

## MEDICINE

# Tooth Decay Vaccine

Preparation made from living, dead and a combination of both living and dead lactobacilli is being tried to build resistance to caries.

► A VACCINE against tooth decay is being tested at the Army Medical Center in Washington, D. C. The vaccine is made from lactobacilli, the kind of germs believed responsible for decay, Capt. Ned Williams, formerly of Dayton, Ohio, explained at a press conference at the center's dental laboratories.

Both living and dead germs and a combination of the two are being tried in the hope of building up resistance to the germs. After guinea pig tests showed that the vaccine was not irritating, 14 enlisted men as well as Capt. Williams volunteered to serve as human guinea pigs for further tests of the vaccine. Results will not be known for some time.

Use of chrome cobalt alloy and a new material, methal-methacalat, as substitutes respectively for gold and for vulcanized rubber in making soldiers' false teeth, was announced by Major Robert M. Appleman, director of the central dental laboratory at the Army Dental School.

The new metal alloy does not tarnish in the mouth and is made to resist strain. It is used for the plates into which the false teeth are set. Some 30 to 40 a month are made at the Army Dental School. Since the Army dental standards have been revised to take in completely toothless men, the business of making plates and false teeth is booming. The dental school with a staff of 47 technicians made 2,150 plates last month, most of them with the methal-methacalat base instead of vulcanite.

Besides supplying full and partial sets of false teeth the Army supplies single teeth when necessary. All are supplied

to order and specifications from the dental officers in the field. A stock of 70,000 individual teeth of different colors, and shapes and sizes is kept at the center. All the metal alloy plates for the Army in the eastern half of the United States and the Atlantic bases are made there, those for the western half of the country and the Pacific bases being made at the dental center at Fort Sam Houston. The more frequently used plates, with methal-methacalat base, however, and the teeth for them are supplied from the center in Washington for only the three eastern service commands.

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## GENERAL SCIENCE

## Franklin Medals Awarded To Urey and Pierce

► THE COVETED Franklin Medals and Certificates of Honorary Membership to the Franklin Institute were presented on Medal day, April 21, to two American scientists.

Dr. Harold C. Urey, Nobelist and professor of chemistry at Columbia University, is being honored for his discovery and production of heavy hydrogen which has proved of immense importance in furthering research in chemistry, physics, and biology.

Dr. George Washington Pierce, the other recipient of the Franklin Medal, is best known for his development of "electrically squeezed" quartz crystals used to narrow the range of radio frequencies. The use of this principle in obtaining accurate oscillations has facilitated the construction of the most precise electric clocks.

The Elliott Cresson Medal of the Franklin Institute was awarded to Prof. Charles M. Allen of Worcester Polytechnic Institute. His contribution to the field of hydraulics is a more rapid method of measuring the flow of water by adding a known amount of salt to the water and noting the time required for it to pass electrodes inserted in the pipe lines downstream.

A native of Lima, Dr. Don Francisco Ballen, received one of the Howard A. Potts medals for restoring a valuable

natural resource of his country to productivity.

The other Potts medal went to Dr. Paul R. Heyl of the National Bureau of Standards for his theoretically important formula to determine the constant of gravitation.

The Frank P. Brown Medal for achievements in building and allied industries was awarded posthumously to Albert Kahn, Detroit architect.

A joint award of the Edward Longstreth Medals was made, one each to Robert Griffin De La Mater and William Schwemlein. Their design and successful application of a fluid brake has made practical the drilling of wells to great depths with increased safety to life and property.

Robert Howland Leach of Fairfield, Conn., received a John Price Wetherill Medal. Harry Miller Pflager, senior vice president of the General Steel Castings Company, was granted the George R. Henderson Medal. A certificate of Merit was awarded to Carl S. Hornberger.

The 1943 Louis Edward Levy Medal for the best paper published in the Journal of the Franklin Institute during 1942 was presented to Anders Henrik Bull of Forest Hills, N. Y., for his paper, "Soil Pressure Distribution along Flexible Foundations."

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## ENGINEERING

## Resistance Welding Used For Welding of Aluminum

► ENERGY storage resistance welding has been extensively developed as an improved tool for the welding of aluminum, H. L. Palmer of the General Electric Company told the American Institute of Electrical Engineers meeting in Pittsfield, Massachusetts.

Resistance welding and arc welding have replaced much of the former fabrication of metals by the use of rivets.

"Some operating figures indicate that a spot weld costs one-tenth as much as a rivet," the speaker stated. "This means a saving in labor, material and time—all important factors in the war of production."

In arc welding a filler called a welding rod or electrode is melted into the space between the two pieces of metal being fused and joined. Resistance welding has been described as a "heat and squeeze process." The parts to be welded are heated to a fusion temperature and mechanically pressed together.

New problems have developed in re-

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