

INVENTION

Current U.S. Patents

A process to remove radioactive elements from milk uses a continuous ion exchanger to remove radioactive ions and replace them with non-radioactive ones—By William McCann

► A PROCESS to remove the tiny traces of radioactive elements from milk was awarded a patent from the U.S. Patent Office in Washington, D.C.

The new process, developed by Irwin R. Higgins, a former U.S. Atomic Energy Commission scientist, uses a continuous ion exchanger to decontaminate milk.

In the ion-exchange process a polymeric resin is utilized to take out a radioactive ion in the milk and replace it with a non-radioactive one. The milk itself is not altered at all by the substitution.

Mr. Higgins is founder of the Chemical Separations Corporation, Oak Ridge, Tenn., which is now under a \$150,000 contract with the U.S. Public Health Service to build a transportable unit. The unit, which will have a milk handling capacity of 100 gallons per hour, will be completed later this year and tested.

The process earned patent 3,194,663 for Mr. Higgins and rights were assigned to Chemical Separations Corp.

Camera Improvements

The inventor of "instant" pictures, Dr. Edwin H. Land, president and director of research of the Polaroid Corporation, Cambridge, Mass., was awarded two patents for improved camera systems.

Dr. Land, who is also a visiting professor at the Massachusetts Institute of Technology, Cambridge, Mass., now holds more than 290 patents. He earned patent 3,194,138 for a process of "dry" developing film. The developer is a non-viscous alkaline liquid held in a special container in the camera. The process, designed to be used for colored pictures, is called "dry" because the liquid is confined between the image-recording sheet and another sheet and does not contact the outer surfaces of the sheets.

A roll-film camera, commercially known a number of years ago as the J-66 camera, received patent 3,194,137 for Dr. Land, Richard J. Chen, Brockton, Mass., John W. Lothrop, Westwood, Mass., and Richard R. Wareham, Marblehead, Mass. This camera is no longer being made since further improvements have already made it obsolete.

Patent rights for both patents were assigned to the Polaroid Corporation.

Rock and Roll Airplane

A newly patented airplane has a jet engine that wiggles back and forth to give it short takeoff and landing ability.

The wiggling engine creates a jet exhaust that "sweeps" the air like a helicopter propeller blade, reported inventor Walter Selden Saunders, Bethesda, Md., in patent 3,194,512. The wiggling is created by a de-

vice known as a fluid amplifier oscillator. The sweep allows a high volume of air to be utilized, giving the plane increased efficiency at lower speeds. For higher speeds the jet stops wiggling.

Mr. Saunders, a professional engineer, who has done much of the work in his own garage, reported that wind tunnel tests with working models have proven his idea sound. A number of aircraft companies are reportedly interested in the idea.

Fruit Chute

A stretchable chute can be carried way up into a tree by a fruit picker, who then drops picked fruit through it down into containers below.

The chute, which looks like a big hose, has a funnel at one end and a "fruit absorber" at the other. An orange or grapefruit dropped in the funnel rolls through the chute, bumps into a cushioning unit and plops into a container sitting on a truck or cart.

Russell J. Callow Sr., Ocala, Fla., earned patent 3,194,375 for the chute, which is fully collapsible for easy transportation and storage.

• Science News Letter, 88:77 July 31, 1965

PUBLIC SAFETY

New Rain Repellent 'Wipes' Windshield

► A NEW RAIN REPELLENT outdoes the windshield wiper by giving a driver or a pilot safe vision even during a heavy downpour.

Automobile and aircraft accidents caused by visual errors due to rain occur frequently throughout the world. Now the poor vision hazard can be eliminated as a result of research by Dr. D. F. Stedman of the National Council in Ottawa, Canada.

Dr. Stedman, who first produced a primitive version of the repellent some 20 years ago, has now developed the final product. It is called S.P.R., for Semi-Permanent Repellent, and looks much like black shoe paste.

Its molecules, broken down by friction when the paste is rubbed on, combine chemically with the glass and actually become a part of its surface, accounting for the repellent's ability to stick to the glass for months. After the paste is rubbed on it is polished, leaving a clear coating only about a ten-millionth of an inch thick.

A survey of hundreds of aircraft accidents shows about half of them involved rain, making it the most serious single hazard in aircraft operation, Dr. Stedman said.

When the repellent is used on an aircraft

windshield, even the heaviest rain looks like tiny grains of pepper striking the glass. The rain is blown away by the stream of air from the propeller. Objects as small as power lines or flagpoles can be seen clearly and the horizon level is undistorted.

The repellent is not quite as effective on automobile windshields since the wind speed is less, Dr. Stedman said. However, even when driving in heavy rain without windshield wipers, the water jumps off the glass in little jets and provides safe vision at any speed. Headlight glare from approaching traffic is also cut by the repellent, especially in heavy rain.

• Science News Letter, 88:77 July 31, 1965

Do You Know?

Dollar-wise the *pet foods* industry is two and one-half times as big as the baby foods industry.

Displaced *placentae*, which can obstruct successful births, are being detected several months before delivery through the use of X-rays.

Knotweed moves in as good grass moves out when traffic is too heavy and the soil overly compacted or too hot because of being adjacent to concrete.

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Take Better Pictures!

A noted publisher in Chicago reports a simple new technique in photography designed especially for the amateur photographer to help you take better pictures.

Whether you take a camera along on your vacation, take snapshots of your children, enter amateur photo contests, enjoy photography as a hobby, these techniques will enable you to use your camera more effectively to produce better and more satisfying pictures!

To acquaint the readers of this paper with the easy-to-follow rules for using their cameras—developing their own pictures—mastering photo techniques—improving home movies—in short, all phases of amateur photography, the publishers have printed full details of their self-training method in a new booklet "Wonderful World of Photography," mailed free to anyone who requests it. No obligation. Simply send your name, address, and zip code to: Photographic Studies, 835 Diversey Pkwy., Dept. 364B, Chicago, Ill. 60614. A postcard will do.