

INVENTION

Patents of the Week

A paste made from animal bones and tissues has been used experimentally in grafting human bones together and averting regrowth of tumors after removal—By Elizabeth Hall

► A PASTE made from the bones and tissues of calves has been successfully used experimentally to graft human bones together. The paste also stimulates new bone growth after malignant tumors are removed.

The U.S. Patent Office issued patent 3,126,884 to Dr. Eli Jordan Tucker Jr. of Houston, Texas, for his method of preserving live animal tissue so it will stimulate new bone growth when transplanted into human hosts and prevent malignant tumors from growing back once they are removed.

After removal from the animal, the bone or tissue is kept alive in a blood plasma bath taken from the same calf. In order that the human host might not reject the animal tissue, a soluble sodium sulfonamide is added to the blood bath.

This compound reduces the tendency of the animal protein to produce antibodies later. The double sulfur bond that is created also increases the molecular size and potency of proteins and polysaccharides in the animal bone. To make the paste, bone is pulverized and mixed with a plasma clot.

"The bone paste retards malignant growths in the bone," Dr. Tucker told SCIENCE SERVICE. "I added the bone paste to a man's rib after removing a sarcoma, a cancerous tumor. Although the man later died of cancer in other parts of his body, an autopsy showed that the rib had completely regenerated with no trace of cancer."

Official approval by the U.S. Food and Drug Administration is still pending although a Houston company, the National Bone and Tissue Laboratory, has a license to produce the paste and has given it the trade name of Osteogen.

Blood Pressure Measurer

A lightweight, portable device semi-automatically measures blood pressure as a person goes through his daily activities. It consists of a standard arm cuff, a microphone instead of a stethoscope, a pressure bulb for pumping the cuff and a small tape recorder and box of electronic instruments worn on a belt.

The whole apparatus, which received patent 3,126,885, weighs 4.8 pounds. It was designed so that doctors could obtain a more representative sampling of a person's blood pressure, than when the patient is just in the doctor's office. The tape recorder picks up signals from the microphone and makes a tape of the heart's "flubs and dubs" for the doctor to examine later.

The device was invented by Dr. Allen T. Hinman, president of the Hypertension Research Foundation, San Francisco. Five of the experimental devices have been made by the Remler Company in San Francisco



Hypertension Research Foundation

PORTABLE RECORDER—A model shows how the portable blood pressure recorder and equipment are worn about the waist. The cases on the belt contain electronic equipment and tape recorder.

and are called Portometers. Dr. Hinman foresees their use primarily in research centers before they would be used on a wide-scale basis.

Non-Greasy Potato Chips

A Massachusetts inventor has come up with a way to remove the "greasy stuff" from potato chips and other snack foods while at the same time cut their weight and high calorie value.

Arthur B. Goulston of Cambridge was awarded patent 3,127,271 for reducing the oil content by boiling hexane underneath the potato chips. The vapors pass through the potato chips, condense above and drip back down to the hexane container, thus removing the oil in the process. The chips remain crisp.

Other Significant Patents

Other patents included:

An arrangement for shielding the radiation of a nuclear reactor that might be used to power a railroad locomotive—patent 3,127,321 to Prof. Lyle B. Borst, famed nuclear physicist of the University of Buffalo, N. Y.; assigned to the University of Utah, Salt Lake City.

A prefabricated, revolving cylindrical henhouse for raising poultry on a large scale—

patent 3,126,868 to Akira Ishibashi, Fukuoka-shi, Japan; assigned to Nippon Reizo Kabushiki Kaisha, Tokyo.

A portable, collapsible traveler's canteen for cats and dogs—patent 3,126,933 to Hollis N. Mason and Thomas J. Lunsford, both of San Diego, Calif.

A periscope in the center of the steering wheel to replace the rear view mirror on an auto—patent 3,127,191 to Tibor Z. Goldman, Lima, Peru.

A tiny citrus fruit jacket for sanitarily squeezing a half slice of lemon into an ice tea glass without squirting juice into the eye—patent 3,126,821 to Rudolf H. Schlidt and Fritz K. Pauli, both of Huntsville, Ala.

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TECHNOLOGY

New Dashboard Device Saves on Gas, Auto Care

► A NEW DASHBOARD instrument tells the driver how many miles he is getting for a gallon of gas at any one moment.

The multiple-dial instrument also shows when the car is being driven improperly and the engine needs adjustment. Expected eventually to cause an annual saving of 11 billion gallons of gas if installed on every car in the country, the instrument already has helped some operators become safer and better drivers by reducing the use of brakes and eliminating fast accelerations.

The basic instrument was developed by Andrew J. White, now director of Motor Vehicle Research of New Hampshire, over 30 years ago.

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Nature Note

Brown Creeper

► THE BROWN CREEPER, *Certhia familiaris*, is a common sight throughout most of North America as it creeps slowly but steadily up and around tree trunks in a spiral course.

Using its tail as a prop, this bird has no difficulty at all in exploring the bottoms and sides of horizontal branches as well and, like a fly on a ceiling, can often be seen clinging to the bottom of a branch.

Streaked and spotted above and white below, the brown creeper is almost invisible against the bark of the tree as it searches for a dinner of bark insects and their eggs and larvae.

When the creeper reaches the top of a tree, it "flips off like a large flake of bark" and drops almost to the ground before beginning to climb another tree. This tiny bird, only five and one-half inches long, is usually alone in its unending search, but sometimes travels with groups of nuthatches, woodpeckers or chickadees.

Its call varies between shrill, high squeaks that are difficult to hear and a sweet clear song in the spring. The creeper builds its nest low on a tree trunk under a loosely hanging piece of bark. The eggs are white and peppered with reddish brown dots.

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