the rafters.

Keep things out from underfoot as much as possible. It is easy to trip over a pitchfork handle.

Farm buildings with lights should have the wires inspected. Have a dry place to stand when throwing switches.

If using a lantern, hang it outside the barn and provide a secure place to hang it.

Avoid smoking or lighting matches around the barn. (Remember this, those of you who plan to work on farms this summer.)

Do not store gasoline or kerosene in the barn.

Oily rags or waste should be burned.

And here are some additional pointers: Learn to lift heavy objects correctly to avoid strains, sprains, and ruptures. The trick is to use leg instead of back muscles. Keep your back as nearly vertical as possible, feet close to the object being lifted and about 10 inches apart. Keep the hips lower than the shoulders and the arms straight. Don't try to lift something too heavy for your strength. Get help or rig a block and tackle.

A gradual physical toughening program may help to reduce injuries due to fatigue and strain.

Inexperienced helpers should learn to be careful about handling farm machinery to avoid accidents to themselves and others.

Science News Letter, March 17, 1951

AERONAUTICS

Atomic Plane Engines Feasible But Not Probable

➤ THE RECENT statement attributed to Air Secretary Thomas K. Finletter that an atomic energy aircraft engine is feasible does not mean that this type of power may go into aviation in the immediate future.

It means, however, that progress has been made in the problem of utilizing nuclear energy for the propulsion of aircraft, and it holds out hope for the future.

Much work has been done in the past two or more years at the Atomic Energy Commission Oak Ridge, Tenn., plant in studying the problems of applying atomic energy to aviation in a project called NEPA for short. The letters stand for Nuclear Energy for the Propulsion of Aircraft. Much of this was done under a contract of the U. S. Air Force with the Fairchild Engine and Airplane Corporation.

This contract terminates on April 30 this year, and Fairchild has announced that most engineers on the atomic plane project will be transferred to a new phase of the work in Ohio.

Many scientists believe that the first application of atomic energy will be in ocean vessels, perhaps in the submarine. Work directed to the use of nuclear energy to propel a submarine is under way at the Knolls Atomic Power Laboratory, Schenectady, N. Y., operated by General Electric.

Some general facts about the submarine atomic reactor being developed at this laboratory were recently revealed by K. A. Kesselring of the staff. It will use, he said, an atomic reactor operating at very high heat to produce heat. The heat will develop steam to operate steam turbines.

Science News Letter, March 17, 1951

PUBLIC HEALTH

Rheumatic Fever Now A Leading Child Killer

➤ RHEUMATIC FEVER and heart disease is now one of the leading killers of children in the United States, ranking second only to accidents, Dr. George Wolff of Washington, D. C., reports. (JOURNAL, AMERICAN MEDICAL ASSOCIATION, Mar. 10).

Girls are more often victims than boys, his statistical study shows.

The Northeast, especially the Middle Atlantic section of the country, has the highest death rates for this condition, with the Southern and Pacific Coast lower than the average death rates.

The rise of rheumatic fever and heart disease to a leading position as killer of children is not due to an increase in deaths from this condition. Actually, Dr. Wolff points out, the mortality for white children from this condition has decreased between the 1919-1921 period and the 1944-1945 period. The decreases amount to 70% for children from five through 14 years and 60% for children from 15 through 19 years.

Reason for the present high mortality position of rheumatic fever and heart disease is that other childhood diseases have declined as causes of death.

Science News Letter, March 17, 1951

ICHTHYOLOGY

Scientific Fish Story; Fish Operates on Fish

➤ A DIFFICULT surgical operation, colostomy, has been performed by a lamprey, one of the most primitive class of vertebrate animals.

The operation was successful but the patient, an 18-inch pike living in Cayuga Lake near Ithaca, N. Y., died. Cause of death was a fisherman's hook.

The fisherman is Prof. Clarence H. Kennedy of Ohio State University. The case is reported by Dr. W. James Leach, also of Ohio State, in the scientific journal, SCIENCE (Feb. 23), as "interesting rather than significant, but unparalleled in the field of general zoology."

A colostomy operation consists in making an opening of the bowel through the abdominal wall when part of the bowel has to be removed, as in cases of cancer.

Parasitic lampreys attack fish, rasping a hole in the flesh and sucking out the blood and tissue juices. When the wound penetrates into the body cavity, the fish almost always promptly dies, Dr. Leach points out. In the case he reports the wound made by the lamprey healed in such a way as to leave an opening into the gut without exposing the peritoneal cavity.

The character of the wound caused it to act as the outlet of the intestine and the original outlet stopped functioning.

Science News Letter, March 17, 1951